

The Politics of Hygiene:
Public Health and Urban Transformation in Late
Ottoman Istanbul

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Declaration of Originality

The intellectual content of this dissertation, which has been written by me and for which I take full responsibility, is my own, original work, and it has not been previously or concurrently submitted elsewhere for any other examination or degree of higher education. The sources of all paraphrased and quoted materials, concepts, and ideas are fully cited, and the admissible contributions and assistance of others with respect to the conception of the work as well as to linguistic expression are explicitly acknowledged herein.



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Abstract

The Politics of Hygiene: Public Health and Urban Transformation in Late Ottoman Istanbul

Yeter Can Gümüş İspir, Doctoral Candidate at the Atatürk Institute for Modern Turkish History at Boğaziçi University, 2025

Professor Cengiz Kırılı, Dissertation Advisor

This dissertation examines the interplay between public hygiene, urban transformation, and governance in late Ottoman Istanbul, shedding light on the intersection of health, environment, and infrastructure. Through the lens of public health, it investigates how concepts of dirt, disease, and cleanliness shaped—and were shaped by—the city’s evolving urban fabric, infrastructure, and practices. Focusing on four key components—food, water, sewer systems, and burial practices—this study examines how the public health crises experienced by the Ottoman state were instrumentalized to reconfigure urban spaces through a hygienic lens and how this process acted upon social relations. Drawing on Ottoman archival documents, medical treatises, death and health statistics, the study explores the interaction between global hygiene discourses and local realities, framed by Istanbul’s unique geography and socio-political dynamics.

By integrating urban environmental history with the social history of disease, the dissertation moves beyond conventional state-centered approaches in urban history to highlight the agency of diverse actors, from ordinary inhabitants to experts, in negotiating public health policies. It argues that Istanbul’s transformation into a “hygienic city” was neither linear nor uniform but a fragmented process marked by resistance, adaptation, and contestation. The study contributes to Ottoman historiography by bridging environmental and urban studies, offering new insights into how public health policies mediated the relationship between urban life, governance, and the built environment during the Empire’s final century.

100,000 words

Özet

Hijyenin Politikası: Geç Osmanlı İstanbulu'nda Halk Sağlığı ve Kentsel Dönüşüm

Yeter Can Gümüş İspir, Doktora Adayı, 2025

Boğaziçi Üniversitesi Atatürk İlkeleri ve İnkılap Tarihi Enstitüsü

Profesör Cengiz Kırılı, Tez Danışmanı

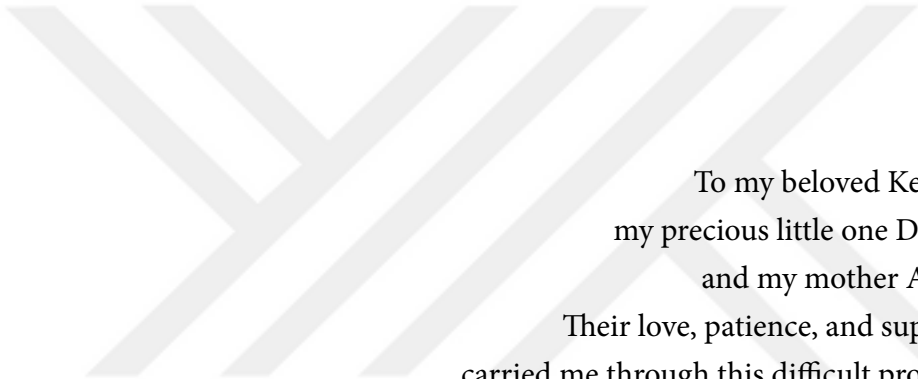
Bu tez, geç dönem Osmanlı İstanbulu'nda hijyen, kentsel dönüşüm ve yönetim arasındaki etkileşimi inceleyerek sağlık, çevre ve altyapının kesişimine ışık tutmayı amaçlar. Kir, hastalık ve temizlik kavramlarının İstanbul'un değişen kentsel dokusu, altyapısı ve kent reformlarını nasıl şekillendirdiğini ve bunlar tarafından nasıl şekillendirildiğini araştırır. Gıda, su, kanalizasyon ve defin uygulamaları olmak üzere dört temel unsura odaklanan araştırma, Osmanlı Devleti'nin deneyimlediği halk sağlığı krizlerinin kentsel mekânları hijyenik bir mercekten yeniden kurgulamada nasıl araçsallaştırıldığını ve bu sürecin toplumsal ilişkilere nasıl eklemlendiğini sorgular. Osmanlı arşiv belgelerine, tıbbi risalelere, ölüm ve sağlık istatistiklerine dayanan çalışma, İstanbul'un kendine özgü coğrafyası ve sosyo-politik dinamikleriyle yerleştirilen küresel hijyen söylemleri ile gündelik gerçeklikler arasındaki etkileşimi araştırır.

Kentsel çevre tarihi ve hastalıkların sosyal tarihi yaklaşımlarını bütünleştiren tez, konvansiyonel devlet merkezli yaklaşımların ötesine geçerek, çeşitli aktörlerin halk sağlığı politikalarını müzakere etmedeki failliğini vurgular. Araştırma, İstanbul'u "hijyenik bir kente" dönüştürme çabasının ne doğrusal ne de tekdüze olduğunu; direniş, adaptasyon ve çekişmelerle şekillenen bir süreç olduğunu öne sürer. Çalışma, çevre ve kent incelemeleri arasında köprü kurarak Osmanlı tarih yazımına katkıda bulunmayı ve halk sağlığı politikalarının İmparatorluğun son yüzyılında kentsel yaşam, yönetim ve yapıları çevre arasındaki ilişkiye nasıl aracılık ettiğine dair yeni içgörüler sunar.

100.000 kelime







To my beloved Kerem,
my precious little one Defne,
and my mother Ayfer.
Their love, patience, and support
carried me through this difficult process.



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Abbreviations and Acronyms

BOA.	Başkanlık Osmanlı Arşivi
BEO.	Bâb-1 Âlî Evrak Odası
DH. MKT.	Dâhiliye Mektubi Kalemi
DH. İD.	Dahiliye Nezareti İdare Evrakı
DH. MUİ	Dahiliye Nezareti Muhaberat-ı Umumiye İdaresi Evrakı
HR. MKT.	Hariciye Nezareti Mektubî Kalemi Evrakı
HR. TH	Hariciye Nezareti Tahrirat Evrakı
İ. AZN.	İrade Adliye ve Mezahib
İ. EV.	İrade Evkaf
İ. SH.	İrade Sıhhiye
İ. ŞE.	İrade Şehremaneti
İ. ŞD.	İrade Şûra-yı Devlet
İÜ. NEK.	İstanbul Üniversitesi Nadir Eserler Kütüphanesi
MB.İ	Mabeyn-i Hümayun Evrakı İradeleri
ML. EEM.	Maliye Nezareti Emlak-ı Emiriyye Müdiriyeti
MV.	Meclis-i Vükela Mazbataları
MVL.	Meclis-i Vala
PLK.p.	Plan, Proje ve Krokiler
A.MKT.MHM.	Sadaret Mektubî Kalemi Mühimme Evrakı
A.MKT.UM.	Sadaret Mektubî Kalemi Umum Vilayet Evrakı
SH.	Sıhhiye
ŞD.	Şûra-yı Devlet
TS. MA.e.	Topkapı Sarayı Müzesi Arşivi Evrakı
Y. MTV.	Yıldız Mütenevvi Maruzat Evrakı
Y. PRK. ASK	Yıldız Perakende Evrakı Askerî Maruzat
Y. PRK. BŞK.	Yıldız Perakende Evrakı Başkitabet Dairesi Maruzatı
Y. PRK. SH.	Yıldız Perakende Evrakı Sıhhiye Maruzatı
Y. PRK. ŞH.	Yıldız Perakende Evrakı Şehremaneti Maruzatı
Y. PRK. ZB.	Yıldız Perakende Evrakı Zabtiye Nezareti Maruzatı
Y. A. HUS.	Yıldız Sadaret Hususi Evrakı



A Note on Transliteration

For translating Ottoman Turkish phrases and terms, I employed a straightforward Latinization method for clarity and consistency. The dates of the archival documents were presented in both the Rumi calendar and their corresponding Gregorian equivalents, using the date translation guide published by the Turkish Historical Society. All translations of the archival documents into English are my own. I translated the titles of regulations and ordinances where relevant, keeping the originals in brackets.





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Writing a dissertation is a lonely journey, but I've been blessed with incredible friends. Working alongside Emir Küçük at the Atatürk Institute was both academically and personally enriching. He read my chapters, listened to my endless complaints, decoded Ottoman handwriting that had me stumped, and pulled me back from countless nervous breakdowns. I've also been happily proven wrong about making new friends after 30—Fuat Öztürk's friendship has been an unexpected gift. Our small WhatsApp group was a beacon of joy during dark academic days.

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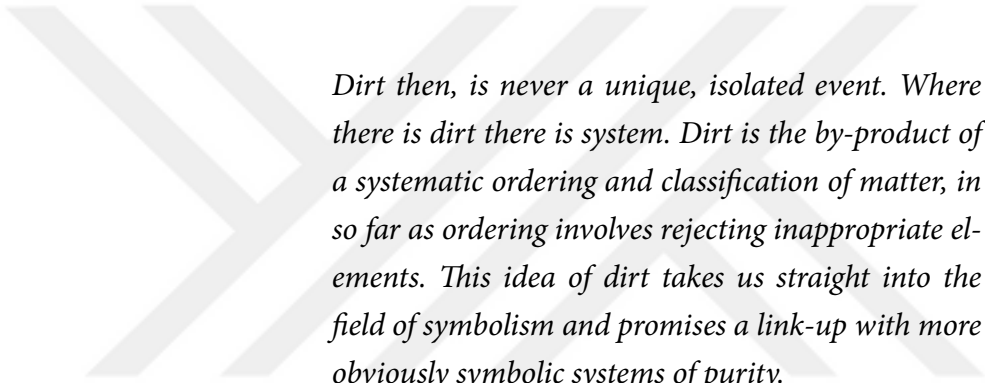
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As I wrapped up this thesis in Feriköy, a neighborhood that itself became a site of analysis in my research, I found myself reflecting on the ways my own positionality intertwined with the spaces I studied. Feriköy, like many other urban sites, offered me not only inspiration but also a deeper awareness of the connections between lived experience and historical inquiry. I am looking forward to the unfolding journey ahead.

Introduction



Dirt then, is never a unique, isolated event. Where there is dirt there is system. Dirt is the by-product of a systematic ordering and classification of matter, in so far as ordering involves rejecting inappropriate elements. This idea of dirt takes us straight into the field of symbolism and promises a link-up with more obviously symbolic systems of purity.

– Mary Douglas, *The Purity and Danger*

How did dirt and disease, more than mere nuisances, shape and were shaped by the urban environment, politics, and daily life of late Ottoman Istanbul? In his memoir, Cemil Topuzlu, who served as the mayor of Istanbul in early 1900s, presents some clues regarding life in early twentieth-century Istanbul, a city he saw as staggering under the weight of filth and neglect. Food markets were chaotic and unhygienic: bread was kneaded on filthy floors and sold in open stalls exposed to dust and flies; meat hung from poles, dripping blood onto the streets; and milk—watered down and sourced from diseased cows in unsanitary urban stables—was sold with no oversight. The simplest

acts of daily life, such as buying bread or drinking milk, carried hidden dangers, turning the city into a cauldron of potential disease.¹

Water and waste management fared no better. Public fountains, once vital to urban life, had fallen into disrepair, leaving neighborhoods reliant on unsafe water sources. Meanwhile, sewage openly flowed through the streets of areas like Kasımpaşa and Tatavla, filling the air with unbearable stench and the ground with contamination. Even burial practices reflected this neglect: cemeteries were littered with trash and overrun by livestock, their gravestones broken or toppled. Istanbul, as Topuzlu described it, seemed less like the storied capital of an empire and more like a city trapped in a medieval nightmare, unable—or unwilling—to confront its decline.² Yet Topuzlu’s portrayal carries its own biases, shaped by his modernist outlook and desire to frame himself as the city’s savior. What he tried to prove was how his term as the mayor of Istanbul contributed to Istanbul’s hygienic reordering. Hence, his focus on filth and disease reflects not just objective conditions but his belief in the necessity of European-style order and reform. As this dissertation aims to show, Istanbul’s struggle with “dirt” and “disease” was not merely a story of urban neglect and bureaucratic incompetence. Instead, it was a complex and contested process shaped by what Anna Tsing describes as “friction” -the messy and often unpredictable encounters, tensions, and negotiations between different groups of inhabitants within a specific historical moment.³ This friction did not unfold in a vacuum. Rather, it played out within the material and environmental contours of the city, shaped by what Lucien Febvre calls the “possibilities” afforded or constrained by geography. In other words, late Ottoman Istanbul’s evolving urban form and public health reforms were

1 Cemil Topuzlu, *İstibdat, Meşrutiyet, Cumhuriyet Devirlerinde 80 Yıllık Hatıralarım* (Istanbul: Topuzlu Yayınları, 2002), 110-118.

2 Ibid.

3 Anna Tsing conceptualizes friction as the productive and dynamic interaction that occurs when global forces, ideas, or systems encounter local contexts. Rather than smooth transmission, this encounter creates resistance, adaptation, and transformation, generating unexpected outcomes. Friction highlights how seemingly universal processes—such as capitalism, development, or modernization—are reshaped and reinterpreted through local practices, leading to unique and contingent results. See, Anna Lowenhaupt Tsing, *Friction: An Ethnography of Global Connection* (Princeton: Princeton University Press, 2005).

the result of both human interactions and the material realities of the city's landscape.⁴

§ 1.1 Geography: A Possibility or Constraint?

Then, what were the constraints and possibilities offered by Istanbul's geography? Early republican accounts might provide us with some clues. In 1948, Prof. Besim Darkot, one of the pioneering geographers of the Turkish Republic, described Istanbul as a city whose geography is both its greatest asset and a significant challenge. His observations in *Aylık Ansiklopedi* capture not only the city's strategic position straddling Europe and Asia but also the

4 Lucien Febvre, Marc Bloch, and Fernand Braudel, central figures of the *Annales* School, made significant contributions to historical geography, particularly through their engagement with and expansion of Vidalian geography. Febvre pioneered a critique of environmental determinism, advocating for "possibilism," which emphasized the active role of humans in shaping their environment and highlighted the reciprocal relationships between society and geography. Bloch advanced these ideas by integrating spatial analysis into his studies of feudal societies, focusing on how geographic factors and human agency intersected to create historical change. Braudel further developed these concepts with his notion of "geohistory," emphasizing the long-term interaction of geography and history. His layered temporal analysis in *The Mediterranean and the Mediterranean World in the Age of Philip II* demonstrated how geographic structures shape human activities over centuries. Together, these scholars bridged the disciplines, building on the Vidalian tradition of exploring human-environment interactions while advocating for a historical geography that incorporated dynamic, long-term perspectives. See: Lucien Febvre, *A Geographical Introduction to History*, trans. E.G. Mountford and J. H. Paxton (London: Routledge & Kegan Paul, 1966); Marc Bloch, "A Geographer's Contribution to History," in *Land and Work in Medieval Europe: Selected Papers by Marc Bloch*, trans. J.E. Anderson (London: Routledge & Kegan Paul, 1967); Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, trans. Sian Reynolds, 2nd ed. (London: Collins, 1972) For an introductory overview on the interaction between history and geography, and an analytical survey of "historical geography," see, Alan R. H. Baker, *Geography and History: Bridging the Divide* (Cambridge: Cambridge University Press, 2003). The Annales School influenced the development of environmental history, while the environmental movement of the 1960s–70s later prompted historians worldwide to address environmental issues. See, J. D. Hughes, *What Is Environmental History?* (Cambridge, Polity Press, 2016), 31.

physical and environmental factors that shaped its evolution and struggles.⁵ Writing on the cusp of Istanbul's mid-twentieth-century urban transformation, Darkot provided a snapshot that illuminates how the city's topography, climate, and waterways created opportunities while imposing constraints on urban management. These insights also shed light on the city's late Ottoman period, particularly in its interactions with disease, sanitation, and mortality.

Istanbul's geography—anchored by the Bosphorus Strait, the Golden Horn, and the Sea of Marmara—played a dual role in its historic trajectory. The Bosphorus, a 30-kilometer waterway linking the Black Sea to the Sea of Marmara, provided vital trade routes and fishing grounds but also brought challenges. Its narrowest point, just 699 meters between Rumelihisarı and Anadoluhisarı, and its depths reaching 120 meters near Kandilli, made it a natural corridor for not only ships but also the spread of diseases from neighboring regions.⁶ At the same time, the Bosphorus, the Sea of Marmara, and the Black Sea, with their interconnected streams and non-stagnant nature, provided an opportunity for sewer disposal, though not ideal, as their flowing waters carried waste away from urban areas.

Likewise, the Golden Horn [*Haliç*], a deep and sheltered estuary, served as Istanbul's primary natural harbor, facilitating economic activity but also acting as a repository for waste and a breeding ground for waterborne illnesses. The Sea of Marmara, with its calmer shores and unique lagoons like Küçükçekmece and Büyükçekmece, provided freshwater sources through associated rivers and lakes such as Terkos. Yet, during cholera outbreaks in the late nineteenth and early twentieth centuries, authorities questioned the hygienic conditions of lake Terkos and took steps to prevent contamination of the water supply and the spread of disease. This decision often pitted public health initiatives against the economic interests of the water company, local fishers and merchants, illustrating the tensions between geographic possibilities and societal constraints.

5 Besim Darkot, "İstanbul ilinin Coğrafyası," *Aylık Ansiklopedi* 54 (1948): 1553-1556. Accessed through Salt Araştırma, Reşat Ekrem Koçu Archive. <https://istanbulansiklopedisi.org/handle/rek/25802>

6 Darkot, "İstanbul ilinin Coğrafyası."

Istanbul's intricate network of waterways was central to its survival and sanitation. Streams such as the Kağıthane and Alibey on the European side and Riva on the Asian side carved valleys into the city's hilly terrain, providing drinking water to local populations.⁷ However, these same water systems often ran parallel to or intersected with open sewers, creating a dangerous overlap between potable water and waste. Contaminated streams became vectors for diseases such as cholera, typhoid, and dysentery, particularly in districts like Kasımpaşa and Tatavla, where sewage frequently flowed openly through streets and into the Golden Horn.

The fragmented nature of Istanbul's sewer infrastructure exacerbated these problems. By the late Ottoman period, the city lacked a cohesive system for waste disposal, with many areas relying on rudimentary cesspools or makeshift drainage systems. This unevenness in infrastructure led to significant disparities in disease incidence and mortality across different neighborhoods.

Istanbul's undulating topography, with elevations such as Aydos Mountain (537 meters) and Çamlıca Hills made infrastructure development complicated. The city's valleys and hills created isolated pockets where waste could accumulate, compounding public health crises. Cemil Topuzlu's observations of streets overwhelmed by sewage and unbearable stench underscore how the city's terrain both concealed and amplified these problems.

The city's vegetation further reflects its geographical diversity, with Mediterranean flora like olive trees and evergreen maquis shrubs dominating the Marmara-facing south, while temperate forests of oak and chestnut flourish on the Black Sea-facing north, which was targeted by the recent urban expansion projects.⁸ These forests not only supported Istanbul's water systems

7 Ibid.

8 Mega projects in Istanbul, such as the Third Bosphorus Bridge, the Istanbul Airport, and connecting highways, have significantly impacted the city's northern forests, which serve as vital ecological reserves. These large-scale developments have led to extensive deforestation, habitat destruction, and fragmentation of green spaces, disrupting the region's biodiversity and water resources. By prioritizing urban expansion and infrastructure, these projects have

but also framed its burial practices. Cemeteries, often nestled in forested peripheries, were central to public health efforts. By the nineteenth century, burial practices had shifted toward extramural locations to manage rising mortality rates and contain the spread of disease. The *Defn-i Emvat Nizamnamesi* of the 1860s formalized this spatial segregation, marking cemeteries as critical intersections of geography and governance.

Istanbul's geography, topography and its intersections with sanitation, water management, and public health provides a concrete example of how environmental and urban factors directly shaped disease dynamics was also relevant for the Ottoman reformers. An ordinance from 1913, "Ordinance on Medical Topography" [*Topografya-yı Tibbîye Dair Talimatname*] builds on such awareness by outlining a broader framework for systematically studying geography's impact on health, emphasizing atmospheric conditions, soil composition, water sources, and social factors. This ordinance is a modest attempt to connect geography and environmental factors with public health outcomes. It highlights the influence of atmospheric conditions, soil composition, water sources, and social practices on disease patterns, emphasizing the need for systematic observation and reporting to inform public health efforts. This framework reflects how Ottoman reformers conceptualized the relationship between environmental conditions and health outcomes, highlighting their understanding of public health as deeply tied to geography and urban planning.

The ordinance outlines how climatic variations and seasonal changes impact the prevalence and severity of diseases, with some illnesses thriving in specific conditions. It also warns of the health risks posed by poorly drained or waterlogged soils, which can foster dampness and disease. Moving from climate to terrain, it also underscores the critical role of land features and soil

intensified environmental pressures, contributing to climate vulnerabilities such as increased heat and reduced air quality. The northern forests, once a crucial natural barrier, are now at risk of being permanently altered to accommodate Istanbul's rapid urbanization. For a detailed analysis of this ecological destruction see, Kuzey Ormanları Araştırma Derneği, "İstanbul'un Kuzey Ormanları Tahrip Raporu," 2021, accessed [17 December 2024], <https://koru.istanbul/files/arsiv/dosya/tahripapor.pdf>.

composition in shaping health risks and urban infrastructure. Water is another focus, with rivers, wells, and rainwater identified as potential vectors for diseases if left unmanaged. The ordinance stresses the role of contaminated water in spreading infectious and parasitic diseases, calling for thorough examination of its chemical and biological qualities. Beyond physical geography, the ordinance transitions to the interaction between environmental resources and public health through water management.

Social and urban factors, including hygiene practices, overcrowding, and inadequate public facilities, are noted as contributing to poor health. By calling for health-focused mapping and detailed reporting, the ordinance ties local environmental and social conditions to broader public health concerns. Through these connections, the document attempts to present a holistic view of how geography, urban planning, and public health are interdependent.⁹ While the extent to which this 1913 ordinance was fully implemented remains unclear, its very existence reflects a level of awareness and acknowledgment of the connections between environment and public health.

Rather than serving as a passive backdrop, Istanbul's geography and urban environment actively shaped—and were shaped by—the city's struggles with disease, dirt, and death, particularly through food, water, sewer, and burial practices. The interplay between Istanbul's geographical features not only defined the possibilities and constraints of these four components of urban landscape but also dictated the terms of its hygienic challenges, revealing the ongoing tensions between human agency and environmental forces. As the late Ottoman authorities sought to modernize Istanbul through medical and engineering interventions, Istanbul's urban environment became a key battleground where the complexities of progress, health, and survival unfolded—a dynamic I will explore in the chapters that follow.

9 Osman Nuri Ergin, *Mecelle-i Umûr-ı Belediyye*, vol. 6 (İstanbul: İstanbul Büyükşehir Belediyesi Kültür İşleri Daire Başkanlığı, 1995), 3611-3614.

§ 1.2 The Construction of Purity and Impurity

This tension between Istanbul's environment and its struggles with hygiene was not purely a matter of physical geography, urban environment or public health but was also deeply intertwined with cultural perceptions of cleanliness and order. To fully understand these dynamics, it is necessary to move beyond a narrow hygienic lens and consider how dirt was imbued with symbolic meaning, challenging societal boundaries and exposing the cultural frameworks that defined purity and impurity. Seen today primarily as a matter of hygiene shaped by scientific knowledge of bacteria and disease transmission, dirt held a different meaning in past societies. Anthropologist Mary Douglas's classic work, *Purity and Danger*, traces these meanings and suggests that this narrow view of dirt obscures a deeper, more symbolic understanding of it as "matter out of place."¹⁰ This perspective reveals that dirt signifies a disruption of order, exposing the cultural and symbolic systems that define what is pure and impure in any society.

In the Ottoman Empire, concerns around dirt and hygiene, disease and health, death and life intersected with broader processes of political, economic, and societal transformations—what conventional historiography refers to as "modernization," "Westernization," and "commercialization." While these studies have illuminated important aspects of Ottoman reform and change, they have largely overlooked the role of these bodily and environmental concerns in shaping this period. Recent historiographical trends have introduced new actors, themes, and methodologies, creating opportunities to move beyond the limits of conventional frameworks.¹¹

10 Mary Douglas, *Purity and Danger: An Analysis of the Concepts of Pollution and Taboo* (London and New York: Routledge, 1984), 36.

11 New directions in Ottoman historiography emphasize interdisciplinary approaches and the use of diverse methodologies to reinterpret the empire's complex legacy. Scholars have challenged traditional paradigms, such as the decline narrative, by incorporating perspectives from social and cultural history, the "imperial turn," environmental history, and the history of emotions. Recent studies also highlight the historiographical impact of contemporary cultural and political trends, such as neo-Ottomanism, and explore connections between Ottoman and modern Middle Eastern history through new lenses such as environmental

Focusing on the case of China, for instance, Ruth Rogaski traces similar links through examining how the concept of “hygienic modernity” emerged in nineteenth and early twentieth-century as part of broader sociopolitical transformations. Rogaski examines how Chinese elites, influenced by Western and Japanese imperialism, adopted and adapted hygiene practices as markers of modernity, linking public health to national strength and progress. The book explores the intersection of colonialism, nationalism, and medicine, revealing how hygiene became a tool for both empowerment and control, shaping Chinese identity and governance.¹²

This dissertation builds on these advancements by examining the history of late Ottoman Istanbul through the lens of public hygiene, health, and urban space, offering new insights into the symbolic and practical dimensions of societal transformation.

In the Empire’s final century, recurring epidemics such as cholera, smallpox, tuberculosis, and typhoid posed significant public health challenges. As the Ottoman Empire’s capital and a major trade hub, Istanbul was particularly vulnerable due to its role as a transit point for people and goods from diverse regions. Istanbul’s natural and urban geography, marked by limited sewer systems and water sources, posed additional challenges to the development of a comprehensive sanitation infrastructure, thereby exacerbating the spread of diseases. These crises provided the necessary justification to the Ottoman administration to implement modern public health measures, including but not limited to quarantine councils, disinfection stations, and bacteriology institutes, alongside municipal reforms. Cholera outbreaks, in particular, prompted aggressive containment efforts such as cordoning, environmental clean-ups, and isolation measures,

transformation, conceptual history, and diplomatic studies. For an analysis of these trends see Çiğdem Oğuz, “Ottoman History One Hundred Years On,” *Contemporanea* 26, no. 3 (2023): 441–444. In the same issue of the journal also see, Şeyma Afacan, “Do We Need an Ottoman Version of the History of Emotions?,” *Contemporanea* 26, no. 3 (2023): 445–450. Özkan Akpınar, “Tracing the Rise of Ottoman Environmental History in the 2000s,” *Contemporanea* 26, no. 3 (2023): 450–455.

12 Ruth Rogaski, *Hygienic Modernity: Meanings of Health and Disease in Treaty-Port China* (Berkeley: University of California Press, 2004).

though these often created logistical and social challenges. These responses reflect the complexities of managing public health amid significant political, social, and technological changes, showcasing both the advancements and limitations of the empire's capacity to protect its population.

During the same time, what was considered “out of place” in Istanbul gained a new meaning as the city underwent profound changes in its urban landscape and sociopolitical environment. Influenced by new urban policies, regulatory reforms, and construction practices, Istanbul began to incorporate aspects of European urban design, such as wider streets, and public squares, while adapting these elements to fit its own complex historical context. These transformations were gradual and uneven, leading to a diverse and layered urban fabric, as ambitious plans often clashed with economic limitations and local, and urban environmental realities. Alongside these physical changes, shifts in governance structures introduced new administrative practices and civic institutions, altering the daily lives of residents and fostering new forms of public engagement.

Challenges such as the public health and hygiene, I reveal, provided both the urban and health reformers with important tools of justification to initiate their ambitious reform plans. At the intersection of mounting urban reforms and emerging public health imperatives, public hygiene, dirt, and disease took on new meanings, informed by what David Barnes calls the “sanitary-bacteriological synthesis.”¹³ Various components of Istanbul's urban environment, including its water and sewage vulnerabilities, food systems, and burial practices, both facilitated contagion and became targets for reform. Efforts to improve infrastructure, regulate food, reorganize urban spaces, and govern the bodies of the deceased revealed the state's biopolitical and necropolitical strategies to manage urban living, morbidity, mortality, and public health. Disease thus became a lens through which the city's evolving environmental and social realities were negotiated, driving Istanbul's transformation in the face of modernity. This process was accompanied by multiple discourses of

13 David S. Barnes, *The Great Stink of Paris and the Nineteenth-Century Struggle Against Filth and Germs* (Baltimore: The Johns Hopkins University Press, 2006), 11.

public hygiene [*hıfz-ı sıhhat*], which had gendered, class and moral components.

This dissertation traces the full cycle of life in late Ottoman Istanbul—from the conditions of daily existence, shaped by access to safe food, clean water, and sewerage networks to death and burial practices that redefined the city’s urban and social fabric. By following this arc, it reveals how notions of hygiene and public health policies not only transformed the lived experience of Istanbul’s residents but also extended to regulate the very spaces of death and burial, where the symbolic and material concerns of health intersected with religious, cultural, and political imperatives. This journey from life to death encapsulates the Ottoman state’s effort to assert control over every stage of urban existence, framing cleanliness and order as both a civic ideal and a tool of governance.

Through this lens, the dissertation uncovers the striking interplay between urban environment, and hygiene and health, focusing on the public discourses of hygiene, the city’s living bodies, its infrastructural veins, and its necropolitical strategies. Rather than following a unilinear and teleological trajectory from dirt to hygiene, disease to health, and chaos to order,¹⁴ I argue, these processes were shaped by negotiations and conflicts within the bounds of Istanbul’s urban environment. By uncovering these moments of dynamic interaction between diverse social actors and the state, I bring to light how the drive to transform Istanbul into a hygienic city unfolded through the lived experiences and everyday struggles of its ordinary inhabitants.

Building on the frameworks of urban environmental history and the social history of disease, and by embracing a “eco-critical lens,”¹⁵ I demonstrate that neither dirt, disease, and death nor hygiene, health, and life were “natural” states. Instead, they emerged through the complex interplay of human and non-human actors, unevenly distributed across Istanbul’s topography, and perpetually contested, (re)constructed, and (re)defined.

14 Cengiz Kırılı, “Tanzimat, Düzen ve Kaos,” *Toplumsal Tarih*, no. 311 (2019): 80–85.

15 Robert Kern, “Ecocriticism: What Is It Good For?” *Interdisciplinary Studies in Literature and Environment* 7, no. 1 (2000): 9–32. For an application of this “eco-criticism” framework see, Chris Gratien, *The Unsettled Plain: An Environmental History of the Late Ottoman Frontier* (Stanford: Stanford University Press, 2022).

§ 1.3 Tracing the Links Between Public Health's Institutionalization and Urban Reforms

To better comprehend the intersections of public health imperatives and urban reforms of the late Ottoman period, it is essential to situate them within the broader framework of the transformations of the “long nineteenth century.” As will be shown in Chapter 2 in more detail, these reforms not only emphasized centralization, legal equality, and modernization but also introduced population policies that sought to regulate and manage the empire's diverse demographic landscape. By examining the *Tanzimat*'s objectives, its contested implementation, and its focus on population governance, we gain a clearer perspective on how these transformations unfolded and the tensions they generated.

1.3.1 *A Short Historiographical Synopsis of Ottoman Modernity in the “long nineteenth century.”*

The *Tanzimat*, initiated with the *Gülhane Hatt-ı Hümayunu* of 1839, represented a significant attempt by the Ottoman state to address administrative, economic, and social challenges. Building on the reformist groundwork laid during the reign of Mahmud II (r. 1808-1839), the *Tanzimat* sought to extend and institutionalize efforts to strengthen central authority, restructure governance, and stabilize fiscal policies. The implementation of the reforms was shaped by internal dynamics, including resistance from local elites, negotiation with traditional power structures, and the empire's diverse social fabric. Whereas tax reforms sought to create a standardized system by eliminating tax farming and establishing direct collection, legal reforms aimed to codify laws and introduce new judicial structures to ensure consistency and impartiality across the empire's diverse population. In addition to these changes, conscription reforms restructured military service to include all subjects, accommodating religious and social differences while strengthening the empire's defense capabilities. Together with 1856 Reform Edict that

promised equality for all Ottoman subjects, these reforms reflected the state's attempt to balance central authority with the diverse needs of its population.¹⁶

Tanzimat reforms have long been interpreted as a transformative yet contested moment in Ottoman history. Foundational works by Halil İncalcık and Enver Ziya Karal emphasize the reforms as responses to structural crises and external pressures, framing them within a narrative of state centralization and Westernization.¹⁷ Yavuz Abadan highlights their legalistic dimensions, portraying the *Gülhane Hatt-ı Hümayunu* as a proto-constitutional effort.¹⁸ However, these top-down approaches often overlook the lived realities of ordinary subjects and the regional variations in reform outcomes.

More recent scholarship addresses these gaps by exploring the provincial and grassroots dynamics of *Tanzimat* reforms. Expanding on Halil İncalcık's focus on the importance of local differences in *Tanzimat*'s applications and local opposition,¹⁹ Yonca Köksal's comparative study of Ankara and Edirne reveals how socioeconomic and geographic factors shaped the implementation and impact of *Tanzimat* policies, challenging the uniformity implied in earlier narratives.²⁰ Cengiz Kırılı suggests to shift our "object of inquiry to the overall constitutive effects that these reforms have attempted to accomplish,"²¹ and argues that focusing on the concept of surveillance may serve this aim. During the mid-nineteenth century Ottoman Empire, surveillance was both a

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- 16 Halil İncalcık, "Tanzimat Nedir?" in *Tanzimat: Değişim Sürecinde Osmanlı İmparatorluğu*, eds. Mehmet Seyitdanlıoğlu and Halil İncalcık (Ankara: Phoenix Yayınevi, 2006), 13–36.
 - 17 Enver Ziya Karal, "Gülhane Hatt-ı Hümayunu'nda Batı'nın Etkisi," in *Tanzimat: Değişim Sürecinde Osmanlı İmparatorluğu*, eds. Mehmet Seyitdanlıoğlu and Halil İncalcık (Ankara: Phoenix Yayınevi, 2006), 65–82.
 - 18 Yavuz Abadan, "Tanzimat Fermanı'nın Tahlili," in *Tanzimat: Değişim Sürecinde Osmanlı İmparatorluğu*, eds. Mehmet Seyitdanlıoğlu and Halil İncalcık (Ankara: Phoenix Yayınevi, 2006), 37–64.
 - 19 Halil İncalcık, "Tanzimat'ın Uygulanması ve Sosyal Tepkileri," in *Tanzimat: Değişim Sürecinde Osmanlı İmparatorluğu*, eds. Mehmet Seyitdanlıoğlu and Halil İncalcık (Ankara: Phoenix Yayınevi, 2006), 65–82.
 - 20 Yonca Köksal, *Tanzimat Döneminde Osmanlı İmparatorluğu: Ankara ve Edirne'den Bakış* (İstanbul: Koç Üniversitesi Yayınları, 2018).
 - 21 Cengiz Kırılı, "Surveillance and Constituting the Public in the Ottoman Empire," in *Politics and Participation: Locating the Public Sphere in the Middle East and North Africa*, ed. S. Shami (New York: SSRN, 2009), 282–305.

tool for managing populations and a constitutive force shaping political culture and the public sphere. It legitimized public political discourse, humanized the sultan, and transformed individuals into political subjects, marking a shift from earlier absolutist practices.²² In another study, Kırılı encapsulates the broader implications of these reforms—generating both order and chaos—which underscores how modern governance produced unintended disruptions in traditional power structures.²³

Adding further complexity, Edhem Eldem criticizes the narratives of the *Tanzimat* as a solely Western-inspired or Islamic project. He argues that the *Tanzimat* emerged from a complex and multi-layered process shaped by overlapping Islamic, European, and Ottoman influences. Rejecting simplistic or singular explanations, Eldem emphasizes the edict's dynamic development within a broader reformist context. By proposing a schematic representation of these intertwined influences, he presents the edict as a product of negotiation and convergence rather than a linear or isolated creation.²⁴

Examining the fiscal transformations of the period, Nadir Özbek focuses particularly on the restructuring of tax collection systems. These changes, while aimed at centralization, often exacerbated inequalities, reflecting the tension between the *Tanzimat*'s promises of justice and its uneven realities.²⁵ Together, these diverse perspectives illuminate the *Tanzimat* as a multifaceted process, where top-down reforms intersected with local realities, producing a complex legacy of modernization, resistance, and adaptation.

The modernist perspectives in Ottoman historiography not only framed *Tanzimat* as solely a Western-oriented reform process, but also considered these reforms to have ended with the accession of Abdülhamid II's (r. 1876-1908) to the throne. As Özbek reveals in another study, the historiography of Abdülhamid II's reign reveals a diverse range of interpretations shaped by

22 Ibid.

23 Kırılı, "Tanzimat, Düzen ve Kaos."

24 Edhem Eldem, "Tanzimat Hatt-ı Hümayunu'nu (1839) Baştan Okuma," *Tarih ve Toplum: Yeni Yaklaşımlar*, no. 20 (2022): 9–98.

25 Nadir Özbek, "Tanzimat Devleti, Vergi Sistemi ve Toplumsal Adalet, 1839-1908," *Toplumsal Tarih*, no. 252 (2014): 24–30.

ideological and temporal perspectives.²⁶ Early accounts, influenced by the political dynamics of the late Ottoman and early Republican periods, often depicted Abdülhamid as an authoritarian ruler, focusing on his use of centralized power, surveillance, and censorship. Revisionist historians later challenged these views, emphasizing the modernizing aspects of his rule, including advancements in education, health, infrastructure, and administration. Recent scholarship, as Özbek highlights, situates Abdülhamid's policies within global trends of modernization, exploring how he navigated the unique challenges of preserving an empire amidst internal unrest and external pressures.²⁷ This historiographical evolution reflects a growing recognition of the complexity of Abdülhamid's legacy beyond simplistic authoritarian or reformist labels.²⁸ It is important to note that Abdülhamid II took significant "modern" steps in advancing the Empire's health infrastructure. Among the various hospitals and scientific institutions established during his reign, the Imperial Bacteriological Institute holds particular significance.

The reforms initiated in the early nineteenth century under Mahmud II laid the groundwork for modernization and centralization efforts that, despite significant challenges, continued throughout Abdülhamid II's reign, culminated in the promulgation of constitutional regime, and persisted until the collapse of the Ottoman Empire. It highlights the continuity of modernization processes from the Ottoman era into the early Republican period, emphasizing their integral role in shaping modern governance and societal structures. It was within this emerging context that public health and urban reforms were conceived, implemented, and contested.

26 Nadir Özbek, "Modernite, Tarih ve İdeoloji: II. Abdülhamid Dönemi Tarihçiliği Üzerine Bir Değerlendirme," *Türkiye Araştırmaları Literatür Dergisi* 2, no. 1 (2004): 71–90.

27 Ibid.

28 Ibid.

1.3.2 *Transforming Istanbul's Urban Fabric and Istanbul's Historiography*

In *Building and Dwelling: Ethics for the City*, Richard Sennett explores the tension between the *ville* (the physical form of the city) and the *cit * (the lived social experience within it). He examines how urban design and planning have increasingly prioritized order and functionality, often at the cost of fostering meaningful human interaction and civic life. Sennett contrasts two key approaches: “building,” which focuses on shaping the physical environment, and “dwelling,” which emphasizes how people experience, adapt to, and engage with urban spaces. Drawing on examples from cities across the world, he argues for a more open and flexible urban design that allows for unpredictability, diversity, and human flourishing. Sennett advocates for an “ethics for the city”—a framework that balances the need for structure with the messiness of real social life, encouraging cities to embrace complexity and promote civic engagement.²⁹ Presenting a critical analysis of the approaches of urban planners from Baron Haussman of Paris to Robert Moses and Jane Jacobs of New York City, Sennett reveals how urban form was crucial in shaping urban experience.

The tension between the *cit * and *ville* was prevalent in the urban transformation of Istanbul during the last century of the Ottoman Empire. In this period, Istanbul's urban transformation reflected Sennett's idea of the open *ville*, where imposed forms took on a life of their own through the actions of the city's inhabitants. Ottoman planners introduced new urban designs, aiming for order and clarity, yet these spaces were reconfigured over time by the everyday practices of Istanbulites. Wide avenues, newly planned streets, and improved sewers and waterways, though intended to reflect Ottoman authority and modernity, were quickly adapted by Istanbulites. Markets spilled into streets and squares, narrow alleys became bustling centers of small-scale trade, and waterways intertwined with residential quarters, serving both practical needs and social life in overlapping, fluid ways. This reflects what Anna Tsing calls friction, where global designs and local practices

29 Richard Sennett, *Building and Dwelling: Ethics for the City* (New Haven: Yale University Press, 2018).

interact to produce unexpected outcomes. Like Haussmann's Paris, Istanbul's urban fabric became "crooked,"³⁰ shaped by the irregularities and adaptability of its people. This dissertation tells that story: how the forms imposed on late Ottoman Istanbul were transformed—not by design, but through the lived experience of its inhabitants—into a city shaped by its people, full of life, adaptation, and unexpected uses.

That very same built environment that Sennett describes was also central to the management of health and disease, a process that Michel Foucault calls as the transformation of urban space into "a medicalizable object" in the context of modernity.³¹ Urban features such as sewage systems, water supply, and drainage were no longer seen as mere infrastructural elements but became vital components of public health regulation. This shift aligns with the state's growing focus on the health of populations, categorizing individuals into statistics such as "rich and poor, healthy and sick" to enhance their utility and subjugation. The medicalization of urban space thus became a key instrument of control, justifying public health interventions as essential for maintaining both hygiene and social order. This also resonated powerfully with the environmental realities of Istanbul. The city's uneven terrain, crisscrossed by narrow valleys and ridges, amplified the challenges of managing health and disease.

The epidemics of the Ottoman Empire's last century, which will be outlined in the next section, and their linkages with the urban environment provided the reformers with convincing justifications for the urban reforms of the time. In the second half of the nineteenth century, the miasmatic understanding of disease was challenged by the bacteriological theories, a development that significantly influenced public health policies and urban planning. As will be shown in more detail in Chapter 2, miasma theory, which attributed diseases to "bad air" emanating from decaying matter, initially shaped sanitation reforms aimed at controlling odors and removing waste. In this framework, public health interventions often focused on cleaning

30 Ibid., 2.

31 Rabinow, *The Foucault Reader*, 282.

cesspools and public spaces, and managing excrement to reduce exposure to “putrid air.”

In the face of rampant disease and unsanitary conditions of the cities until the mid-nineteenth century, it was engineers, not the doctors, who led the transformation of urban life.³² While medical knowledge at the time was limited in its understanding of diseases like cholera and tuberculosis, engineers focused on practical solutions to improve public health. They redesigned streets with smooth stone paving to allow for easier cleaning, developed systems to manage waste, and experimented with materials and infrastructure to combat urban filth. This approach was rooted in the belief that changing the physical environment—the *ville*—could encourage healthier habits and improve conditions for the *cit  *. By addressing the underlying causes of disease through technical innovation, engineers played a crucial role in reshaping cities and enhancing the quality of urban life.

When British physician John Snow, in 1854, demonstrated the link between cholera outbreaks and contaminated water, challenging miasmatic beliefs even before germ theory was fully established, things started to change and the doctors emerged as important figures of urban transformation. The bacteriological advances in the 1880s, when Louis Pasteur and Robert Koch identified specific pathogens as the cause of diseases, including Koch’s discovery of the cholera bacillus, further contributed to this fact. These scientific breakthroughs provided urban planners with a stronger empirical basis for implementing centralized sewer systems, clean water supplies, and sanitation infrastructure. In the Ottoman Empire, advances in sanitation practices and urban reform were influenced by the understanding of public hygiene as a “sanitary-bacteriological synthesis,”³³ as will be detailed in Chapter 2. The 1893 cholera epidemic, which caused significant death toll in

32 For an analysis of the role of engineers in shaping the Middle East’s environment during the long nineteenth century see, Edmund Burke III, “The Transformation of the Middle Eastern Environment, 1500 B.C.E.–2000 C.E.,” in *The Environment and World History*, ed. Edmund Burke III and Kenneth Pomeranz (Berkeley: University of California Press, 2009), 81–117.

33 Barnes, *The Great Stink of Paris*, 11.

cities like Istanbul, İzmir, and Salonica, marked a turning point, expediting the institutionalization of public health and urban reforms.³⁴

Another major driving source behind the urban reforms was population.³⁵ Like many European cities, Istanbul faced significant demographic challenges in the nineteenth century, shaped by an influx of refugees, epidemics, fires, and earthquakes. Unlike its European counterparts, Istanbul's population growth was not primarily driven by rapid industrialization but by the arrival of Muslim refugees fleeing political unrest and wars in Russia and Southeastern Europe, with the Crimean War (1854-1856), and Russia-Ottoman War (1877-78) being the most important push factors. This migration not only reshaped the city's social and demographic structure, but also posed new sanitary challenges.³⁶ Some of the refugees who remained in Istanbul faced significant housing challenges, which made them more vulnerable to infrastructural deficiencies and food insecurity, thereby increasing their susceptibility to disease.

The nineteenth century also marked the Ottoman Empire's greater trade and commercial links with the world economy following the free trade treaties signed after 1838 Baltalimanı Treaty. Combined with the political and social reforms of the Ottoman state during the same period, the foreign trade as well as the greater number of Europeans living in the Empire expedited the

34 Ayar, *Osmanlı Devleti'nde Kolera*. By the late nineteenth century, European cities such as London and Paris underwent extensive urban transformations. In Paris, for instance, under Hausmann and Belgrand, the sewer network expanded significantly during the Second Empire, reducing waterborne diseases and accommodating both hygienic and infrastructural needs, such as water mains and communication lines. These projects reflected not only scientific reasoning but also emerging bourgeois ideals of cleanliness, as waste was moved underground to ensure it was invisible and odorless. See for instance, David Inglis, "Sewers and Sensibilities: The Bourgeois Faecal Experience in the Nineteenth-Century City," in *The City and the Senses: Urban Culture Since 1500*, ed. Alexander Cowan and Jill Steward (London: Routledge, 2007), 105–130; Donald Reid, *Paris Sewers and Sewermen: Realities and Representations* (Cambridge: Harvard University Press, 1991).

35 For a more detailed evaluation of the link between public health, hygiene and population, see Chapter 2.

36 Stanford Shaw, "The Population of Istanbul in the Nineteenth Century," *International Journal of Middle East Studies* 10 (1979): 265–277.

transformation of especially the port cities and the capital, as there was a growing demand for infrastructure, transportation and municipal services.³⁷

1.3.2.1 Reforming Istanbul's Urban Fabric

This is the context and theoretical framework that we should comprehend the urban reforms of Istanbul. The classical administration of Ottoman cities operated through a combination of written and unwritten rules, regulations, and norms. Qadis were responsible for overseeing and supervising essential services, such as cleaning, infrastructure construction, and maintenance. However, it was the responsibility of the residents to organize and fund these services themselves. nineteenth-century reforms gradually dismantled this traditional system, paving the way for the codification and formalization of municipal services.³⁸

The establishment of the Istanbul Municipality [*Şehremaneti*] in 1855, in the midst of the Crimean War, marked a key moment in modernizing municipal services. Replacing the Ministry of Ihtisab,³⁹ the Municipality operated under the supervision of the Supreme Council [*Meclis-i Vâlâ*] and reported to the Sublime Porte [*Bab-ı Âli*]. Its responsibilities included provisioning essential goods, maintaining roads and pavements, providing cleaning services, and regulating tradesmen.⁴⁰ The mayor [*Şehremini*], appointed by the Sublime Porte with the Sultan's approval, worked alongside two deputies and a 15-member council, which included tradesmen and urban notables from all religious communities. Meeting twice a week, the council addressed urban issues, drafted regulations, and submitted them for the Sultan's approval. However, the Municipality's effectiveness was constrained by strict central oversight, a lack of financial independence, and limited authority to address Istanbul's pressing urban problems.⁴¹

37 İlber Ortaylı, *Tanzimat Devrinde Osmanlı Mahallî İdareleri* (Ankara: Türk Tarih Kurumu Basımevi, 2000), 123.

38 Ibid.

39 See Chapter 3 for a discussion on the transformation of the *hisba* principle in Ottoman context and how public hygiene was relevant in this transformation.

40 Ortaylı, *Osmanlı Mahallî İdareleri*, 132.

41 See for instance Ergin, *Mecelle* and Ortaylı, *Osmanlı Mahallî İdareleri*.

To resolve this, the Commission for the Orderliness of the City [*İntizam-ı Şehir Komisyonu*] was established in 1855 to propose a municipal model.⁴² Before its dissolution in 1857, the Commission submitted recommendations inspired by the Parisian model, including paved streets, sewerage systems, improved street lighting, a finance department, and a new tax base.⁴³ It also proposed dividing Istanbul into 14 municipal districts. Among these, the Sixth District Municipality [*Altıncı Daire-i Belediye*], covering Beyoğlu and Galata, gained prominence for its semi-autonomous governance, larger budget, and direct reporting to the grand vizier. Acting as a testing ground for urban reforms, it managed key services such as road construction, water systems, street cleaning, and price regulation until a citywide municipal model was introduced in 1877.⁴⁴ The extensive powers and privileges of the Sixth District were curtailed in 1868 with the introduction of a new municipal model for the entire city. Under the 1868 Istanbul Municipal Regulation [*Dersaadet İdare-i Belediye Nizamnamesi*], the administrative framework of the Sixth District was expanded to cover all of Istanbul, bringing it under the jurisdiction of the Municipality of Istanbul [*Şehremaneti*]. The primary goal of this reorganization was to enhance the city's overall appearance by standardizing roads, streets, and the construction of water and sewage systems.⁴⁵ By 1877, two municipal acts—the Istanbul Municipal Law [*Dersaadet Belediye Kanunu*] and the Provincial Municipal Law [*Vilayet Belediye Kanunu*—proposed dividing Istanbul into 20 districts under municipal control. However, due to the Ottoman-Russian War of 1877–78, the city was instead divided into 10 districts, a structure that remained in place until 1908.⁴⁶

42 Murat Gül, *The Emergence of Modern Istanbul: Transformation and Modernisation of a City* (London: I.B. Tauris, 2013), 45.

43 Zafer Toprak, "Altıncı Daire-i Belediye," in *Dünden Bugüne İstanbul Ansiklopedisi*, vol. 1 (İstanbul: Tarih Vakfı Yurt Yayınları, 1992); Gül, *The Emergence of Modern Istanbul*, 46 ; Ortaylı, *Osmanlı Mahalli İdareleri*, 149-155.

44 Sibel Gürses Söğüt, "İstanbul'un imarı ve yangınlar-2: 19. Yüzyıl İstanbul'unda Modern İmar Uygulamaları: Yangın Yeri Düzenlemeleri," *Toplumsal Tarih* 271 (2016): 50–62.

45 Zeynep Çelik, *The Remaking of Istanbul: Portrait of an Ottoman City in the Nineteenth Century* (Berkeley: University of California Press, 1993), 47.

46 Ortaylı, *Osmanlı Mahalli İdareleri*.

Without any doubt, urban regulations and the formation of municipal institutions were central to transforming Ottoman cities. Yet, it is crucial to note that municipalities facilitated the restructuring of urban spaces through medical and engineering initiatives as part of the Ottoman state's wider reform agenda. These efforts were largely driven by the challenges posed by wars, shifting populations, economic strains, and epidemics, which highlighted the critical need for improved hygiene and public health infrastructure, providing a justification for such interventions.

1.3.2.2 Historiography of Istanbul's Urbanization

Influenced by the modernization paradigm, conventional historiography on Istanbul's history in general and urbanization in particular tends to view these developments from two angles: either glorifying the westernization efforts or focusing on the shortcomings of reformers and bureaucrats in realizing the goals outlined in these legal frameworks. The first perspective views developments like the formation of the Sixth District as significant strides toward achieving a "Western" level of civilization. The second, highlights Istanbul's incomplete urbanization, attributing its shortcomings to financial constraints, overly ambitious projects, and bureaucratic inefficiencies.⁴⁷ According to these accounts, the attempts to modernize Istanbul's urban environment remained partial, and disorder and dirt have prevailed in the city even in the twentieth century. As Christoph Neumann highlights in his study of the Sixth District, the emphasis on incompetencies and deficiencies in Istanbul's municipal experience were a clear manifestation of scholars' biases rooted in the modernization paradigm.⁴⁸

Referring to the deficiencies of the modernization paradigm in evaluating class relations and the role of capital,⁴⁹ the port city framework zooms into the

47 See Çelik, *Remaking*; Ortaylı, *Osmanlı Mahalli İdareleri*; Ergin, *Mecelle* among others.

48 Christoph K. Neumann, "Modernitelerin Çatışması: Altıncı Daire-i Belediye, 1857–1912," in *İstanbul: İmparatorluk Başkentinden Megakente*, ed. Yavuz Köse (İstanbul: Kitap, 2011).

49 Keyder's, Quataert's and Özveren's article provides a comprehensive overview of the deficiencies of the modernization paradigm, and the promise of class in analyzing the port cities: Çağlar Keyder, Y. Eyüp Özveren, and Donald Quataert, "Port-Cities in the Ottoman Empire:

workings of global capitalist system during the nineteenth century. Scholars embracing this perspective have highlighted Istanbul's role as a key node of transnational networks, linking local production and consumption to global markets. This approach underscores the interplay of economic integration, social struggles over space, and the influence of local and international actors in shaping urban and economic dynamics, reflecting the city's critical position in the Eastern Mediterranean port city framework.

Further building up on these historiographical openings, scholarship of the past decade has moved beyond this tendency, offering a more nuanced understanding of the complex dynamics behind urban reforms. These studies challenge the linear narrative of urban transformation, exploring the multifaceted factors that shaped Istanbul's urban life in the nineteenth and early twentieth centuries. For example, Noemi Levy-Aksu examines the forces that defined, reinforced, and contested public order in Istanbul between 1879 and 1908. Her work delves into the evolving notions of order and disorder, the mechanisms of social control in the Ottoman capital, and the tensions that emerged between the state and society during this transformative period.⁵⁰ Nurçin İleri's dissertation examines how Istanbul's nocturnal life was transformed during the *fin de siècle* as part of modernization efforts. Her work sheds light on how the night became a stage for power dynamics and conflicts, not only among different classes, genders, and ethnicities but also between city

Some Theoretical and Historical Perspectives," *Review (Fernand Braudel Center)* 16, no. 4 (Fall 1993): 519–558. For other discussions on the application of port city framework to Istanbul's historiography see, Malte Fuhrmann and Vangelis Kechriotis, "The late Ottoman port-cities and their inhabitants: subjectivity, urbanity, and conflicting orders," *Mediterranean Historical Review* 24, no. 2 (2009); Sibel Zandi-Sayek, *Ottoman İzmir: The Rise of a Cosmopolitan Port, 1840-1880* (Minneapolis: University of Minnesota Press, 2011); Biray Kolluoğlu and Meltem Toksöz, eds., *Cities of the Mediterranean: From the Ottomans to the Present Day* (London: I.B. Tauris, 2010). For Nurçin İleri's critical literature review on the port city framework revealing how this frame progressed. See, Nurçin İleri, "Rewriting the History of Port-Cities in the Light of Contemporary Global Capitalism," *New Perspectives on Turkey*, no. 47 (2012): 185–209.

50 Noémi Lévy-Aksu, *Osmanlı İstanbul'unda Asayiş, 1879-1909* (İstanbul: İletişim Yayınları, 2017).

authorities and its residents.⁵¹ Mehmet Kentel's work challenges the conventional historiography of Pera, which often celebrates the district's cosmopolitanism, diversity, progress, and civilization. By focusing on various infrastructure projects undertaken in Istanbul's built and natural environment during the second half of the nineteenth century, Kentel reveals how Pera's *fin de siècle* cosmopolitanism was shaped by complex interactions between diverse actors and regions. He also argues that this process not only enabled progress but also relied upon and exacerbated spatial inequalities.⁵² These accounts highlight the complexity of urban reform in Istanbul, revealing the interplay of diverse actors, multiple dimensions of social and economic life, and intricate power dynamics.

More recent approaches to Istanbul's history have further broadened the scope of inquiry, challenging traditional narratives centered solely on political and economic processes. Yaşar Tolga Cora's article, for instance, examines the Oriental Savings Association, a late Ottoman Armenian housing cooperative, and its role in transforming waqf land into private property for profit. Highlighting the interplay of urban rent, land speculation, and municipal negotiations, the study shows how private capital shaped Istanbul's suburban expansion. Cora's focus shifts from global economic integration to the localized role of capital in driving urbanization. Other scholars highlight the interconnected dynamics of urban modernization, sociopolitical control, and cultural transformations. They have brought attention to previously marginalized topics, such as grassroots social interactions of in the framework of municipal reforms, and the roles of diverse communities, including non-Muslims, in shaping urban governance and daily life.⁵³ Insights into occupied Istanbul during the post-World War I period further enrich this expanded focus, highlighting the city's role as a hub of transnational networks, resistance

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- 51 Nurçin İleri, "A Nocturnal History of Fin de Siècle Istanbul" (PhD diss., Binghamton University, State University of New York, 2015).
- 52 K. Mehmet Kentel, "Assembling 'Cosmopolitan' Pera: An Infrastructural History of Late Ottoman Istanbul," (PhD diss., University of Washington, 2018).
- 53 Masayuki Ueno, "In Pursuit of Laicized Urban Administration: The Muhtar System in Istanbul and Ottoman Attitudes toward Non-Muslim Religious Authorities in the Nineteenth Century," *International Journal of Middle East Studies* 54, no. 2 (2022): 302–18

movements, and shifting urban identities amidst global geopolitical changes.⁵⁴ These new historiographical trends justified gender as “a historical tool of analysis”⁵⁵ in Istanbul studies. Studies on domestic labor reveal how legal, economic, and cultural practices shaped relationships between employers and workers, highlighting women’s critical role in urban households and their connection to broader societal structures.⁵⁶ These diverse perspectives have significantly widened the lens of Istanbul’s historical studies, fostering a deeper understanding of the complex and interconnected forces that shaped its transformation from the nineteenth to early twentieth centuries.

1.3.2.3 The Promise of Urban Environmental History

First developed in the United States during the 1960s and 70s, environmental history is an interdisciplinary approach that seeks to understand the interconnectedness of the state, society, economy, and environment.⁵⁷ The politics of natural disasters, epidemics, deforestation, climate change, environmental pollution and ecological transformations of the twentieth century, encouraged historians to focus on these issues from a historical point of view. Environmental history enriched the historical scholarship in subfields such as economic history, social history, agricultural history and urban history.

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- 54 Burak Sayım, “Occupied Istanbul as a Cominternian Hub: Sailors, Soldiers, and Post-Imperial Networks (1918–1923),” *Itinerario* 46, no. 1 (2022): 128–49
- 55 Joan Wallach Scott, “Gender: A Useful Category of Historical Analysis,” *The American Historical Review* 91, no. 5 (1986): 1053–75.
- 56 Müge Özbek, “Keeping Domestic Workers Dependent in Early Twentieth-Century Istanbul,” in *Moving Workers: Historical Perspectives on Labour, Coercion and Im/Mobilities*, ed. Claudia Bernardi, Viola Franziska Müller, Biljana Stojić, and Vilhelm Vilhelmsson (Berlin, Boston: De Gruyter Oldenbourg, 2023), 113–36.
- 57 Özkan Akpınar critiques the traditional approach to environmental history for dividing human society and nature into separate, autonomous categories. This compartmentalized perspective limits the understanding of their complex and intertwined relationship. See, Akpınar, “Tracing the Rise of Ottoman Environmental History,” 453–54. For earlier works on environmental history, see: Roderick Nash, *American Environmental History: A New Teaching Frontier*, *Pacific Historical Review*, 1972; John R. McNeill, “Observations on the Nature and Culture of Environmental History, History and Theory,” in *What Is Environmental History?*, ed. J. Donald Hughes (Cambridge: Polity Press, 2006).

By the late 1980s, environmental history had diversified into numerous subfields, each with its methodologies and perspectives. Despite internal disagreements about the field's core elements, scholars successfully incorporated insights on class, race, ethnicity, gender, consumption, and the history of science. This diversification also spurred interest in urban environmental history, although studies on cities remained marginal compared to broader environmental narratives.⁵⁸

The exclusion of cities from environmental history drew criticism. In 1993, Martin V. Melosi argued that urban environmental history should integrate the natural history of cities with the history of urbanization, focusing on the interactions between natural and built environments.⁵⁹ Similarly, Samuel Hays urged environmental historians to investigate the various ways humans have organized themselves to act upon their environments over time.⁶⁰ Building on these debates, Christine Meisner Rosen and Joel Arthur Tarr proposed a framework for studying the dialectical relationship between cities and nature. They identified four key dimensions: analyzing the effects of cities on the natural environment, examining the impact of the natural environment on cities, studying societal responses to environmental challenges, and investigating the built environment's role in shaping human life.⁶¹ These conceptual advancements inspired numerous studies on urban topics such as building technology, sanitation, public health, and infrastructure.

The field of Ottoman and Middle Eastern history has largely remained indifferent to the insights of environmental history until very recently. As Alan

58 For two notable exceptions, see: William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton & Company, 1991) and Matthew Klinge, *Emerald City: An Environmental History of Seattle* (New Haven: Yale University Press, 2007). Cronon examines the relationship between Chicago's urban development and its surrounding natural environment; and Klinge explores how Seattle's development, from its earliest settlement to the present, has reshaped nature, often causing ecological harm and social inequality.

59 Martin V. Melosi, "The Place of the City in Environmental History," *Environmental History Review* 17, no. 1 (1993): 1–23.

60 Samuel Hays, "From the History of the City to the History of Urbanized Society," *Journal of Urban History* 19, no. 4 (1993): 3–25.

61 Christine Meisner Rosen and Joel Arthur Tarr, "The Importance of an Urban Perspective in Environmental History," *Journal of Urban History* 20, no. 3 (1994): 299–310.

Mikhail observed, “[o]ne of the gaping holes in the global story of the environment has so far been the history of the Middle East.”⁶² However, the growing interest of younger generations in environmental history addressed this gap, and novel approaches have proliferated in Ottoman and Middle Eastern studies over the past two decades.⁶³ Yet, with a few exceptions, urban environmental history remains at the margins of the field, and environmental studies mostly focused on rural contexts.⁶⁴ From the other side of the coin, urban history, scholars have often prioritized architectural perspectives, sidelining the role of environment in framing hygiene, disease, and health. This study aims to address this lacuna.

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- 62 Alan Mikhail, *Under Osman's Tree: The Ottoman Empire, Egypt, and Environmental History* (Chicago: The University of Chicago Press, 2017), 1. Alan Mikhail, *Water on Sand: Environmental Histories of the Middle East and North Africa* (Oxford: Oxford University Press, 2013), 1.
- 63 For an analysis of the development of environmental history in Ottoman history that precedes Akpınar historiographical overview, see: Onur İnal, “Environmental History as an Emerging Field in Ottoman Studies: An Historiographical Overview”, *Osmanlı Araştırmaları*, 38, 2018, 1-25. Sam White's work examines the socio-economic and political impacts of the Little Ice Age, linking environmental factors to the Celali revolts of the seventeenth century: Mikhail's works analyze themes ranging from irrigation politics and natural resources to human-animal interactions and disease, proving the potential of Middle Eastern environmental history. See, Alan Mikhail, *Nature and Empire in Ottoman Egypt* (Cambridge: Cambridge University Press, 2011); Alan Mikhail, *The Animal in Ottoman Egypt* (New York: Oxford University Press, 2014). For more recent studies on Ottoman environments, see, Onur İnal and Yavuz Köse (eds.), *İktidar Tohumları: Osmanlı Çevre Tarihi Üzerine İncelemeler*, trans. Ercan Akyol (Istanbul: İletişim, 2022); Faisal H. Husain, *Rivers of the Sultan: The Tigris and Euphrates in the Ottoman Empire* (Oxford: Oxford University Press, 2021); Chris Gratien, *The Unsettled Plain: An Environmental History of the Late Ottoman Frontier* (Stanford: Stanford University Press, 2022); Samuel Dolbee, *Locusts of Power: Borders, Empire, and Environment in the Modern Middle East* (Cambridge: Cambridge University Press, 2023); Zozan Pehlivan, *The Political Ecology of Violence: Peasants and Pastoralists in the Last Ottoman Century* (Cambridge: Cambridge University Press, 2024).
- 64 Aside from Mehmet Kentel's doctoral dissertation, the focus on urban environmental history remained limited. Other important exception that promises to overcome this neglect is Onur İnal's forthcoming monograph on Ottoman İzmir. See, Onur İnal, *Gateway to the Mediterranean An Environmental History of Late Ottoman İzmir* (Cambridge: Cambridge University Press, forthcoming).

1.3.3 *Institutionalization of Public Health in the Ottoman Empire*

1.3.3.1 Biopolitics, Demography, and Public Health

The rise of the industrial city in the eighteenth century fundamentally transformed the relationship between the state and its subjects. In this evolving dynamic, the human body became a central site of concern—ranging from its role as a source of reproductive labor to anxieties over the regulation of human behavior. The body assumed new roles, emerging as a vessel through which the aspirations of modernity could be realized. Enmeshed within an expanding network of mechanisms, structures, and discourses, the body's integration into political, social, and scientific paradigms became a focal point for historical and sociological inquiry.

Michel Foucault's exploration of biopolitics, particularly in the first volume of *The History of Sexuality* and his subsequent writings, offers a critical lens to understand this transformation. Foucault examined how, by the eighteenth century, sexuality became a domain of knowledge, and how the proliferation of discourses surrounding it served as a means of social control. He established a profound link between the body's health and broader systems of power and politics, defining biopolitics as “an explosion of numerous and diverse techniques for achieving the subjugation of bodies and the control of populations.”⁶⁵ Moreover, he identified the mechanisms through which the biological realities of the human species became objects of political strategy.⁶⁶

Foucault's notion of biopolitics unfolds through interrelated concepts such as normalization, security, control, and governmentality. His idea of governmentality expanded the understanding of power, moving beyond hierarchical structures to encompass diverse forms of social control operating through institutions like hospitals, schools, and asylums. Crucially, governmentality situated governance not solely within the realm of state politics but as a web of practices and techniques, including the biopolitical regulation of populations. This framework provided an essential context for

65 Michel Foucault, *History of Sexuality* (London: Penguin Books, 1976), 140.

66 Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France, 1977–78*, eds. Michel Senellart, François Ewald, Alessandro Fontana, and Arnold I. Davidson, (London: Palgrave Macmillan, 2009).

understanding the Ottoman Empire's institutionalization of public health and its integration of biopolitical strategies to manage the urban body and population.

In addition to his broader framework on the relationship between the body and politics, Foucault pays particular attention to the question of health in several of his writings. In his influential essay, "The Politics of Health in the 18th Century," Foucault examines a dual process: the rise of a "medical market" and the emergence of public health and disease as key political and economic concerns. He refers to this process as "noso-politics" and links it to the demographic transformations of the eighteenth century. Through this analysis, Foucault highlights the shift from a narrow understanding of public health as merely charitable assistance for the poor to a broader and more complex framework of collective health management.⁶⁷

For Foucault, while the creation of a "healthy" labor force was undoubtedly a significant motive, it was not the sole driving force behind these developments. Poverty, he argues, was deconstructed in a utilitarian manner, with the health and sickness of the poor framed in terms of transforming the "able-bodied" poor into productive laborers. Furthermore, the emergence of health and physical well-being as political objectives underscores the growing importance of health as a tool of governance. Foucault demonstrates how health was "policed," with authorities simultaneously imposing constraints and dispensing services, reflecting the broader biopolitical mechanisms at play in modern society.⁶⁸ This analysis offers a valuable lens through which to understand the institutionalization of public health in the Ottoman Empire, where health and hygiene became central to political strategies aimed at managing populations and transforming urban life.

1.3.3.2 Institutionalization of Public Health

The institutionalization of public health in the Ottoman Empire accelerated in the nineteenth century, largely in response to recurring epidemics, especially the cholera. The 1831 cholera outbreak, which killed approximately 6,000

⁶⁷ Paul Rabinow, *The Foucault Reader* (New York: Penguin Books, 1984), 275.

⁶⁸ Ibid.

people in Istanbul, prompted Sultan Mahmud II to introduce quarantine measures for the first time. This led to the establishment of the Quarantine Council [*Karantina Meclisi* or *Meclis-i Tahaffuz*] in 1838,⁶⁹ the Empire's first significant institutional response to epidemics.⁷⁰ The Quarantine Council managed the practical arrangements for quarantines by dispatching physicians and officials to necessary provinces and issuing related directives. Since a city council had not yet been established in Istanbul, the Quarantine Council also assumed responsibilities for regulating sanitation and urban hygiene.⁷¹ Subsequent cholera outbreaks in the later nineteenth century, alongside the spread of other diseases, underscored the need for more robust public health infrastructure, resulting in the construction of hospitals and quarantine stations [*tahaffuzhanes*] across the empire.

Several legal moves complemented these efforts. The 1871 General Administration of Medicine Regulation [*İdâre-i Umûmiye-i Tibbiye Nizamnâmesi*] introduced country physicians [*memleket etibbası*] and pharmacists to provide healthcare for all subjects, regardless of social or economic status.⁷² The efforts also merged penal measures with public health. The *Cerâim-i Sıhhiye Kanunu* [Health Offense Law] of 1884, for instance, imposed strict quarantine measures and severe penalties, including life imprisonment, for violations that caused disease outbreaks, while empowering guards to enforce compliance during epidemics. The law required immediate notification of contagious diseases and enforced travel restrictions on ships, caravans, and individuals from infected areas. Despite challenges in implementation, it represented a crucial advancement in the Ottoman Empire's efforts to institutionalize public health.

69 As Nuran Yıldırım also emphasizes, *Karantina Meclisi* appears in Ottoman archival texts in various (and often confusing) names: Meclis-i Umur-ı Sıhhiye, Nezaret-i Umur-ı Sıhhiye, Umur-ı Sıhhiye Nezaret-i, Administration Sanitaire de l'Empire Ottoman, Sıhhiye Nezaret-i, Karantina Nezaret-i, Karantina Meclisi and Daire-i Umur-ı Sıhhiye. Nuran Yıldırım, *A History of Healthcare in Istanbul* (Istanbul: İstanbul 2010 Avrupa Kültür Başkenti Ajansı / İstanbul Üniversitesi, 2010), 22.

70 Güliden Sarıyıldız, *Hicaz Karantina Teşkilatı (1865-1914)* (Ankara: Türk Tarih Kurumu, 1996).

71 Yıldırım, *A History of Healthcare in Istanbul*, 22.

72 Ergin, *Mecelle*, vol. 6, 3062-3068.

The 1893–1894 cholera epidemic was transformative, reinforcing the link between public hygiene and disease. In the emerging context of this epidemic, the municipality established the Public Hygiene Commission [*Hıfzıssıhha-i Umumiye Komisyonu*] and affiliated Health Commissions [*Hey'et-i Sıhhiye*] in key municipal districts to combat the epidemic under centralized directives. These commissions coordinated patient segregation, disinfection, and treatment, supported by three disinfection stations [*tebhirhane*] opened in Gedikpaşa, Tophane, and Üsküdar during the same outbreak. Recognizing the effectiveness of the Public Hygiene Commission [*Hıfzıssıhha-i Umumiye Komisyonu*], Sultan Abdülhamid II later established the Central Commission of Public Hygiene [*Hıfzıssıhha-i Umumiye Merkez Komisyonu*] as a permanent institution to oversee public health in Istanbul and surrounding areas. This body, comprising civilian and military physicians, became the nucleus of municipal health governance but was abolished in 1908 under the justification of inefficiency and high costs. Further marking the integration of public health into municipal governance and solidifying health services across the empire, the Municipal Health Administration Department [*Şehremaneti İdare-i Sıhhiye Şubesi*] was established in 1909 but was later replaced by the Municipal Health Directorate [*Şehremaneti Sıhhiye Müdüriyeti*] under the “Law on Istanbul Municipality Health Organization” [*Dersaâdet Teşkilat-i Belediye Kanunu*] on December 30, 1912.⁷³

The frequent renaming and reorganization of public health institutions in the Ottoman Empire reflects a continuity of challenges rather than resolutions. While the institutional frameworks shifted, the core struggles in public health governance persisted, handled by largely the same individuals and practices within changing bureaucratic structures.

1.3.3.3 Historiography of Disease and Public Hygiene

The 1970s witnessed two prominent works that transformed historical understandings of disease that foregrounds the interaction between human societies and their biological environments. Alfred W. Crosby's *The Columbian Exchange* and William H. McNeill's *Plagues and Peoples*.

73 Yildirim, *A History of Healthcare in Istanbul*, 40–46.

Crosby's work emphasizes how the transatlantic exchange of plants, animals, and pathogens following European colonization reshaped ecosystems and human populations on a global scale. He underscores how diseases like smallpox devastated Indigenous populations in the Americas, fundamentally altering demographic and cultural landscapes.⁷⁴ Similarly, McNeill's *Plagues and Peoples* explores how infectious diseases have shaped human history by linking biological forces to large-scale societal transformations. McNeill highlights how the spread of disease was tied to trade routes, military conquests, and the expansion of empires, emphasizing the reciprocal relationship between human activity and epidemiological patterns.⁷⁵

Though neither work had an immediate impact at the time of publication, both provided important insights for future generations of scholars to demonstrate the constitutive role of diseases in shaping human societies. As a limitation, their broad, macrohistorical focus on environmental determinism and the sweeping effects of biological agents invites criticism. These works often prioritize the role of disease as an external force acting upon passive human populations, overlooking the agency of societies in mitigating, adapting to, or resisting the impact of disease. Recent scholarship, influenced by social and cultural history, emphasizes the localized, intersectional dynamics of disease, including how it interacts with issues of power, gender, class, and governance. This shift reframes disease not simply as an ecological consequence but as a phenomenon deeply embedded in human decision-making, public health systems, and cultural contexts—an aspect less explored in Crosby and McNeill's otherwise pioneering narratives

The historiography of plague examines its multifaceted impacts, ranging from societal disruptions to state responses and global connections.⁷⁶ In the

74 Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900* (New York: Cambridge University Press, 1986).

75 William H. McNeill, *Plagues and Peoples* (New York: Anchor Books, 1976).

76 For early European-focused works on plague, see William M. Bowsky's study on political realignments and and Stuart Borsch's exploration of labor shortages in the context of plague. They highlight the transformative effects of the Black Death on feudal societies. See, William M. Bowsky, *The Black Death: A Turning Point in History?* (New York: Holt, 1971); Stuart J. Borsch, *The Black Death in Egypt and England: A Comparative Study* (Austin: University of

Ottoman and Islamic contexts, Michael Dols explores theological interpretations of the plague, emphasizing its role in Islamic eschatology and communal responses.⁷⁷ Daniel Panzac, taking a demographic and economic perspective, maps the plague's recurring patterns and its impact on Ottoman society.⁷⁸ Birsen Bulmuş delves into the Ottoman Empire's public health strategies, focusing on how the state leveraged quarantine measures, bureaucratic reforms, and geopolitical strategies to combat outbreaks.⁷⁹ Her work situates Ottoman responses within a broader narrative of state centralization and modernization during the nineteenth century. Nükhet Varlık expands this view by connecting the spread of plague to the empire's expansion and its integration into early modern global trade and ecological networks.⁸⁰ Miri Shefer-Mossensohn complements these perspectives by exploring Islamic medical traditions in the Mediterranean, highlighting how local practices were integrated with broader medical networks.⁸¹ Her work underscores the adaptability and pragmatism of Islamic societies in responding to epidemics, countering Eurocentric depictions of stagnant or fatalistic approaches.

Recent scholarship critiques Eurocentric narratives, calling for polyvocal approaches that prioritize non-Western sources and epistemologies. Nükhet Varlık's concept of "epidemiological orientalism," challenges the portrayal of the Ottoman Empire as a perpetual source of disease while overlooking its

Texas Press, 2005). Robert Gottfried and Roy Porter examine the broader intersections of human and environmental factors in shaping disease outbreaks and societal resilience. Robert S. Gottfried, *The Black Death: Natural and Human Disaster in Medieval Europe* (New York: Free Press, 1983); Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity*, 1st American ed. (New York: W.W. Norton, 1998).

77 Michael Dols, *The Black Death in the Middle East* (Princeton: Princeton University Press, 1977).

78 Daniel Panzac, *La Peste Dans L'empire Ottoman: 1700-1850* (Leuven, Belgique: Peeters, 1985).

79 Birsen Bulmuş, *Plague, Quarantines and Geopolitics in the Ottoman Empire* (Edinburgh: Edinburgh University Press, 2012).

80 Nükhet Varlık, *Plague and Empire in the Early Modern Mediterranean World: The Ottoman Experience, 1347-1600* (Cambridge: Cambridge University Press, 2015).

81 Miri Shefer-Mossensohn, "A Historiography of Epidemics in the Islamic Mediterranean," in *Plague and Contagion in the Islamic Mediterranean*, ed. Nükhet Varlık (Amsterdam: Amsterdam University Press, 2017), 3-26.

sophisticated public health strategies. She highlights how such representations, rooted in European travelogues and medical accounts, reinforced stereotypes of a “sickly East” versus a “healthy West,” marginalizing Ottoman contributions to epidemic management.⁸² Helen Tilley and Harold Cook further broaden the perspective by examining the global circulation of goods, ideas, and diseases, reframing the plague as part of interconnected transregional systems.⁸³ This body of work reflects a historiographical shift from localized and Eurocentric studies to a more integrated exploration of the plague’s role in shaping imperial, transnational, and epistemological dynamics.

In his analysis of the historiography of disease in the Ottoman Empire, Sam White criticizes the dominance of plague in the early modern literature, highlighting that infections such as typhus, anthrax, and gastrointestinal illnesses had significant demographic consequences alongside the plague.⁸⁴ In the past couple of decades, the historiography of other diseases have also been expanding in Ottoman studies. As the death and health records from the late nineteenth and early twentieth centuries, along with health and medical manuals from the same period, reveal, cholera was one of the most terrifying realities of the Ottoman Empire’s final century.⁸⁵ One of the most comprehensive studies on cholera in the Ottoman Empire is Gülден Sarıyıldız work on

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- 82 Nükhet Varlık, “‘Oriental Plague’ or Epidemiological Orientalism? Revisiting the Plague Episteme of the Early Modern Mediterranean,” in *Plague and Contagion in the Islamic Mediterranean*, ed. Nükhet Varlık (Amsterdam: Amsterdam University Press, 2017), 57–88. Diana Davis shifts the focus from disease to the environment, highlighting how environmental descriptions may be influenced by Orientalist biases. See, Diana K. Davis, *The Arid Lands: History, Power, Knowledge* (Cambridge: MIT Press, 2016). Applying Davis’ environmental orientalism to his own research on Jazira, Samuel Dolbee reveals how the notion of “desert” becomes a culturally loaded term in European perspectives, rather than being mere ecological or environmental descriptions. Dolbee, *Locust of Power*.
- 83 Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870–1950* (Chicago: University of Chicago Press, 2011); Harold John Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven: Yale University Press, 2007).
- 84 Sam White, “Rethinking Disease in Ottoman History,” *International Journal of Middle East Studies* 42, no. 4 (2010): 549–567.
- 85 For a more detailed analysis of these death and health records, see Chapter 5.

the quarantine organization in Hijaz. This work explores the cholera outbreaks in the nineteenth and early twentieth centuries and their impact on public health policies and administrative measures in the Ottoman Empire, focusing on the Hijaz region. It highlights the establishment of international health agreements and quarantine systems to manage the spread of cholera, especially during the pilgrimage season, as the disease often traveled with pilgrims. It examines the strategic significance of Hijaz in the broader context of Ottoman political and religious unity, with health interventions becoming a site of international negotiation and imperial control.⁸⁶ Another important manuscript on cholera is Mesut Ayar's study, which focuses on the outbreaks in late nineteenth-century Istanbul, particularly between 1892 and 1895.⁸⁷ While the study centers on the Ottoman capital, it also situates cholera within the broader context of the empire, offering valuable insights into how the disease was managed across its territories. Drawing extensively on archival sources, Ayar provides a detailed account of state responses to the epidemic, though his analysis often reiterates the official perspective with limited critical reflection on the documents. Nonetheless, the study remains an important contribution to the historiography of public health in the Ottoman Empire. Nuran Yıldırım's studies provide valuable insights into Istanbul's experiences with cholera, offering extensive information on the institutionalization of public health, regulations, the role of infrastructure, the communication between the local and European experts in the case of the Ottoman Empire.⁸⁸ Both in Ayar's and Yıldırım's analyses, her work, while rich in historical material, tends to lack an analytical lens. Expanding the geographical scope of cholera's impact, İsmail Yaşayanlar focuses on the epidemics in Antep during

86 Sarıyıldız, *Hicaz Karantina Teşkilatı*.

87 Mesut Ayar, *Osmanlı Devleti'nde Kolera: İstanbul Örneği (1892-1895)* (İstanbul: Kitabevi, 2007).

88 For a selection of Nuran Yıldırım's article see, Nuran Yıldırım, "Kolera Salgınlarında Şehir Hijyeni: İstanbul'da Kanalizasyonlar, Su Şebekesi ve Tebhirhaneler," *Arredamento Mimarlık*, no. 342 (2020): 87–95; Nuran Yıldırım and Hakan Ertin, "1893-1895 İstanbul Kolera Salgınında Avrupalı Uzmanlar ve Osmanlı Devleti'nde Sağlık Modernizasyonuna Katkıları," *Anadolu Kliniği Tıp Bilimleri Dergisi* 25 (2020): 86–88; Nuran Yıldırım, "Salgın Afetlerinde İstanbul," in *Afetlerin Gölgesinde İstanbul: Tarih Boyunca İstanbul ve Çevresini Etkileyen Afetler*, ed. Said Öztürk (İstanbul: İstanbul Kültür A.Ş., 2010); Nuran Yıldırım, "1893'te İstanbul'da Kolera Salgını," *Tarih ve Toplum* 129 (1994): 14–29

1848 and 1890, highlighting the localized dynamics of public health crises beyond the imperial capital.⁸⁹ Yaşayanlar's other studies offer insights on the process of public health's institutionalization in the Ottoman Empire.⁹⁰

Informed by the insights of social and cultural history, as well as gender studies, the works on the history of medicine and disease from the 1980s and 1990s increasingly emphasized the connections between health, disease, and broader socio-political, cultural, and economic contexts. David S. Barnes' *The Making of a Social Disease: Tuberculosis in Nineteenth-Century France*, for instance, investigates tuberculosis as a critical lens through which social, cultural, and political transformations in France can be understood. Barnes argues that tuberculosis was not just a medical condition, but a "social disease" shaped by broader anxieties about urbanization, industrialization, and class dynamics. He highlights how public health debates—fueled by germ theory, fears of contagion, and concerns over slum housing—framed tuberculosis as both a medical and moral issue. The "War on Tuberculosis," spanning the late nineteenth and early twentieth centuries, saw efforts to control the disease through surveillance, hygiene campaigns, and institutional reforms, while simultaneously stigmatizing marginalized populations, such as the working class, for their presumed role in its spread. Barnes' work thus underscores the interplay between medical knowledge and societal fears, demonstrating how tuberculosis became a battleground for addressing deeper societal insecurities in *fin-de-siècle* France.⁹¹ David Arnold's work on cholera and colonialism explores the profound social, cultural, and political dimensions of the disease in the nineteenth- and early twentieth-century colonial India. Arnold examines cholera not just as a medical crisis but as a prism through which to understand the colonial state's interventionist policies and the tense

89 İsmail Yaşayanlar, "Bir Kent, İki Salgın: Antep'te 1848 ve 1890 Kolera Epidemileri," in *Tarihten Günümüze Ayıntab - Gaziantep*, ed. Gaziantep Büyükşehir Belediyesi Kültür Yayınları (Gaziantep: Gaziantep Büyükşehir Belediyesi Kültür Yayınları, 2018), 271–284.

90 İsmail Yaşayanlar, "Osmanlı Devleti'nde Kamu Sağlığının Kurumsallaşmasında Koleranın Etkisi," in *Osmanlı'dan Cumhuriyet'e Salgın Hastalıklar ve Kamu Sağlığı*, eds. Burcu Kurt and İsmail Yaşayanlar (İstanbul: Tarih Vakfı Yurt Yayınları, 2017), 2–24.

91 David S. Barnes, *The Making of a Social Disease: Tuberculosis in Nineteenth-Century France* (Berkeley: University of California Press, 1995).

interactions between European and Indian value systems. He argues that cholera served both as a symbol of colonial conquest and a means of resistance, reflecting how the disease was associated with British military expansion and the disruption of traditional social and environmental structures. Indigenous responses to cholera, including religious interpretations and ritual practices, often contrasted sharply with the colonial state's efforts to enforce public health reforms through sanitation campaigns and quarantine measures.⁹²

As a more recent work, Johan P. Mackenbach explores how health and disease are intricately linked to broader social, economic, and political factors in his analysis of the long term mortality patterns in Europe. His work emphasizes that health outcomes have historically been shaped by human agency, including public health interventions, medical advancements, and societal progress tied to the Enlightenment. Mackenbach highlights how factors such as inequality profoundly influence population health, demonstrating that disparities in wealth, living conditions, and access to resources often result in disproportionate disease burdens and higher mortality rates among marginalized groups. Additionally, geopolitical dynamics and environmental transformations have historically influenced patterns of health and disease, shaping how societies respond to epidemics and other public health challenges. His book underscores the critical role of governance, collective action, and equitable resource distribution in improving and sustaining population health.⁹³

In recent years, Ottoman historiography also benefited from these insights. For instance, increasing interest on gender studies and history of sexuality renewed scholarly attention on the history of syphilis. Seçil Yılmaz's research highlights how syphilis, as a medical and social concern in the Ottoman Empire, intertwined with the growing role of medicine in governance during the *Tanzimat* era. It examines how the disease prompted novel public

92 David Arnold, "Cholera and Colonialism in British India," *Past & Present* 113 (1986): 118–151; David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (Berkeley: University of California Press, 1993).

93 Johan P. Mackenbach, *Health Inequalities: Persistence and Change in European Welfare States* (Oxford: Oxford University Press, 2019).

health measures and expanded medical interventions into everyday life, reshaping socio-medical practices, gender norms, and state approaches to morality and sexuality.⁹⁴ Chris Gratien uses malaria as a lens to examine the transformation of the Çukurova region from the nineteenth to the mid-twentieth century. He argues that the persistence and impact of malaria in this period were not merely ecological but deeply tied to rural dispossession driven by capitalism, state intervention, and war. Through the prism of this mosquito-borne disease, he explores how commercial agriculture, migration, and new technologies reshaped the social and environmental fabric of the Ottoman countryside.⁹⁵ Emine Evered and Kyle Evered's analysis sheds light on the experiences of tuberculosis (TB) in late Ottoman and early Republican Turkey. They show how the disease demonstrates the ways in which class, gender, and public health priorities intersected. Underscoring how public health campaigns relied heavily on educational tools, blending visual and textual narratives to instill modern hygiene practices, they also highlight how TB control efforts were not merely medical but reflected broader transformations in governance and societal norms.⁹⁶

94 Seçil Yılmaz, "Love in the Time of Syphilis: Medicine and Sex in the Ottoman Empire, 1860–1922" (PhD diss., City University of New York, 2016). Seçil Yılmaz, "Threats to Public Order and Health: Mobile Men as Syphilis Vectors in Late Ottoman Medical Discourse and Practice," *Journal of Middle East Women's Studies* 13, no. 2 (July 2017): 208–226. Some other studies that focus on the case of syphilis, see: Zehra Betül Atasoy, "Erken Cumhuriyet İstanbul'unda Frengi ve Fuhuşun Mekansal Yansımaları," in *Osmanlı'dan Cumhuriyet'e Salgın Hastalıklar ve Kamu Sağlığı*, eds. Burcu Kurt and İsmail Yaşayanlar (Istanbul: Tarih Vakfı Yurt Yayınları, 2017), 215–231.

95 Gratien, *Unsettled Plain*.

96 Emine O. Evered and Kyle T. Evered, "Dispensary, Home, and 'A Women's Army': Framing Tubercular Geographies and Gender in Late Ottoman Turkey," *Journal of Historical Geography* 68 (2020): 33–43; Kyle T. Evered and Emine Ö. Evered, "Of Hovels and Homes: Consumption, Class, and Domestic Space in Early Republican Turkey," *Middle Eastern Studies* 60, no. 6 (2024): 929–947.

§ 1.4 The Contribution of this Study

Building upon recent historiographical advancements in Ottoman studies, this dissertation bridges the fields of urban environmental history and the social history of disease to explore the transformation of late Ottoman Istanbul with a particular focus on public hygiene and health. Focusing on four key components of public hygiene—food, water, sewer, and corpses—and the discourses that accompanied these elements, this study examines how they collectively reshaped the city during a pivotal period of socio-political transformation. These practices were deeply connected to the reorganization of urban spaces and daily life, reflecting broader tensions, inequalities, and negotiations, as well as symbolic and material distinctions.

By placing public hygiene and health at the center of urban reforms, the dissertation moves beyond state-centered and architectural perspectives. Drawing on insights from urban environmental history, it examines how the interplay between the natural and built environments shaped Istanbul's sanitation challenges and public health outcomes. This analytical distance creates an opportunity to denaturalize dirt, disease, and death, framing them not as inevitable byproducts of urban life but as historically contingent processes influenced by geography, infrastructure, and governance. By highlighting how these reforms both mirrored and exacerbated existing hierarchies, the dissertation illuminates the social, political, and ecological dynamics underlying Istanbul's urban transformation.

The global flows of scientific knowledge, hygiene practices, and urban planning ideals collided with local Ottoman realities and friction, including governance structures, societal norms, and resource management—a dynamic. These interactions were far from seamless, creating zones of negotiation, resistance, and adaptation where Istanbul's inhabitants, state authorities, and transnational experts redefined public health measures. The city's transformation into a hygienic city was neither a straightforward evolution nor a teleological march from dirt and disease to cleanliness and health. Instead, it was a fragmented process, where past practices and systems

coexisted with new reforms,⁹⁷ and each crisis offered a moment of *Jetztzeit*—a rupture that forced a reconfiguration of the city’s material and social order.⁹⁸

Last but not least, these moments of rupture revealed how the boundaries between the human and non-human worlds blurred and intertwined, shaping the city’s evolving identity. By integrating these diverse perspectives, the dissertation situates Istanbul within global currents of environmental and urban change, while remaining attentive to its unique local dynamics.

1.4.1 *Structure of the Dissertation*

The structure of the dissertation positions Istanbul’s transformation as a journey from life-sustaining systems to the ultimate management (and uneven distribution) of mortality. Starting with public health’s scientific and discursive underpinnings, the dissertation examines food and water systems as essential elements of urban survival, before moving underground to explore the interplay of water and waste in sewer infrastructure. It concludes with new norms of burial practices, illustrating how public health imperatives reshaped both the material and symbolic landscapes of the city. This arc captures the multifaceted ways in which late Ottoman Istanbul negotiated public hygiene through its handling of life and death, and its reverberations on daily experiences.

Chapter 2 examines the late Ottoman public and medical discourses on *hıfz-ı sıhhat* (public hygiene), presenting it as a *sanitary-bacteriological synthesis* that intertwined modern bacteriological science with moral, gendered, class-based, and demographic narratives. Drawing on mostly on medical treatises, yearbooks, Ottoman archival documents and journal articles, it explores how public hygiene was constructed as a scientific, moral, and social imperative. The chapter reveals how *hıfz-ı sıhhat* was mobilized as both a discourse and a practice to regulate urban life, control population health, and reinforce gender and class hierarchies. By highlighting the

97 Walter Benjamin, *Illuminations: Essays and Reflections*, ed. Hannah Arendt, trans. Harry Zohn (New York: Schocken Books, 1968), 253–264.

98 Walter Benjamin, *The Arcades Project*, trans. Howard Eiland and Kevin McLaughlin (Cambridge: Harvard University Press, 1999).

intersections of science, morality, and demography, it demonstrates how public health became a site of negotiation in the Ottoman Empire's institutionalization of public health and urban reform processes.

Building on this foundation, Chapter 3 examines the hygienic transformation of the Istanbul's "foodscape"—the socio-spatial environment where food is produced, traded, and consumed—in the late Ottoman Empire. The chapter highlights continuities between earlier *hisba*-inspired market regulations and modern public health measures, arguing that while the Ottoman state adopted new scientific and legal frameworks, older principles of moral and economic oversight persisted. This process was not just about hygiene but entailed conflicts among various actors, including tax farmers, merchants, municipal authorities, and private companies, each leveraging different discourses of legality, morality, and public good. It also explores the role of food adulteration and fraud, driven by industrialization, commercialization, and urbanization, as key concerns of the period. Food regulations, including chemical analyses and bans, were deployed to protect public health and manage class-based inequalities in access to safe and nutritious food.

From the realms of food, the dissertation turns to the lifeline of any urban environment: water. Chapter 4 delves into the complex struggles over water in late Ottoman Istanbul, framing water scarcity as a socio-political and ecological issue rather than a purely natural phenomenon. Set against the backdrop of nineteenth- and early twentieth-century urban reforms and public health challenges, it highlights how Istanbul's evolving water infrastructure became a symbol of modernization and imperial priorities. Using a political ecology framework, the chapter uncovers the socio-economic dynamics and institutional fragmentation that perpetuated unequal water distribution. Key actors, from maintainers of ancient water conduits to private companies, navigated corruption, self-interest, and political agendas, shaping access to this vital resource. The competing demands of urban gardens, public fountains, and elite households further underscore the social stratification embedded in water access. By challenging linear narratives of progress, the chapter reveals how water scarcity in Istanbul was deeply entwined with the city's political realities, environmental conditions, and broader transformations.

Chapter 5 follows the flow underground, investigating sewage infrastructure as a critical yet overlooked element of public health and urban reform. Benefiting from infrastructural studies, this chapter reveals how fragmented and inadequate sewer systems contributed to recurring outbreaks of cholera, typhoid, and dysentery, exposing stark social inequalities. Poor sanitation disproportionately affected marginalized communities, while elite neighborhoods often benefited from prioritized improvements. By intertwining urban reform with public health policies, the chapter demonstrates how sewage became a critical site where modernity, governance, and social stratification intersected. Drawing on archival records, health and death statistics, and spatial analyses, it argues that Istanbul's sanitary infrastructure was not merely a technical system but a political and social construct, deeply tied to the city's evolving urban fabric. Ultimately, it underscores how infrastructural failures were made visible through the lens of death and disease, offering a nuanced perspective on the intersection of health, governance, and urban space.

Final chapter investigates the Ottoman state's growing regulation of death and burial practices in nineteenth- and early twentieth-century Istanbul, positioning these developments within the framework of "necropolitics." It complements the existing literature on death in Istanbul that focus mostly on spatial restrictions of burial locations by shifting attention to the state's interventions into *how* the dead were buried. Emphasizing the sanitary and political dimensions of these practices, it explores the evolving interplay between religion, science, and state governance. Drawing on cases of conflicts and negotiations between traditional actors such as *imams* and sanitary authorities like physicians, the chapter highlights how the burial process became a contested space where modern public health concerns clashed and overlapped with religious customs. These regulations, motivated by fears of contagious diseases like cholera, often blurred the lines between sacred and sanitary practices, eliciting both societal resistance and cooperation.

§ 1.5 Sources and Their Limits

This study primarily relies on Ottoman archival records from several catalogues, alongside newspaper and journal articles, medical manuscripts,

health and death statistics, health yearbooks, and relevant legal texts. Through a critical evaluation of these sources, I have attempted to overcome the dominant state bias inherent in Ottoman archival documents and to give voice to ordinary people, aiming to understand how they experienced the hygienic transformation of late Ottoman Istanbul. In instances where I was fortunate enough, conflicts that emerged between local people—or between the people and the state—resulted in petitions or court records, which provided me with a (though blurry) picture of how ordinary people adapted to, resisted, and were influenced by the state's attempts to transform Istanbul into a hygienic city. These cases also offered valuable examples of how ordinary people embraced the language of urban and public health reforms to counteract the state's "unjust" treatment, revealing that hygienic reforms were not merely top-down processes.

Analyzing the health and death statistics presented further challenges. Because there is limited information on how this data was compiled, which methods were used, and what was included or excluded, there is ample reason to question the reliability of these numbers. Nonetheless, they still provide an overview of the number of deaths in Istanbul and the distribution of deaths by age, gender, religion, and district. Death records are classified within the catalogue of *Sihhiye Nezareti* in the Ottoman Archive, and there remains significant room for further research into these statistical books.⁹⁹

Health statistics were more detailed, as the statistics in these books were accompanied by short narratives on the state of diseases in the Ottoman Empire and the measures taken to address them. These narratives are valuable for providing insight into the mentalities of Ottoman health reformers, as they illustrate how reformers understood and interpreted the emergence and

99 For studies that utilize these registers, see: Gülhan Balsoy & Cihangir Gündoğdu, "Ottoman death registers (*Vefeyât Defterleri*) and recording deaths in Istanbul, 1838–1839", *Middle Eastern Studies* 57, no. 2, (2020); Gülhan Balsoy and Cihangir Gündoğdu, "Vefeyat Defterleri ve Geç Osmanlı İmparatorluğu'nda Ölüm ve Ölümün Kaydı," *Toplumsal Tarih*, no. 318 (June 2020): 24–28; Gülhan Balsoy, Gizem Fidan, Cihangir Gündoğdu, Murat Güvenç, and Murat Tülek, "An Overview of Istanbul's Death Registers (1838–1840) Using Spectral Clustering," *Journal of the Ottoman and Turkish Studies Association* 9, no. 2 (2022): 103–110.

dissemination of certain diseases, their cure, as well as their spatial and social characteristics.

In evaluating the legal framework that provided the context for the transformation of the urban landscape and public health, I relied mostly on Osman Nuri Ergin's *Mecelle*, and *Düstur*. These reform texts were instrumental in shaping my understanding of the "idealized" hygienic Istanbul as envisioned by Ottoman urban planners, doctors, and bureaucrats. As Cemil Topuzlu acknowledges, some of these regulations were direct (and in some cases incorrect) translations from foreign contexts, particularly from France.¹⁰⁰ However, it is also crucial to maintain a critical distance between these texts and Ottoman daily life, as the realities on the ground were often only approximations of this normative order, and these texts fail to offer us insights on the implications of this legal framework on the less advantaged segments of Ottoman society, such as women, workers, and the migrants.

100 Topuzlu, *80 Yıllık Hatıralarım*, 118.

Late Ottoman *Hıfz-ı Sıhhat* as a Sanitary-Bacteriological Synthesis: Layers of Public Health and Urban Hygiene

Unless a revolution in health [sıhhat] and well-being [afiyet]—the nation's greatest need—is carried out, neither political nor social revolutions can be of any benefit. It is only through a health revolution [sıhhat inkılâbı] that we can kill or neutralize the deadly microbes that clutch at our health and lives every minute, draining our blood and threatening to wipe out future generations.”.

– Doctor Kamil, *Resimli Hıfz-ı Sıhhat*

Health is the capital of one's prosperity.

– Yunus Fehmi, *İzdivaç*

Referring to the administrative and political changes brought by the 1908 revolution, Dr. Kamil underscores the necessity of complementing this

transformation with a health revolution.¹ The conditions that led him to advocate for such a movement were numerous. Writing in the 1910s, amidst the transition from the Hamidian regime to the Committee of Union and Progress government, ongoing wars, and territorial losses, Dr. Kamil likely observed the demographic toll of cholera outbreaks and the deadly impacts of diseases ranging from tuberculosis to typhoid, dysentery to syphilis. He also likely witnessed how urban landscapes, topography, and infrastructure facilitated the spread of these diseases, alongside the limitations of Ottoman health institutions in addressing these challenges. This brief passage weaves together the driving forces for such a revolution—the microbes, the demographic challenges, and their everyday repercussions.

This perspective not only reflects Dr. Kamil's unique viewpoint but also adds a vital layer to the conventional historiography of the Ottoman Empire's "long nineteenth century," where health and public hygiene emerge as central to understanding broader societal changes. While this traditional narrative focuses on political and economic transformations—often projecting a linear modernization from imperial structures to a modern nation-state, underpinned by forces of capitalist integration—other fields of change are frequently seen as mere by-products of this political-economic shift. Dr. Kamil, however, grants *sihhat* the significance it deserves, arguing that the transformations experienced by the Ottoman Empire from the early nineteenth century were part of a broader, global hygienic transformations and the so called "bacteriological revolution," just as essential as the political and economic changes. The discovery of "microbes" and the epidemiological transformations that this awareness brought placed *hıfz-ı sıhhat* (public hygiene) at the center of medical discourses (and urban planning discourses) and daily life in the late nineteenth and early twentieth centuries. This change drove the Ottoman Empire's urban reorganization and bio-political interventions during this period.

These interventions were multi-layered, with varying consequences for different social groups. In other words, while the prominence of hygiene and microbes was a global phenomenon, the experiences related to these issues

1 Doktor Kamil, *Resimli Hıfz-ı Sıhhat* (Dersaadet, 1332 [1916]).

were unique to each context. Although the multiplicity of urban experiences within the epidemiological transformation will be explored in later chapters of this dissertation, this chapter lays the groundwork for such an analysis by examining how public medical discourses around health and hygiene intersected with demography, gender, class, and morality. To achieve these aims, this chapter will analyze the writings of Ottoman statemen, medical professionals and intellectuals on various contagious diseases, public hygiene, and health.

§ 2.1 Framing Ottoman Public Hygiene as a Sanitary Bacteriological Synthesis

To fully appreciate Dr. Kamil's vision of a health revolution, it is essential to understand the long-standing role of hygiene in Ottoman society, which dates back to Islamic medical principles. Before the nineteenth century, the concept of *hıfz-ı sıhhat* [public hygiene] was already present as a part of Islamic medical knowledge, sometimes referred to as *tedbîrû's-sıhha* in Islamic texts. It entailed measures for the preservation of health through cleanliness, proper nutrition, and physical care, and was deeply linked to religious teachings, emphasizing the sanctity of the body and the importance of maintaining hygiene. Additionally, the *ihtisab* practice, which involved public officials overseeing market activities, also played a vital role in ensuring hygiene by inspecting the cleanliness of goods, food, and public spaces.²

The concept of *hıfz-ı sıhhat* was integral to the Ottoman Empire's approach to public health, influenced by Islamic medical traditions. It entailed health preservation measures, and disease prevention, as seen in early legal texts and military practices, where sanitation and health were prioritized, particularly after battles to prevent outbreaks. To understand how the practice and meanings attached of *hıfz-ı sıhhat* evolved with modern scientific advancements in the nineteenth and early twentieth centuries in the Ottoman

2 Nebi Bozkurt, "Hıfzı sıhha," *Türkiye Diyanet Vakfı İslam Ansiklopedisi*, vol. 17, 316–319; Gülden Sarıyıldız, "Hıfzı sıhha," *Türkiye Diyanet Vakfı İslam Ansiklopedisi*, vol. 19, 319–321.

Empire, we must first comprehend the scientific developments that led to the identification of microbes as the main cause of disease and how these developments were applied in specific contexts.

In the nineteenth century, hygienists and sanitarians largely viewed disease as a consequence of unsanitary conditions, particularly filth and human waste, which they believed contaminated the environment and spread illness. They emphasized cleanliness as a moral and social duty, advocating for the removal of waste from urban spaces to improve public health and prevent disease. This perspective framed health not just as a medical concern but as a societal imperative, aiming to civilize the working class and establish a healthier, more orderly urban environment. However, the advent of bacteriology, particularly through the work of Louis Pasteur and Robert Koch, led to a shift in the understanding of disease. Instead of seeing disease as a product of generalized environmental factors like miasmas, the focus moved to the identification of specific microorganisms as the direct causes of infectious diseases. This shift from miasmatism to germ theory fundamentally changed public health, emphasizing the need for tailor-made interventions such as vaccines, sterilization, and targeted quarantines rather than just cleaning the environment or isolating the sick from the healthy for long periods.³

Bruno Latour, in *The Pasteurization of France*, frames Pasteur's discovery of specific microbes as the causes of disease as a pivotal moment in the history of public health. Yet, he critiques the overemphasis on Pasteur as a solitary genius, suggesting that his success was not merely due to individual brilliance, but was deeply influenced by societal and scientific forces. Latour argues that Pasteur's work allowed sanitarians, who had long advocated for cleanliness and public health, to ground their practices in a scientific framework, transitioning from moral imperatives to empirically supported measures.⁴ This shift, underpinned by Pasteur's discoveries and Koch's identification of specific pathogens, provided a scientific foundation for public health policies

3 Bruno Latour, *The Pasteurization of France* (Harvard University Press, 1993), originally published 1984.

4 Ibid.

such as vaccination, sterilization, and quarantine, marking a new era of targeted interventions in disease prevention.

Despite the widespread use of the term “Bacteriological Revolution,” the idea of a sudden, transformative shift in medicine has been critiqued by several historians. Some scholars argued against the concept of a singular revolution, suggesting that the development of bacteriology was not a sudden transformation but a gradual and complex process that integrated new scientific insights into existing medical practices.⁵ The term “Bacteriological Revolution,” popularized in the 1970s, has been criticized for oversimplifying the historical shifts in medical practices, which were less about radical discontinuity and more about the accumulation of knowledge and the gradual adoption of new methods. Instead of viewing bacteriology as a standalone revolution, scholars propose that it was integrated into a broader shift in medical practice, one that involved key figures like Pasteur, and Koch. In Barnes’s framework, together they contributed to the creation of a “sanitary-bacteriological synthesis” linking scientific discoveries to public health interventions.⁶ Other scholars have explored the implications of this scientific “shift” in colonial settings, highlighting how it provided a universal framework for health policies and practices, while also illustrating how these colonies became key laboratories for Pasteur’s research. They demonstrate how Pasteurian science was used as a tool by administrators to justify and implement policies on housing, agriculture, and labor, all grounded in the theory of microbial infection. The Institut Pasteur, operating transnationally, connected national scientific agendas with imperial objectives, positioning sanitation and medical assistance at the core of colonial governance, particularly through the French Empire’s “mission civilisatrice.”⁷

5 For a discussion detailing why there was not a “bacteriological revolution” in the late nineteenth century, see: Michael Worboys, “Was There a Bacteriological Revolution in Late Nineteenth-Century Medicine?” *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 38, no. 1 (March 2007): 20–42.

6 Barnes, *The Great Stink of Paris*.

7 Louis Pasteur’s discoveries in bacteriology were mobilized across France and its colonies. Ara Velmet’s research demonstrate how Pasteurian science was not only a tool for combating diseases but also a means of asserting imperial authority and governance. See, Ara Velmet,

Rather than a radical shift in perspective, the amalgamation of sanitary and bacteriological sciences was also evident in the late Ottoman practices of *hıfz-ı sıhhat*. The epidemics of the nineteenth and early twentieth centuries played a decisive role in shaping both preventive and therapeutic interventions. Thus, from the establishment of permanent health organizations and quarantine systems during Sultan Mahmud II's reign to the development of vaccination programs and the founding of the Institute of Imperial Bacteriology under Sultan Abdülhamid II, a range of health measures emerged, informed by both sanitary science and bacteriology.

Drawing on David Barnes' framework, I argue that at the heart of late Ottoman *hıfz-ı sıhhat* practices lay a "sanitary-bacteriological synthesis." They were grounded in a scientific framework but also incorporated moral imperatives, highlighting the social responsibility of maintaining health and cleanliness as part of the collective well-being. I show how this sanitary-bacteriological synthesis of *hıfz-ı sıhhat* intricately links demography, gender, class and morality, positioning public hygiene as a multifaceted tool for societal stability. Rising demographic concerns due to high mortality rates, declining birth rates, and frequent epidemics placed *hıfz-ı sıhhat* at the forefront as a biopolitical strategy aimed not only at combating disease but also at promoting population growth through healthier environments. This demographic focus wove together with gendered responsibilities, as women were cast as central figures in the household, charged with upholding family health and, in turn, the nation's demographic resilience. As bacteriological insights advanced, particularly with the identification of microbes as disease agents, *hıfz-ı sıhhat* practices emphasized targeted measures within the home and the community, with women's domestic roles becoming essential in implementing these microbial defenses. The moral dimension of *hıfz-ı sıhhat* further reinforced these principles, framing cleanliness and hygiene not only as sanitary measures but also as moral obligations rooted in Islamic ethics. Together, physical health, family stability, bacteriological awareness, and moral integrity were seen as mutually reinforcing, essential for cultivating a

Pasteur's Empire: Bacteriology and Politics in France, Its Colonies, and the World (Oxford: Oxford University Press, 2020).

disciplined and flourishing population. Thus, *hıfz-ı sıhhat* emerged as a comprehensive strategy, linking individual and societal health to demographic strength, moral order, and the scientific understanding of disease within the Ottoman Empire's broader vision of modernization and resilience.

§ 2.2 The Sanitary-Bacteriological Synthesis in Practice: Ottoman *Hıfz-ı sıhhat* Applied to Urban Health

Besim Ömer, a prominent Ottoman physician, offered a thorough definition of *hıfz-ı sıhhat* in his manuscript with the same title, emphasizing its unique role in preventive health and public welfare. He defines *hıfz-ı sıhhat* as a branch of medicine distinct from clinical treatment, focusing instead on maintaining health and well-being. It emphasizes the importance of individual learning practices that ensure a healthy lifestyle—a proactive, empowering way of life that extends beyond mere survival and shapes the quality of one's existence.⁸ By the time Besim Ömer wrote this manuscript, he was teaching at the Faculty of Medicine, and was the General Director of Public Health.

Hıfz-ı sıhhat was presented as essential knowledge for everyone, and encouraged health management rather than reliance on medical intervention after falling ill. Accordingly, informed by science, the notion of personal hygiene, proper diet, adequate sleep, and regular exercise was promoted alongside the moral and cultural values of cleanliness.⁹ This approach framed health as both a personal and social responsibility, suggesting that ignorance or neglect of health preservation exposed individuals to disease and posed a risk to society as a whole.¹⁰ As the following sections of this chapter will show,

8 Besim Ömer, *Hıfz-ı Sıhhat*, 1330 [1914].

9 *Şehba*'s column titled "Care for Health" [*Sıhhate İtina*] reveals how notion of public hygiene was enmeshed in daily life. The column's headings give us with some hints: "Sleep and Pillow" (no. 5, 15 Mayıs 1325 [28 May 1909]), "Hair and Sunlight" (no. 8, 28 Temmuz 1909 [15 July 1325]), "How to Ventilate Bedrooms" (no. 12, 28 Eylül 1909 [15 September 1325]), "Music and Health" (no. 34, 14 Şubat 1326 [14 February 1914]).

10 Besim Ömer, *Nevsal-i Afîyet*, (İstanbul: Matbaa-ı Ahmed İhsan ve Şürekası, 1320 [1904]): 93-99.

this moral tone took on a divisive aspect, positioning certain population groups as sources of dirt and disease and attributing the burden of *hıfz-ı sıhhat* unequally on women.

Other Ottoman intellectuals shared a similar perspective with Besim Ömer's definition. In *Servet-i Fünun*, M. Sadık also defined *hıfz-ı sıhhat* as a field primarily dedicated to disease prevention rather than treatment. He underscored that, although the field was still evolving, recent advancements—particularly research on microbes—had significantly enhanced its ability to protect against illness. Referencing Pasteur's discoveries, he emphasized how identifying microbes as agents of disease empowered public health efforts to curb these invisible threats before they spread.¹¹ In a separate article, M. Sadık remarked on the ubiquity of microbes, expressing frustration: “We are tired of hearing about microbes; whenever cleanliness [*taharet*] and hygiene [*nezafet*] are discussed, microbes inevitably enter the conversation.” He further noted that traditional cleaning practices were no longer sufficient, as removing these microbes requires specialized chemical treatments.¹² Sadık's frustration was a demonstration of a sanitary-bacteriological synthesis emerged in Ottoman public health discourse, balancing the ominous presence of microbes with the promise of scientific progress, uniting traditional hygiene with modern bacteriological practices to protect public health.

Reports on microbes began appearing in Ottoman newspapers in the 1890s, introducing the public to new advancements in bacteriology. Articles described microbes as agents of disease, detailing their presence in air, soil, and water and emphasizing their pervasive, nearly inescapable threat, a “germ panic”¹³ in Nancy Tomes' framing. Yet, alongside this initial fear, newspapers also reassured the public that scientists were working diligently on chemical agents, medicines, and vaccines to eliminate and prevent microbial threats.

11 M. Sadık, “Uhuvveti Beşeriye ve Mikroplar,” *Servet-i Fünun* 10, no. 207 (1 Şubat 1311 [13 Şubat 1896]): 362-363.

12 M. Sadık, “Musahabe-i Fenniye,” *Servet-i Fünun* 10, no. 235 (14 Ağustos 1311 [26 Ağustos 1895]): 2-6.

13 Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1998), 263.

This shift from fear to reassurance reflected a growing trust in science's power to control disease.

Focusing on how hygiene was understood in the urban environment may offer further insights into the sanitary-bacteriological synthesis of Ottoman *hıfz-ı sıhhat* and how it worked in practice. Building on his foundational understanding of *hıfz-ı sıhhat*, Besim Ömer extends its principles to the urban environment, where he sees the health of a city as interdependent with the health practices of its residents. In a piece titled "The Public Hygiene of a City" [*Bir Şehrin Hıfz-ı Sıhhatı*] in his *Hıfz-ı Sıhhat* manuscript, Besim Ömer makes these connections even clearer by applying them to the urban environment. He describes the city as a collective entity, almost like a living organism with its own health, illnesses, and even potential "death." The well-being of this entity, he argues, depends not only on the health of the people within it but also on the cleanliness and maintenance of the city's physical environment. Thus, urban hygiene was not merely a matter of individual health but a communal responsibility, where the collective actions of residents impact both themselves and the larger environment.¹⁴ Besim Ömer considers the public hygiene of a city to be a critical civic duty, one that prevents various harms associated with urban living. This duty underscores how deeply sanitation and demographic anxieties were linked in the Ottoman context.

To ensure a city's health, Besim Ömer highlights the importance of various interconnected systems that affect all aspects of urban life. For instance, he emphasizes the necessity of proper sanitation, clean water supplies, well-maintained streets, and effective drainage systems. Just as organs support the functioning of a body, the streets and public spaces of a city act as the "arteries" of this urban organism, while sewers and drainage represent its "intestines," carrying away waste and protecting residents from disease.¹⁵ Such systems reveal the Ottoman adaptation of modern bacteriological and sanitary insights, integrating them into the fabric of urban life.

Moreover, Besim Ömer stresses the importance of maintaining clean streets and thoroughfares, noting that accumulated dirt, dust, and waste can

14 Besim Ömer, *Hıfz-ı Sıhhat*, 466-475.

15 Ibid.

foster disease-causing microbes. These microbes, often trapped under pavement stones, may become airborne during construction, renovations, or other disturbances, spreading illness across the city. Without careful attention to these details, cities, due to their dense populations, can quickly become breeding grounds for disease, a risk heightened by the unique challenges of urban density. This awareness of microbial threats reflects a synthesis of bacteriological discoveries and practical sanitation, highlighting the need for an infrastructure that controls both visible and invisible sources of disease.

Examining the late Ottoman attempts at sewer modernization sheds further light on the synthesis of sanitation and bacteriological knowledge within the framework of *hıfz-ı sıhhat*. The smells emanating from the sewages continued to be a source of discomfort and fear of disease in the early twentieth century. In the winter of 1903, for instance, public health inspectors [*Hıfzısıhha-ı Umumiye Müfettişleri*] patrolled the streets of Istanbul's second, third, and sixth districts, searching for conditions that threatened public health [*sıhhat-ı umumiye*]. Amid the accumulating sweepings and garbage, they noted the overpowering stench of urine along Cibali Street in Fatih and the presence of an open sewer nearby—both considered filthy [*murdar*] and unsanitary [*mülevves*]. The inspectors recommended treating the urine-contaminated areas with lime and constructing a public toilet [*bevlhane*] in a suitable location.¹⁶ Even in the early 1900s, there were not more than a couple of public toilet in Istanbul.¹⁷ This number rose to 20 in 1913 and 28 in 1914.¹⁸ This approach underscores the continuing reliance on odor control in *hıfz-ı sıhhat*, with practical steps to limit both disease and the sensory discomforts associated with urban living.

16 BOA., DH. MKT., 652-21, 21 Kanun-ı Sani 1318 [3 February 1903].

17 *İstanbul Beldesi İhsaiyat Mecmuası* [1328/1912], prepared by Bülent Bilmez, İrfan Çağatay, İzzet Umut Çelik, and Serhat Bozkurt (İstanbul: İstanbul Büyükşehir Belediyesi, Kütüphaneler ve Müzeler Müdürlüğü, 2023), 139.

18 *İstanbul Beldesi İhsaiyat Mecmuası* [1330/1914], prepared by Bülent Bilmez, İrfan Çağatay, İzzet Umut Çelik, and Serhat Bozkurt (İstanbul: İstanbul Büyükşehir Belediyesi, Kütüphaneler ve Müzeler Müdürlüğü, 2023), 210.

As Alan Corbin suggests, lime became a cheap and accessible tool for “deodorizing” urban space,¹⁹ which became a crucial component of public health policies during the last Ottoman century. When extensive drainage and public toilet facilities were not feasible, applying slime and lime to eliminate bad odors disseminating from the disrupted infrastructures were common alternatives. In other instances, the Ottoman authorities benefited from vaults and iron pipes to set these underground dangers aside. During the cholera outbreak of 1893, too, lime was heavily used in toilets as a disinfectant. Large quantities of lime milk were poured into toilets twice daily as a preventive measure. However, this excessive use caused significant damage to the sewage infrastructure,²⁰ illustrating the unintended consequences of such intensive disinfection efforts. The bacteriological focus on microbes influenced these practices, emphasizing both the benefits and limitations of disinfection in densely populated urban areas.

In a similar vein, Melanie A. Kiechle shows that the Americans in the nineteenth century relied on their sense of smell to detect and respond to pollution and disease in rapidly industrializing cities. By examining the historical significance of odors in urban spaces, Kiechle reveals how smells influenced public health efforts, shaped environmental policies, and reflected cultural attitudes toward cleanliness and morality. This sensory history emphasizes the role of smell in shaping perceptions of health risks and community well-being not only before the advent of modern sanitation and germ theory,²¹ but also preceding it. The smell of urine and fecal matter was part of late Ottoman Istanbul’s “olfactory environment.”²² Although the bacteriological developments of the late nineteenth century proved that it was not the smell but the bacteria that caused many epidemics, the unpleasant urban odors, that continued to be associated with danger, disease, and disorder, were considered

19 Alain Corbin, *The Foul and the Fragrant: Odor and the French Social Imagination*, trans. Miriam L. Koch (Cambridge, MA: Harvard University Press, 1986), 104.

20 Yıldırım, *İstanbul’un Sağlık Tarihi*, 85.

21 Melanie A. Kiechle, *Smell Detectives: An Olfactory History of Nineteenth-Century Urban America* (Seattle: University of Washington Press, 2017).

22 Corbin, *The Foul and the Fragrant*, 56.

“unacceptable.”²³ The people of Istanbul kept complaining about the odors, and Ottoman urban reformers sought to eliminate them. The foul odors were an invitation for sanitization and created a basis for various urban interventions in the city’s water and sewage infrastructures. This amalgamation between bacteriological knowledge and sensory perceptions further confirms the hybrid nature of public health strategies in the late Ottoman Empire.

The discussions on civilization were also relevant in the public discussions around *hıfz-ı sıhhat*. Ottoman doctor and writer Galip Ata, for instance, underscores the dual nature of civilization in relation to health, particularly within urban spaces. He argued that while civilization brought scientific advancements that combat disease, it also introduced new health challenges, especially in densely populated cities. As cities grew, issues like overcrowding, factory pollution, and limited housing space contributed to health risks, which were intrinsic challenges of an advancing society.²⁴ Hence, civilization introduced both progress and problems, while it fostered scientific advancements that combat diseases.

To counter these health risks, Galip Ata advocated for strict public health policies, urban cleanliness, and regulated housing in cities. Although some problems, such as food adulteration and disease from pollution, persisted, advancements in hygiene and medical science have mitigated the impact of diseases like smallpox, typhoid, and cholera. In his view, civilization’s benefits surpassed its drawbacks, as the improvements in public health and medical technology helped manage and even eliminate certain diseases in urban environments. Through this perspective, Galip Ata framed urban health as a crucial aspect of societal progress, viewing civilization as both a source of new health challenges and a powerful vehicle for solutions.

In sum, Ottoman doctors and intellectuals presented the concept of public hygiene in the Ottoman Empire as a complex and essential element of urban life, combining infrastructure, individual and communal sanitation practices,

23 Jill Steward and Alexander Cowan, “Introduction,” in *The City and the Senses: Urban Culture Since 1500*, ed. Alexander Cowan and Jill Steward (Aldershot, UK: Ashgate, 2007), 16.

24 Galip Ata, “Sıhate İtina: Sıhhat ve Medeniyet – İstanbul Şehrinin Teşebbüsâtı Sıhhiyesi,” *Şeh-bal*, vol. 4, no. 87, 1 Kanun-ı Evvel [14 December 1913], 468-469.

and a collective commitment to disease prevention. This perspective acknowledges the dual nature of civilization itself, where urban growth and modernization bring both health advancements and new challenges. Emphasizing interconnected systems and communal responsibility, this approach underscores that urban health is not only a medical concern but also a social and civic duty. Thus, public hygiene emerges as a comprehensive, interdependent system that upholds the well-being of the entire urban community, embodying a synthesis of traditional sanitation practices with modern bacteriological insights.

This vision also intersects with demographic concerns. The following section examines how the demographic anxieties of the Ottoman Empire's last century was interlinked with public health strategies, further highlighting the connection between urban hygiene, social structure, and the management of a healthy, modern Ottoman society.

§ 2.3 Demographic Challenges and Public Health in Urban Spaces

Besim Ömer opens his article “the Public Hygiene of a City” by saying “a city is formed by the sum of its population.”²⁵ This emphasis links well with Dr. Kamil's vision of a health revolution, which centers the belief that public health interventions could counteract the demographic challenges facing the Ottoman Empire, where declining birth rates, high mortality, and the ravages of disease threatened the stability and future of the population. The western sanitary reformers' advocatation for clean air, clean water, proper sewage systems, and waste removal to address health and illness issues contributed to a rise in life expectancy (reaching nearly 48 years in the U.S. by 1900, and 50 years in Britain and 44 years in Italy²⁶) and managed to keep their population healthy and growing, it was not quite the case in the Ottoman Empire. Tackling these demographic concerns required more than medical intervention; it demanded a comprehensive strategy of population

25 Besim Ömer, *Hıfz-ı Sıhhat*, 466.

26 Warren Winkelstein Jr, “Introduction,” in *Public Health: The Development of a Discipline (Volume 1): From the Age of Hippocrates to the Progressive Era*, ed. Dona Schneider and David E. Lilienfeld (New Brunswick, NJ: Rutgers University Press, 2008), xi-xvii.

management, echoing what Foucault described as the “biopolitical” imperative—where the state exerts control over life itself through health, mortality, and welfare measures.²⁷ In the Ottoman Empire, this biopolitical approach took shape through a focus on health, hygiene, and sanitation policies aimed at ensuring a productive and stable population. This perspective led to a growing interest in counting and understanding the population, exemplified by the establishment of the Office of Population Registers [*Ceride-i Nüfus Nezareti*] in 1831 and the initiation of the first population census a year later. Historian Kemal Karpaz notes that this census was similar to earlier *tahrir* registers, focusing mainly on taxation and conscription,²⁸ while Selçuk Dursun highlights the Empire’s land/labor ratio dilemma—abundant land but scarce labor—as a factor prompting population policies to address this imbalance.²⁹

As Gülhan Balsoy emphasizes, the development of new census methods in the Ottoman Empire paralleled the state’s evolving role throughout the nineteenth century. This shift also changed the government’s approach to censuses and the institutions responsible for them.³⁰ In 1874, the Council of State reviewed the census system to improve accuracy and efficiency, culminating in the 1881 establishment of the General Population Administration [*Nüfus-u Umumi İdaresi*] under the Ministry of the Interior. Unlike earlier censuses, which counted households, the 1881 census counted individuals, including women. These censuses were not only tools for counting the population but also for exercising control. Nilay Özok-

27 Foucault, *The History of Sexuality*.

28 Kemal H. Karpaz, *Ottoman Population 1830–1914: Demographic and Social Characteristics* (Madison, WI: University of Wisconsin Press, 1985), 6–9.

29 Selçuk Dursun, “Procreation, Family and ‘Progress’: Administrative and Economic Aspects of Ottoman Population Policies in the nineteenth Century,” *The History of the Family* 16, no. 2 (2011): 160–171.

30 Gülhan Balsoy, *The Politics of Reproduction in Ottoman Society, 1838–1900* (London: Pickering & Chatto, 2013), 7–8.

Gündoğan's research highlights that Ottoman censuses were a "social process" involving multiple interactions between the state and local actors.³¹

With a clearer understanding of its demographic composition, the Ottoman state also began implementing policies to enhance population health and growth. Starting in the early Tanzimat period, marriage and childbirth were encouraged as pillars of a growing and healthy society. As Selçuk Dursun points out, many decrees promoted marriage, which was tied to having children. Furthermore, the childbirth and raising children was encouraged through financial support in the 1840s-50s such as *tev'em maaşı*, a stipend for women who gave birth to twins, alongside supporting widowed women, or women who raise orphan children.³² Without widespread modern contraception, abortion [*ıskat-ı cenin*] was relatively common across both rural and urban areas. As early as 1838, the Ottoman state began implementing anti-abortion measures, transforming this private matter into a public concern and a biopolitical tool.³³ Another key pronatalist strategy was increasing birth rates while reducing maternal and infant mortality. As Balsoy's research shows, women's reproductive health became central to these efforts. Alongside the abortion ban, childbirth was medicalized, and midwifery was professionalized to provide better health services to women during childbirth. This also involved increased medical scrutiny of pregnancy and its politicization.³⁴

Ottoman newspapers frequently discussed the Empire's challenges in renewing its population, often focusing on low birth rates and high child mortality rates. One influential voice in this discourse was again Besim Ömer, who, in a conference summarized in *Türkiye Hilal-i Ahmer Mecmuası*, addressed the urgent population and public health issues. He stressed that, to

31 Nilay Özok Gündoğan, "Counting the Population and the Wealth in an 'Unruly' Land: Census Making as a Social Process in Ottoman Kurdistan, 1830–50," *Journal of Social History* 53, no. 3 (2020): 763–791.

32 Tuba Demirci and Selçuk Akşin Somel, "Women's Bodies, Demography, and Public Health: Abortion Policy and Perspectives in the Ottoman Empire of the Nineteenth Century," *Journal of the History of Sexuality* 17, no. 3 (2008), 390–391.

33 Ibid.

34 Balsoy, *The Politics of Reproduction*.

reach “civilized” standards, the newly established republic must tackle its demographic and public health crises. For him, low population density, compared to European nations, weakened Turkey’s competitiveness. Among the other key problems that Besim Ömer identified in declining population figures were birth rates and death rates. Accordingly, while Turkish women had high birth rates, infant mortality was devastatingly high. This was compounded by epidemics like malaria, tuberculosis, and syphilis, which he called “social plagues” still ravaging the population, in stark contrast to Europe, where many diseases have been largely contained. He argued that reducing child mortality was essential to the nation’s future and advocated for modern social policies, such as tax incentives and salary increases for larger families, along with education support. He also emphasized the need for marriage and family law reforms to protect the health of mothers and children.³⁵ Similar emphasis on children’s health were found extensively in the early republican writings.³⁶ Thus, a public health perspective was considered crucial for ensuring both the vitality of the population and the strength of the nation.

Among the diseases that Besim Ömer refers to as “social plagues,” syphilis warrants particular attention due to its connections to sex, marriage, and reproduction. Its impact on marital and reproductive health highlighted the intersection of public health, moral standards, and social norms in the late Ottoman period. As Seçil Yılmaz’s research demonstrates, marriage, love, and sexual desire were redefined within a medical and scientific framework that blended traditional and Western knowledge in the late Ottoman era. Medical practices, including pre-marital examinations aimed at controlling syphilis, enforced new social norms around marriage and sexual health, though they also intensified issues of stigma and secrecy.³⁷ In this context, marriage and sexual relations among couples were also approached from a public hygiene perspective, as they were seen as crucial for the well-being of future generations.

35 “Konferanslar / Doktor Besim Ömer Paşa’nın ‘Nüfus Siyaseti’ Hakkında Mühim Bir Konferans: ‘Birbirimizi Aldatmayalım,’” *Türkiye Hilal-i Ahmer Mecmuası*, no. 50 (15 November 1925): 500-503.

36 “Çocuğun Hıfz-ı Sıhhati ve Nüfus Siyaseti.” *Gürbüz Türk Çocuğu* 2, no. 16 (1927): 10–11.

37 Yılmaz, “Love in the Time of Syphilis.”

As Zafer Toprak argues, the Ottoman government sought to encourage marriages through various means, particularly in the early twentieth century, especially after the 1908 revolution. For instance, as part of its policy to promote marriage and support the development of a “national family,” the Society for the Employment of Ottoman Muslim Women [*Kadınları Çalıştırma Cemiyeti-i İslamiyesi*] required that members who found employment through the Society were also obliged to marry.³⁸ Similarly, the Ministry of Interior implemented measures to address the issue of dowry, which had negatively impacted marriage rates. Newspapers even featured marriage advertisements to facilitate matchmaking.³⁹

The views presented in the newspapers of the time confirm Yılmaz’s position on marriage and sex. For instance, in his article, Yunus Fehmi claimed that “health is the capital of happiness” and welfare for the people, drawing a parallel between individual health and societal well-being. He argued that each person was responsible for protecting their own health and must adhere to public health principles and precautions until marriage. This responsibility, he asserted, was crucial not only for individuals but also for future generations and the nation as a whole.⁴⁰ Thus, for Fehmi, the family was among the most significant institutions for learning and practicing basic hygiene, as well as for fostering healthy future generations. Another article titled *İzdivaç*, published in the “Social Hygiene” [*İçtima-i Hıfz-ı Sıhhat*] column of *Türkiye Hilal-i Ahmer Mecmuası* in 1925, described marriage as a foundational institution for social order, with responsibilities that include both hygiene and procreation. Families were tasked with ensuring both the physical and moral health of their members, with hygiene highlighted as an essential component of familial duty. Procreation was seen not only as a means of lineage continuation but also as a responsibility to raise healthy children who would contribute positively to society.⁴¹ This perspective underscores the

38 Zafer Toprak, “Osmanlı Kadınları Çalıştırma Cemiyeti: Kadın Askerler ve Milli Aile,” *Tarih ve Toplum*, 51, Mart 1988, 34-38.

39 Ibid.

40 Yunus Fehmi, *Musahabe-yi Sıhhiye: Genç Kız ve Kadınlarımızın Hıfz-ı Sıhhatlerine Aid Ve-sayeyi Sıhhiye, İzdivaç*, no. 5 (n.d.): 76.

41 “İçtima-i Hıfz-ı Sıhhat: İzdivaç,” *Türkiye Hilal-i Ahmer Mecmuası* 4, no. 35 (1924): 5-11.

family's role in nurturing future generations through health and moral guidance, essential for societal stability and integrity. As will be discussed in more detail below, the responsibility for raising healthy children fell more heavily on women than on men. Contrary to the implicit emphasis on reproductive health in sustaining a healthy (and moral) family in the texts summarized above, the hygiene of "acceptable" sexual intercourse was openly discussed in late Ottoman writings.⁴² For instance, in his book *Resimli Hıfz-ı sıhhat*, Doctor Kamil, after presenting a detailed overview of the male and female genital organs, emphasized the importance of reproductive health not only for individual well-being but also to ensure the health and continuity of future generations, underscoring its role in the biopolitical agenda.⁴³

Aside from these moral issues, there were other social and economic reasons that had an impact on "population decline" [*tenakıs-ı nüfus*] or stagnation. These were wars, high taxes, conscription, and the socio-economic conditions of the Ottoman Empire.⁴⁴ According to some Ottoman intellectuals, six-year compulsory conscription for Muslim men discouraged marriage and family formation, while high taxes added an extra economic burden on families.⁴⁵ This economic strain was further compounded by the challenges faced by men who, as Mehmed Salim noted in a 1908 article in *İstişare*, were often forced to leave their hometowns to find work, taking on difficult jobs like portering.⁴⁶ Additionally, it was suggested that the level of "civilization" could also negatively impact birth rates, as people in more "civilized" countries

42 In her research, Seçil Yılmaz puts special emphasis on this openness. Contrary to conventional assumptions, she reveals, sex was an extensively discussed topic in the late Ottoman Empire particularly in a public-hygiene (*hıfz-ı sıhhat*) framework with respect to syphilis. For a more detailed analysis see Chapter 5 in Yılmaz's dissertation.

43 Doktor Kamil, *Resimli Hıfz-ı Sıhhat*, 287-290.

44 Mehmet Cavit, "Musahabe-i İktisadiyye - Medeniyet ve Nüfus," *Servet-i Fünun* 21, no. 546 (19 Ağustos 1317 [1 Eylül 1901]); Mehmet Salih, "Tenakas-ı Nüfus ve Muhatarat-ı Siyasiyyesi," *İstişare*, Vol. 1, No. 2 (4 Eylül 1324 [17 Eylül 1908]): 75-79.

45 Mehmet Cavit, "Musahabe-i İktisadiyye - Medeniyet ve Nüfus," *Servet-i Fünun* 21, no. 546 (19 Ağustos 1317 [1 Eylül 1901])

46 Mehmet Salih, "Tenakas-ı Nüfus ve Muhatarat-ı Siyasiyyesi," *İstişare*, Vol. 1, No. 2 (4 Eylül 1324 [17 Eylül 1908]): 75-79.

tended to delay marriage and childbearing.⁴⁷ An article in *Sebilürreşad* even cited “feminism” as a factor affecting birth rates, hence the decline of population.⁴⁸

2.3.1 *Counting Istanbul: To What Extent the Epidemics were Relevant for Demographic Problems?*

Among the discussions on the Empire’s population figures, Istanbul and its urban environment had a special importance. The city’s population profile changed significantly throughout the nineteenth century. Modernization reforms, the abolition of the Janissary corps, wars, the development of municipal organizations, civil unrest, mass migrations, natural disasters, and epidemics all transformed the city. Amid these changes, there was disappointment over the Empire’s population growth. In an era when population was seen as an asset, the Ottoman state sought ways to keep its people alive despite deadly diseases and natural disasters. Attempts to count the population reflected these anxieties. After partial efforts in 1829, the first general Ottoman census was conducted in 1831, aiming to determine the number of Muslim and non-Muslim males in each district, county, and locality. Other censuses followed in 1881-82, 1905-06, and 1914.⁴⁹

What was Istanbul’s population profile like in the early nineteenth century? Sedat Bingöl’s research traces the first modern Ottoman census back to 1829, focusing on eight neighborhoods in Tophane. Bingöl estimates that these neighborhoods had around 1,500 males and concludes that Istanbul’s population growth rate was insufficient to sustain itself.⁵⁰ Similarly, Somel’s analysis of the 1831 census shows that Istanbul had around 500,000 residents:

47 Mehmet Salih, “Tenakas-ı Nüfus ve Muhatarat-ı Siyasiyyesi”; Ömer Nasuhi, “Kesret-i Nüfus – 1” *Sebilürreşad* 23, no. 592 (13 Mart 1924): 319–320 & Ömer Nasuhi, “Kesret-i Nüfus – 2,” *Sebilürreşad* 23, no. 593 (20 Mart 1925): 325–328.

48 Ömer Nasuhi, “Kesret-i Nüfus – 2.”

49 Stanford J. Shaw, “The Ottoman Census System and Population, 1831–1914,” *International Journal of Middle East Studies* 9 (1978): 325–338.

50 Sedat Bingöl, “İstanbul’da 1829 Nüfus Sayımı ve Bazı Mahallelerin Nüfusu,” *Tarih Araştırmaları Dergisi* 23, no. 36 (October 2004): 43–60,

44% Muslim, 23.14% Armenian, 21% Greek, and 9% Jewish. Somel suggests that Istanbul's population declined between 1820 and 1827 due to events like the Greek War of Independence, the abolition of the Janissary corps, and a plague outbreak. Yunus Emre Çakır's analysis of demographic reports from 1840-42 concurs, noting that Istanbul's population decreased by 1.57 percent over 24 months. To keep the population constant, a growth rate of 2.0 per thousand was needed, highlighting the low birth rate among Muslims.⁵¹ The fact that population growth is well below the population's renewal rates shows that, Çakır continues, a qualified immigrant population from the countryside was needed to keep the population of Istanbul constant at a certain level.

The existence of immigrant population in Istanbul created constant public health concerns among the municipal and state authorities alike. The influx of Muslim refugees in the latter half of the century temporarily boosted Istanbul's population. Following the Crimean War (1853-1856) and the Russo-Ottoman War (1877-78), the Empire established the Refugee Commission, settling millions of refugees, many of whom ended up in Istanbul. Hamed-Troyansky notes that by directing refugees to areas around Istanbul, the Empire sought to ensure a Muslim majority near the capital.⁵² By comparing 1882 and 1885 census reports, it's clear that Istanbul's population more than doubled, reaching 873,575. This rise was due to better census coverage, expanding into previously uncounted areas, and the arrival of Muslim refugees. However, the population fell again during World War I due to plagues and famine.⁵³

The influx of both Muslim and non-Muslim refugees was central to debates surrounding hygiene. Refugees' bodies were often regarded as potential vectors of disease, both for introducing illnesses from outside Ottoman lands and for spreading them within the empire's borders. During epidemics and

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- 51 Selçuk Akşin Somel, "Vak'a-i Hayriyye Sonrasında İstanbul'un Sosyal Yapısının Ana Hatlarına Dair Yeni Bazı Veriler: 1830-31 Devresine Ait İstanbul Nüfus Sayımı Hulusa Pusulası," *Osmanlı Araştırmaları / The Journal of Ottoman Studies* 56 (2020): 168.
- 52 Vladimir Hamed-Troyansky, *Empire of Refugees: North Caucasian Muslims and the Late Ottoman State* (Stanford, CA: Stanford University Press, 2023), 80-81.
- 53 Shaw, "The Population of Istanbul in the Nineteenth Century," 276; Kemal H. Karpat, "Ottoman Population Records and the Census of 1881/82-1893," *International Journal of Middle East Studies* 9 (1978): 249.

wars, attempts were made to limit the mobility of refugees. In 1894, for instance, extra caution was taken regarding the transfer of refugees from Istanbul to Ankara and its environs. It was noted that, in order to prevent the people of İzmit from being infected during this process, hygienic precautions needed to be implemented by the health personnel [*İzmit ahalisiyle ihtilat ettirilmeksizin*]. The word choice, *ihtilat*, I argue, had a double meaning in this context. It both entailed preventing the possibility of disease transmission from the refugees to the people of İzmit and also restricting social intercourse between them.⁵⁴ In other cases, the housing conditions of the refugees were seen as a threat. In January 1895, for instance, ten to fifteen makeshift houses [*baraka*] of Jewish refugees in Ortaköy were ordered to be demolished due to the perceived threat of cholera. A document from the time indicates that, although their housing had not been targeted previously, demolition was now deemed necessary for hygienic reasons. The document concludes by noting that two girls who had contracted the disease were taken to the hospital and received medical care—an effort to soften the harsher implications of the state's actions.⁵⁵ The makeshift houses certainly did not align with the grand urban schemes of the time and were viewed as a threat to public health and order. There were frequent warnings against demolishing the informal housing structures of refugees and the poor unless there was a clear threat of cholera.⁵⁶ Hence, we can assume that, in some cases, cholera provided a moral justification for eliminating this urban disorder. It was not only cholera but also other diseases, such as typhoid (another waterborne disease), that were common among the refugees. The 1331 health statistics emphasize that one of the reasons for the relatively high death rate among the Muslim population due to typhoid was the presence of Muslim refugees, who contracted the disease and subsequently died from it.⁵⁷

Despite these efforts and the ongoing discussions on accurately counting the population and addressing stagnation, challenges in population

54 BOA., A.)MKT.MHM. 555-13, 18 Teşrin-i Sani 1310 [30 November 1894].

55 BOA., Y..PRK.SH.. 5-16, 18 Kanun-ı Sani 1310 [30 January 1895].

56 BOA., DH. MKT., 2018-95, 27 Teşrin-i Evvel 1309 [8 November 1892].

57 Şehremaneti Sıhhiye Müdiriyeti, *İstanbul'un 1331-38 Senelerine Mahsus Sıhhi İstatistikidir* (İstanbul: Nazır Matbaası, 1339 [1923]), 7.

enumeration continued to surface in public discourse. These deficits were associated with “lack of modernity” and “civilization.” In 1925, two years after the promulgation of Turkish Republic, for instance, historian Osman Nuri criticized Ottoman census records, noting discrepancies in Istanbul’s population figures. He argued that Istanbul’s lack of accurate demographic data was a stark contrast to Western cities, where municipalities tracked population changes meticulously.⁵⁸ Defining the population as the “biggest strength,” Mehmed Halid also established a similar contrast between the West and East in analyzing the difficulties of counting Istanbul. Reflecting on past, he highlighted the Ottoman Empire’s need for a structured demographic system to support governance and modernization, especially in Istanbul, where the population remained largely unknown. The author also links these discussions to the situation modern municipal administration in Turkey. Unlike Western cities, where municipalities handled comprehensive records on births, deaths, and marriages, Istanbul’s lack of accurate demographic data hindered effective policy-making. To achieve a “civilized” society, the author argues, municipalities must oversee not only urban management but also population tracking. Western municipalities had evolved into sophisticated bodies that supported state initiatives with precise data. Establishing effective population management was thus seen as essential for Istanbul’s municipal system to reach the modernized standards of its Western counterparts.⁵⁹

The impact of public health, particularly epidemics, on the demographic figures of the Ottoman Empire and the broader Middle East has been widely discussed among scholars. While the motives, methodology, and quality of Ottoman censuses are debated in the literature, earlier studies have also examined whether epidemics pressured or directly caused population declines. For instance, in his investigation of nineteenth-century Egypt’s demographic trends, Daniel Panzac highlights the general patterns of birth

58 Osman Nuri Ergin, “İstanbul’un Nüfusu,” *İstanbul Şehremaneti Mecmuası*, No. 7, Mart 1341 [1925], Tıpkıbasım ve Çeviriyazı, ed. Bülent Bilmez, İrfan Çağatay, İzzet Umut Çelik, and Serhat Bozkurt (Istanbul: İBB Kütüphane ve Müzeler Müdürlüğü, 2023): 19-30.

59 Mehmed Halid, “Nüfus Hareketleri ve Belediyeler,” *İstanbul Şehremaneti Mecmuası*, No. 8, Nisan 1341 [1925], Tıpkıbasım ve Çeviriyazı, ed. Bülent Bilmez, İrfan Çağatay, İzzet Umut Çelik, and Serhat Bozkurt (Istanbul: İBB Kütüphane ve Müzeler Müdürlüğü, 2023): 41-42.

and death in the country. According to his calculations, Egypt experienced “semi-stagnant” population growth during the early nineteenth century but later achieved “steady and assured growth.”⁶⁰ Panzac attributes this shift to improved living conditions and advancements in public health that reduced deaths from epidemic diseases like smallpox and cholera.⁶¹

In another study, Panzac shifts his focus to the Ottoman Empire and the effects of plague. His extensive monograph on this disease underscores that, despite limited demographic data before the nineteenth century, the plague had a substantial impact on population levels. Drawing from sources such as consular reports, travel accounts, and daily death counts, Panzac concludes that the Ottoman population remained stagnant throughout the eighteenth and early nineteenth centuries. He argues that, roughly between 1701 and 1844—over a span of about 150 years—frequent and severe plague outbreaks eliminated any potential for population growth, gradually depleting the population. Only an exceptionally high birth rate could offset these losses and replenish the population.⁶² In Anatolia, Justin McCarthy’s analysis reveals that disease, starvation, war, and civil unrest restrained natural population growth. Plague persisted enough to be a regular part of mortality statistics. Unlike rural areas, Istanbul was hit hard by epidemics; during the 1865 cholera outbreak, three to four percent of the population died.⁶³

The nineteenth-century epidemics not only caused population declines but also transformed Ottoman health policies. As Daniel Panzac argues, the Ottoman state’s sanitary policies were closely tied to its awareness of demographic shortfalls.⁶⁴ These concerns and anxieties were also reflected in public discussions about *hıfz-ı sıhhat*. What mattered more than the exact population numbers in Istanbul was how demographic challenges were discussed in public discourses and their link to public health. Population levels

60 Daniel Panzac, “The Population of Egypt in the Nineteenth Century,” *Asian and African Studies* 21 (1987): 16.

61 Ibid.

62 Daniel Panzac, *Osmanlı İmparatorluğu'nda Veba (1700–1850)*, trans. Serap Yılmaz (İstanbul: Tarih Vakfı Yurt Yayınları, 2017), 190.

63 Ibid., 97.

64 Panzac, *Population et Sante*, 77.

were closely tied to ideas of modernity, civilization, and moral well-being. The challenges of counting the Ottoman population in light of administrative limitations, migration, wars, and natural disasters were reflected in the writings of late Ottoman scholars during the early republican years.

We can find some clues in Health Statistics published by the Public Health Administration of Istanbul Municipality [*Şehremaneti İdare-i Sıhhiyesi*]. Here, the mortality patterns of Istanbul were meticulously detailed in, a publication that not only presented raw data but developed a thought-provoking discourse linking disease with population dynamics. For instance, tuberculosis was identified as the leading cause of death, responsible for 2,863 deaths in 1325 (1909-1910), accounting for nearly a sixth of the overall mortality rate. Similarly, the high mortality rate among infants—affected by poor nutrition, respiratory illnesses, and limited childcare practices—underscored a critical need for improved pediatric care. The report also highlighted typhoid fever and smallpox as significant contributors to the city's mortality burden, showing their disproportionate impact on certain vulnerable age groups and communities. By documenting these threats and the differing mortality rates across religious and ethnic communities, the statistics articulate the necessity of improving health conditions to sustain and strengthen the population. This approach reflects a deep awareness of the interdependence between public health and demographic resilience, presenting effective disease control as essential not only for individual well-being but for the collective future of Istanbul.⁶⁵

While the detailed statistics provided by the *Şehremaneti İdare-i Sıhhiyesi* illustrated the pressing demographic challenges faced by Istanbul, contemporary Ottoman intellectuals like Nami and Ahmet Reşit expanded on these concerns, linking epidemic diseases and social issues to broader population decline. Though many of these authors continued their work into the Republican period, their perspectives were rooted in the Ottoman experience, highlighting a continuity of public health concerns across this transitional era. In an article he written for *Mekteb*, for instance, Nami

65 *Şehremâneti İdâre-i Sıhhiyesi, Dersââdet'in 13224 ve 1325 Senelerine Mahsus Sıhhi İstatistiki*, Dersaadet: Arşak Garoyan Matbaası, 1326.

emphasized the significance of epidemic diseases on population. He underscored that though not as visibly destructive as war, they have caused immense harm to populations around the world and in Ottoman lands. Plague, cholera, smallpox, and syphilis have been terrible scourges, destroying countless lives and families. In some regions, these diseases have even led to sharp population declines, leaving lasting impacts on society.⁶⁶ Echoing these recommendations for strict public health and moral reforms, Ahmet Reşit also underscores the importance of addressing both disease and social issues to support population growth. In Ahmet Reşit's view, preventing population decline and encouraging growth in the Ottoman Empire requires several essential measures. These include a determined fight against prevalent contagious and epidemic diseases—especially tuberculosis and venereal diseases like syphilis—as well as addressing social ills like alcoholism, immorality, and moral decay. To achieve this, the author advocates for rigorous, uncompromising enforcement of preventive measures, addressing both public health issues and social vices that threaten societal well-being.⁶⁷

§ 2.4 Moral Imperatives in Public Hygiene: Health as a Religious Duty

Beyond the immediate demographic concerns, Ottoman intellectuals and policymakers recognized that preserving and strengthening the population required not only physical health but also moral fortitude, as they believed that societal well-being depended on addressing both biological and ethical challenges. Given the urgency posed by the epidemic diseases and the continuing sanitary dangers in the Empire, the term *hıfz-ı sıhhat* was also in circulation and widely discussed among religious intellectuals. Publications like *Sırât-ı Müstakîm* and *Sebilürreşad* served as forums where religious

66 Nami, “İlm-i Muâşeret: Tenakıs-ı Nüfus Meselesi,” *Mektep*, no. 38 (10 Teşrin-i Evvel 1340 [October 10, 1924]): 394-396.

67 Ahmet Reşit, “Milli Ve İctimai Bir Mesele-i Muazala / Teksir -i Nüfus (Tetkikat-i Tarihiyye Ve Tedabir-i Tecrübe),” *Servet-i Fünun*, vol. 57, no. 1485 (29 Kanun-ı Sani 1340 [January 29, 1924]): 166-168.

intellectuals engaged with scientific ideas of hygiene, merging them with Islamic principles to advocate for public health as a moral duty. Investigating how they approached scientific understandings of *hıfz-ı sıhhat* might provide us with important clues regarding Ottoman society's cultural attitudes towards sanitation practices, in addition to revealing how science and religion interacted with each other in this specific case. As Oğuz and Karaömerlioğlu underline, politicians and intellectuals of the twentieth century viewed the promotion of morality as a solution to the Empire's problems.⁶⁸ Not surprisingly, diseases and epidemics were also viewed as issues that could be addressed through morality.

Sırât-ı Müstakîm began publication following the promulgation of the 1908 constitutional regime and was considered an Islamist modernist publication. After Ebul'ula Mardin's resignation, Mehmed Akif and Eşref Edib took over leadership, renaming the journal as *Sebilürreşad* in 1912. Amid ongoing political and military crises, *Sebilürreşad* adopted a more radical tone until it was closed during the early Republican period with the implementation of the Law on the Maintenance of Order. As Çiğdem Oğuz demonstrates, *Sebilürreşad*'s intellectual tradition was crucial in addressing the question of morality and the issue of "moral decline,"⁶⁹ and the journal brought together influential voices of Islamic morality during this period.⁷⁰ Despite the growing tone of Islamism in the journal's later period, the authors sought to integrate the scientific and religious foundations of *hıfz-ı sıhhat* to combat the spread of epidemic diseases, particularly in the capital and provinces of the Empire.

One of the articles published in *Sırât-ı Müstakîm* that links morality and health was written by Doctor Hazık in late 1910. Hazık is likely a pseudonym, and there is no information available on whether he was a trained doctor. In his article, Hazık linked a person's morality with their health through the

68 M. Asım Karaömerlioğlu & Çiğdem Oğuz, "Competing Visions of Morality in Politics: A New Perspective on the Ideological Currents of the Late Ottoman Empire," *Die Welt des Islams* (2024) 1–30.

69 Çiğdem Oğuz, *Moral Crisis in the Ottoman Empire: Society, Politics and Gender during WWI* (London: Bloomsbury Publishing, 2021).

70 Karaömerlioğlu & Oğuz, "Competing Visions of Morality," 18.

concept of *hıfz-ı sıhhat*. He emphasizes the harmony [*ahenk*] between body and mind, underscoring that both internal [*batını*] and external [*zahiri*] hygiene are equally important in maintaining an individual's health, which he describes as a supreme gift from God that must be valued and protected. Moderation, purity, and cleanliness, he argues, were three essential components of mental and physical health, and these principles were, as Hazık illustrated through quotations from the Qur'an and Hadiths, crucial from both a religious and medical perspective. Cleanliness, he noted, helps people avoid illness, and a healthy body supports a healthy mind and strong moral character. For Hazık, the reverse was also true: a clean mind and sound morals could contribute to a healthy body.⁷¹ As noted at the beginning of this chapter, analogies between disease and immorality were not exclusive to religious intellectuals and were commonly circulated in the public discourses, especially regarding sexually transmitted diseases like syphilis.

In another article published in *Tearüf-i Müslimin* in early 1911, Doctor Hazık further explores the connections between morality and health within the framework of *hıfz-ı sıhhat*. Titled "Prevention of Health and the Medicine of Morality" [*Hıfz-ı sıhhat ve tababet-i ahlakiyye*], Hazık elaborates on the parallels between maintaining physical health [*tahaffuz*] and upholding moral integrity. According to Hazık, just as people must protect themselves from diseases and avoid contact with the sick to maintain good health, they should also abstain from bad habits and avoid the company of immoral people to preserve strong moral character. For instance, if a moral person frequently attends gatherings with alcohol, visits taverns [*meyhanes*], or associates with habitual liars, they may eventually succumb to drinking or lying themselves. Similar to isolating the healthy from the sick during a plague, harmful behaviors [*seyyiat*] should be removed from a person's life to maintain good morality. For Hazık, a core component of achieving good morality involves avoiding social interactions [*ihtilat*] with those exhibiting immoral behaviors.⁷² It is significant to note that these articles were published during

71 Doktor Hazık, "Hıfz-ı sıhhat, İtidal, Taharet ve Nezafet," *Sırât-ı Müstakîm* 5, no. 121 (16 Kanun-ı Evvel 1326 [29 December 1910]): 279–280.

72 Doktor Hazık, "Hıfz-ı sıhhat ve Tababet-i Ahlakiye," *Tearüf-i Müslimin*, 2 (28), no. 253 (23 Kanun-ı Evvel 1326 [5 January 1911]): 253.

the 1910-1911 cholera epidemic in Istanbul. In this context, it is unsurprising that the language of hygiene, interaction, and prevention was prevalent in popular discourse. Doctor Hazık's parallels between health and morality served a dual purpose: First, it helped popularize and familiarize the medical concepts around public hygiene among religious and conservative audiences. Second, within the heightened awareness brought about by the epidemic, Hazık sought to harness the scientific language of the time and leverage fears of disease to advocate for moral behavior among his readers. He concludes his article by emphasizing why he places such importance on morality, arguing that the decline of states arises from the moral decay of their people. Thus, he contends, individuals bear the responsibility to uphold good behavior for the greater good of the society they are part of.⁷³

In addition to Dr. Hazık's writings, several other articles in both *Sırât-ı Müstakîm* and *Sebilürreşad* explored the concept of *hıfz-ı sıhhat* by emphasizing the importance of hygiene and purity in Islam, underscoring the religious obligation to maintain personal health. Like Hazık, other writers highlighted the significance that God and the Prophet Muhammad placed on personal hygiene and *hıfz-ı sıhhat*, reinforcing the idea that caring for one's health was a religious duty.⁷⁴ These articles emphasized the importance of cleanliness not only in fulfilling religious duties but also in preserving health, which was regarded as a precious gift from God.

Famous Turkish poet Mehmed Akif, for instance, addressed the issue of cholera in one of his writings during the 1910 cholera epidemic, quoting from a letter shared by a reader. In this letter, the reader recalled traditional practices used during times of cholera and plague. According to the reader, local people would collect money to hire a hafız, who would then tour the area, reciting the Qur'an. The reader suggested that *Sırât-ı Müstakîm* remind the government of this "old but religious" practice.⁷⁵ Mehmed Akif disagreed with his reader. While acknowledging that this practice existed in earlier decades, he argued that there was nothing inherently religious about it. He criticized

73 Ibid.

74 Âlim Cân el-İdrîsî, "Hutbelere Dair," *Sırât-ı Müstakîm* 5, no. 120 (9 Kanun-ı Evvel 1326 [22 December 1910]): 263–264.

75 "eski fakat dindârâne."

the previous government, specifically Abdülhamid II's regime, for exploiting common people's religious beliefs instead of enforcing sanitary regulations to control epidemics. Akif emphasized that, whether dealing with an ordinary or contagious disease, the key to healing lay in following the hygienic and medical advice provided by physicians, a point also endorsed by *Şeriat*. In his view, a pure, unaltered [halis] version of Islam would not permit interference in medical matters, and no one should use religion as a cover for ignorance.⁷⁶

The ignorance of common people and their reluctance toward science [*ilm*], particularly among peasants, was a recurring theme in *Sırât-ı Müstakîm* and *Sebilürreşâd*. In an article written under the pseudonym Sîretî in July 1912, titled "Ramadan Sermons" [*Ramazan Vaazları*], peasants were criticized for their ignorance, laziness, and immorality. They were described as "in love with ulama but hostile to scientific scholarship." This hostility extended to resistance against sanitary regulations of the time. According to Sîretî, the villagers' neglect of hygiene and disbelief in contagion theories kept rural areas in a constant struggle with epidemic diseases such as cholera, syphilis, and measles. Consulting a doctor was almost "profane" in the eyes of the rural population. Sîretî emphasized the importance of educating them on medical treatment, referencing prophetic medicine, as well as the necessity of sanitation and hygiene in preventing disease spread.⁷⁷

§ 2.5 Private Practices, Public Health: Household Hygiene

While moral hygiene was promoted as both a public and religious duty, the principles of *hıfz-ı sıhhat* also extended into the private sphere, where households became essential sites for cultivating health and cleanliness practices in alignment with both scientific and religious standards. In this way, the household functioned as a microcosm of the Ottoman state's health policies, embodying the Empire's larger aspirations for a well-regulated and healthy society. Families were not only tasked with caring for their own

76 Mehmed Akif, "Hasbihal," *Sırât-ı Müstakîm* 5, no. 115 (4 Teşrin-i Sani 1326 [17 November 1910]): 179–180.

77 Sîretî, "Makâlât: Ramazan Vaazları," *Sebilürreşâd* 8, no. 203 (12 Temmuz 1328 [25 July 1912]): 404–405.

members but were also seen as foundational units contributing to the public health landscape.

Households held a pivotal role in the development and institutionalization of public health, encapsulating issues of class, morality, and gender within the framework of sanitation. As spaces where daily life unfolded—where women raised children, laborers spent their off-hours, the sick recovered, and the infected were isolated during outbreaks—households became focal points in the experience of health and illness. They were essential sites in urban settings for establishing hygiene ideals and controlling disease transmission. Examining the implementation of *hıfz-ı sıhhat* [public hygiene] within the household thus provides valuable insights into the urban experience of sanitation and hygiene, as well as the narratives that shaped the ideal of a sanitary household.

Advancements in bacteriology in the late nineteenth and early twentieth centuries brought profound changes to household practices. The evolving understanding of disease transmission began to reshape household management and hygiene, a shift Nancy Tomes describes as the “private side of public health.”⁷⁸ In her influential book tracing how belief in microbes reshaped American lives in the late nineteenth and early twentieth centuries, Tomes reveals how insights from germ theory merged with pre-existing sanitary science. She explores how the “gospel of germs” of the late nineteenth century complemented earlier sanitary preoccupations with domestic architecture, particularly focusing on ventilation and plumbing, to combat the “invisible enemies in the home.”⁷⁹ Ultimately, this union of germ theorists and sanitarians transformed kitchens, bedrooms, and lavatories within households, impacting both the spaces themselves and the daily lives of those inhabiting them.⁸⁰ In other words, the public health campaigns and laboratory discoveries of the time extended beyond public spaces, eventually medicalizing and “pathogenizing” the private sphere. Building on existing popular beliefs about the role of “sick buildings” and “bad air” circulating

78 Tomes, *The Gospel of Germs*, 6.

79 Ibid., 57-62.

80 Ibid., 96.

within households in the spread of disease, as Tömes describes, the Ottoman printing press developed an idealized strategy for “germ-proofing” homes.⁸¹

In an effort to develop a scientific code for household hygiene, Besim Ömer outlines his vision for a sanitary household as the opposite of a “sick building.” In his article, “The Construction and Sanitation of the Homes,” he begins by detailing the technical and engineering aspects of constructing a house. After reviewing ancient methods of house construction, Ömer highlights a link between “civilization” and hygienic household construction, acknowledging with regret that traditional Ottoman practices fell short from a health perspective. To address this shortfall, Ömer proposes solutions that interweave environmental considerations with health in household construction. He emphasizes that construction should take into account the climate, location, and soil conditions, which would allow for optimal ventilation, sufficient sunlight, and moisture control.⁸² The issue of ventilation held particular importance in Ottoman publications on public health. In an article published in *Servet-i Fünun*, Doctor Ş. Kamil emphasizes the necessity of ventilating household bedrooms to dispel “bad air” [*fesad-ı hava*], especially in cases where parents and children share the same bedroom. According to Kamil, poor ventilation and close sleeping arrangements were significant contributors to the spread of diseases within the home.⁸³ This emphasis on air as a transmitter of disease highlights the coexistence of miasmatic theories and emerging germ theory in Ottoman public health discourse. At the time, many still believed that “bad air” could spread illness, even as germ theory began to redefine understandings of disease transmission. Later advancements in bacteriology would reveal that air and household dust had limited ability to preserve pathogenic bacteria, which typically died within minutes of leaving the human body.⁸⁴

81 Ibid., 49.

82 Besim Ömer, *Nevsal-i Afiyet* (İstanbul: Matbaa-ı Ahmed İhsan ve Şürekası, 1320 [1904]): 512–542.

83 Doktor Ş. Kamil, “Meskende İcrası Lazım Gelen Tedabir-i Tahafuziyye,” *Maarif* 3, no. 59 (13 Ağustos 1308 [25 August 1892]): 101–103.

84 Tömes, *The Gospel of Germs*, 12.

Besim Ömer also highlights the role of natural conditions in disease transmission, emphasizing the importance of site selection and drainage in household health. He notes that porous soil could absorb contaminated wastewater, allowing fecal matter to seep into the ground and creating conditions favorable for waterborne diseases like cholera and typhoid. Similarly, he argues that proper drainage systems are essential, especially for homes built on damp ground, to prevent excessive moisture—an environment considered conducive to tuberculosis.⁸⁵ Ömer also claims that statistics show a significant reduction in tuberculosis-related deaths—by as much as half—when the distance between the water table and household rooms is sufficient to prevent base moisture. While his advice is aimed primarily at an urban audience, similar concerns were addressed in publications targeting Anatolian households. For instance, Doctor Faik's article titled "Sihhi Ev: Mesken" [Sanitary Household: Residential], published in *Kurtuluş Yolu*, echoes Ömer's recommendations, offering guidance on household construction and hygiene to rural community.⁸⁶ In line with Besim Ömer's views, Doctor Faik also critiques the house construction methods in Anatolian towns and villages, finding them inadequate in meeting modern sanitary standards—a deficiency that, in his view, contributes to the persistence of tuberculosis. Both authors, in essence, regarded certain buildings and natural conditions as inherently "sick" and conducive to the spread of disease.⁸⁷

In addition to these structural, natural, and climatic factors, the inhabitants themselves contributed to making households susceptible to dirt and disease. Recognizing that each individual produces approximately a thousand grams of fecal matter daily, along with wastewater from cleaning processes, Besim Ömer emphasized the importance of sanitary toilets and waste management systems to channel these wastes outside the household. Lavatories played a crucial role in maintaining household hygiene by removing waste and preventing the intrusion of sewer gas. Ömer recommended installing a siphon around the latrine hole, which should

85 Besim Ömer, *Nevsal-i Afiyet* (1320[1904]), 512–542.

86 The newspaper was published first in Çankırı, then in Çorum.

87 Doktor Faik, "Sihhi Ev: Mesken," *Kurtuluş Yolu* 1, no. 7 (15 Temmuz 1926): 105–107.

remain closed when not in use, to minimize exposure to harmful odors and contaminants. Clearly, the presence of a proper lavatory had both cultural and material implications, shaping perceptions of cleanliness and modernity within the household. Ş. Kamil's article in *Maarif* echoes Besim Ömer's concerns but also confirms that Ottoman households commonly used toilets located outside the house, including pit latrines. In his article, titled "Preventive Measures That Must be Taken in the Dwelling" [*Meskende İcrası Lazım Gelen Tedabir-i Tahaffuziye*], Kamil recommends specific cleaning measures for different types of toilets. For indoor toilets, he suggests that the latrine hole should be kept closed to prevent unpleasant odors from spreading indoors. He also recommends cleaning toilets with hydrochloric acid [*tuz ruhu*] and carbolic acid solution [*hamiz fenikli su*]. For outdoor toilets, Kamil criticizes the use of wood, which absorbs waste and odors, advocating instead for more hygienic materials, such as marble. He further emphasizes the importance of connecting household waste to a main sewer system to ensure proper sanitation.⁸⁸

The observations of Besim Ömer and Ş. Kamil echo the earlier focus of sanitary scientists on fecal matter as a primary source of disease. By the early twentieth century, however, bodily discharges beyond feces—such as those from spitting, coughing, and sneezing—had become areas of increasing concern. Following Robert Koch's identification of the bacteria responsible for tuberculosis and cholera, researchers were able to isolate the microorganisms behind various other diseases, including diphtheria, typhoid, and scarlet fever. These discoveries, made primarily between the 1870s and 1890s, emphasized the human body as a central factor in the transmission of infection. Koch's demonstration of "healthy carriers"—individuals who could spread disease without showing symptoms—revealed that disease dissemination was not limited to visibly sick bodies; even healthy individuals could carry and transmit harmful microbes.⁸⁹

Although Besim Ömer focused on infrastructure and household lavatories as important vectors of disease, he viewed the primary sources of illness as

88 Ş. Kamil, "Meskende İcrası Lazım Gelen Tedabir-i Tahaffuziye," *Maarif* 3, no. 59 (13 Ağustos 1308 [20 December 1892]).

89 Tomes, *The Gospel of Germs*, 95.

households that were small, dirty, and constructed in violation of hygienic principles. Ömer went further, arguing that Ottoman authorities have misguidedly prioritized sewer improvements over the past 20 years, yet death rates and epidemic conditions have shown little improvement as a result. In this context, after defining the ideal conditions for a sanitary household, Besim Ömer presented its antithesis: the homes of the poor and working class, which he believed were the primary breeding grounds for filth and disease.⁹⁰ Akalın's approach, which pathologized the urban poor and the spaces they inhabited, reflects a continuity with earlier Ottoman policies targeting working-class areas. As Işıl Çokuğraş highlighted, bachelor rooms had long been associated with illegality, immorality, disorder, and disease. This perception ultimately led to the demolition of bachelor rooms in Istanbul, Galata, Tophane, and Üsküdar, with Sultan Mahmud II seizing the opportunity presented by the 1812 plague outbreak to enforce their removal.⁹¹ However, this was not a permanent solution, as both bachelor rooms and other forms of urban housing persisted within the Empire.

From Akalın's perspective, in the major cities of the Ottoman Empire, workers and the poor lived in overcrowded households, which not only led to deteriorating health conditions but also reduced life expectancy. For instance, while individuals residing in one- to two-person households had a life expectancy of 47 years, those living in groups of more than ten saw their life expectancy drop to 32 years.⁹² In these small, poorly ventilated households, lacking fresh air and adequate living space, and with dirty, often clogged toilets, the poor and workers endured an "unbearable" and "miserable" existence. Beyond posing significant risks to individual health, these conditions also contributed to the emergence and spread of diseases such as smallpox, tuberculosis, diphtheria, and typhoid.⁹³ While describing the physical conditions of these people, Besim Ömer uses terms like "skinny" and "pale," suggesting they live in a "tuberculated" state [*veremlilik*]. Beyond health-related concerns, the urban poor were also occasionally linked to

90 Besim Ömer, *Nevsal-i Afiyet* (1320[1904]), 533-548.

91 Işıl Çokuğraş, "Osmanlı İstanbul'unda Bekâr Odaları," *Mimarist*, no. 47 (2013): 29-35.

92 Besim Ömer, *Nevsal-i Afiyet* (1320[1904]), 533-548.

93 Ibid.

immoral behaviors. For example, an Ottoman archival document from the 1910 cholera outbreak references a household in Kadıköy, Istanbul, where multiple families resided under one roof. Ottoman authorities assessed this situation not only as a sanitary risk but also framed it in moral terms.⁹⁴ Health and morality, it seems, provided Ottoman authorities with mutually reinforcing justifications.

Referring to the symbolic meanings of cleanliness and dirt, Mary Douglas argues that efforts to eliminate dirt are less about disease prevention and more about reordering the environment to align with cultural ideals.⁹⁵ For her, dirt is never an isolated phenomenon but is deeply tied to broader symbolic systems of purity. Similarly, Norbert Elias emphasizes the cultural and hierarchical significance of hygiene and cleanliness.⁹⁶

In a similar vein, Peter Stallybrass and Alon White explore class distinctions in relation to hygiene, analyzing the origins of bourgeois disgust through Bakhtin's concept of the carnivalesque. They examine how the English upper classes used symbols to differentiate themselves from the lower classes and how divisions between the high and the low, the polite and the vulgar, and the civilized and the grotesque were created, sustained, and transgressed.⁹⁷ They reveal the complex interplay between "high" and "low," noting the bourgeoisie's simultaneous exclusion and internalization of the "low" under the guise of disgust: "The bourgeois subject continuously defined and redefined itself through the exclusion of what it marked out as 'low'—as dirty, repulsive, noisy, contaminating. Yet that very act of exclusion was constitutive of its identity."⁹⁸

Stallybrass and White further argue that cultural categories such as high and low, social and aesthetic, and physical body and geographical space are interlinked. In their chapter "The City: The Sewer, the Gaze, and

94 BOA. DH.EUM.THR. 98-61, 1 Teşrin-i Evvel 1326 [14 October 1910].

95 Douglas, *Purity and Danger*.

96 Norbert Elias, *The Civilizing Process. Volume 1: The History of Manners* (Oxford: Blackwell, 1978).

97 Peter Stallybrass and Alon White, *The Politics and Poetics of Transgression* (Ithaca: Cornell University Press, 1986).

98 *Ibid.*, 191.

Contaminating Touch,” they show how concepts of the body were constructed through the city’s topography, using parliamentary reports, reform texts, journals, and novels as sources. Hygiene, health, and smell played a central role in defining boundaries between bourgeois and working-class spaces. Although city planners and sanitary reformers sought to segregate bourgeois suburbs from lower-class slums, moments of “contamination” persisted. The development of interconnected tramlines and railway stations blurred these divisions, prompting reformers to police dirt and disease through public health measures, treating them as they would crimes.⁹⁹

Besim Ömer’s adoption of a disparaging tone towards the workers and the poor can be comprehended within such a context. He openly expressed his disgust when describing the neighborhoods that house lower class households. He noted the unbearable smell emanating from these homes during the summer and cannot help but pity the residents. However, he placed some responsibility on state authorities and landowners for the deteriorating conditions these underprivileged people endure. For instance, he criticized greedy landlords who rent out these homes without considering the number of people living under one roof or the sanitary consequences of the structural conditions of their buildings. Rather than investing in the hygienic upkeep of these properties, he argued, landlords are merely focused on finding new tenants as soon as a home is vacated.¹⁰⁰ As a solution, Besim Ömer advocated for regular inspections by municipal authorities. Addressing the housing issues faced by the working classes, Akalın referenced European examples where various measures were adopted to alleviate similar problems: providing small but decent housing options with affordable rent for workers, as well as offering tax exemptions or reductions to incentivize the construction of working-class housing. These policies, he suggested, could help improve living conditions and health outcomes for the working poor.¹⁰¹

Similar housing schemes did exist in the Ottoman Empire, though they were not widespread. For example, in the mid-nineteenth century, the administration of the Hereke Imperial Factory in İzmit planned on-campus

99 Ibid. See especially the pages between 125 and 148.

100 Besim Ömer, *Nevsal-i Afiyet* (1320[1904]), 539.

101 Ibid., 541.

housing for workers and their families. However, these homes were unaffordable for most workers. Consequently, multiple families often shared on-campus or nearby working-class housing, which also facilitated the involvement of women and children in factory labor. While families aimed to rent an entire house, unmarried workers could typically only afford a single room.¹⁰²

While Besim Ömer's analysis of the hygienic conditions in households of the poor and working classes holds merit, it lacks context regarding the socio-economic and political forces that drove overcrowding within single households. The sanitary issues in these spaces stemmed from more than tenant-landlord conflicts or individual failures to meet modern cleanliness standards. Istanbul had become a refuge for many Muslim migrants in the late nineteenth and early twentieth centuries, who fled the devastation of the 1877-78 Russo-Ottoman War and later, the Balkan Wars of 1912-13. This migration wave added approximately 1.5 million people, many of whom, while initially passing through Istanbul, ultimately settled there permanently. In addition to these refugees, single men, or *bekârs*, also arrived from the provinces in search of work opportunities. In addition to the housing pressures caused by this influx of migrants, frequent wars left many Istanbul residents homeless at the turn of the twentieth century. As Behar and Duben emphasize, urban expansion, increased housing density, and population shifts to newer districts in Istanbul were among the methods used to address the growing housing crisis. However, for the underprivileged segments of society, overcrowding within existing housing became one of the most common, if challenging, solutions.¹⁰³ As Yılğür's research reveals, the rise of informal settlements provided another response to this urban crisis. Refugees who chose to remain in Istanbul rather than relocating to the countryside established tin-can neighborhoods [*teneke mahalles*] in several districts, including Nişantaşı and

102 Didem Yavuz, *Crafting an Empire: The Hereke Factory Campus (1842–1914)* (PhD diss., New Jersey Institute of Technology and Rutgers, The State University of New Jersey – Newark, 2018), 75–86.

103 Alan Duben and Cem Behar, *Istanbul Households: Marriage, Family and Fertility (1880–1940)* (Cambridge and New York: Cambridge University Press, 1991), 23–29.

Göztepe, in the late nineteenth century.¹⁰⁴ Due to the challenges in obtaining conventional building materials, these households were often constructed from waste materials, such as tin cans, or leftover wood from nearby construction sites. Yilgür suggests that the urban poor not only adapted to these *teneke mahalles* but also leveraged their socio-spatial and economic benefits, gradually transforming these neighborhoods from temporary refugee settlements into more heterogeneous localities.¹⁰⁵ These unconventional housing structures stood in stark contrast to Besim Ömer's ideal of a sanitary household. In a 1925 article, written two years after the establishment of the new republic, Doctor Abdullah Cevdet described this situation as a "housing depression" [*mesken buhranı*]. For Cevdet, a former member of the Committee of Union and Progress, Istanbul, the former Ottoman capital, sorely lacked what he termed "sanitary and civil" [*sıhhi ve medeni*] housing. In recalling one of his visits to the Vefa neighborhood in Istanbul, Abdullah Cevdet describes how it was common to see people coughing from tuberculosis in front of their homes, highlighting yet another obstacle to the already declining demographic figures of the new Republic.¹⁰⁶

§ 2.6 Gendered Dimensions of *Hıfz-ı sıhhat*: Expectations and Responsibilities

As discussions on household hygiene became more prevalent, they also highlighted the unique roles and responsibilities assigned to women within the household, positioning them as essential figures in maintaining family health. This focus not only elevated domestic duties but also embedded public health principles within the gendered expectations of Ottoman society. Thus, the private sphere of the household and the public health discourse converged, making women key agents in upholding hygiene and, by extension, societal health. This integration of health and gender roles reveals how the concept of

104 Egemen Yilgür, "Formation of Informal Settlements and the Development of the Idiom Teneke Mahalle in the Late-Ottoman Istanbul," *Journal of Urban History* 48, no. 3 (2022): 608–637.

105 Ibid., 620–622.

106 Doktor Abdullah Cevdet, "Medeni Mesken Buhranı," *İctihad* 20, no. 186 (10 August 1925).

hıfz-ı sıhhat was deeply gendered, and exploring these dynamics sheds light on the ways that hygiene practices reinforced social expectations around womanhood and family life.

Household hygiene, in particular, and the broader concept of *hıfz-ı sıhhat* also contained distinctly gendered elements. Emine Evered and Kyle Evered, through an analysis of Besim Ömer's writings on tuberculosis, reveal how modern notions of home, womanhood, and motherhood were medicalized during the fight against tuberculosis in the transitional period from the Ottoman Empire to the Turkish Republic.¹⁰⁷ Though Evered and Evered's focus is on the anti-tuberculosis movement, their arguments hold relevance for broader notions of hygiene and public health. Thus, rather than concentrating solely on specific diseases, examining how the Ottoman rhetoric around health, hygiene, and healing was both gendered and domesticized could provide valuable insights into responses to other diseases as well.

Focusing on Besim Ömer's writings sheds light on the significant role assigned to women in public health. In his article "Woman and Public Hygiene" [*Kadın ve Hıfz-ı sıhhat*], published in an annual health book, he emphasizes the importance of women's practical and moral education in promoting public health. For Besim Ömer, the foundation of civilization and progress [*temeddün ve terakkiye*] in Ottoman society lies in the upbringing [*terbiye*] of women. Women, he argues, not only make up half of the population but are also responsible for raising future generations. Consequently, the physical and moral education of women impacts the moral and physical development of the next generation. The health of children and youth, he suggests, relies on women's knowledge of public health in two key ways: they can protect their children from disease and pass on this knowledge to them. Besim Ömer even advocates incorporating public health lessons into the curriculum of Ottoman schools for girls.¹⁰⁸ This proposal aligns well with the broader framework of *terbiye* within Ottoman educational reform. For

107 Evered and Evered, "Dispensary, Home, and 'A Women's Army.'"

108 Besim Ömer, *Nevsal-ı Afiyet*. (İstanbul: Alim Matbaası, Ahmed İhsan ve Şürekası, 1315[1899]), 198-202.

instance, Susanna Ferguson illustrates how the concept of *terbiye* (which worked alongside *talim*) was applied in various educational institutions, particularly in Ottoman Beirut and Mount Lebanon. Her research shows that this coupling of moral cultivation [*terbiye*] and professional training [*talim*] aimed to produce both reform and stability within society. While *terbiye* promised to cultivate obedient individuals and reinforce existing social hierarchies, *talim* focused on acquiring new skills and scientific knowledge. This dual approach helped maintain the social order while encouraging the acquisition of practical, modern knowledge.¹⁰⁹

Thus, the use of the term *terbiye* in texts discussing the relationship between women and public health is not surprising. For example, Besim Ömer views women as the core of the family, asserting that the happiness of both the family and society depends on their well-being and level of *terbiye*. Therefore, women's knowledge of public health matters not only reinforced their domestic roles as moral mothers and housewives but also made them responsible for maintaining a sanitary home. This included ensuring the cleanliness of household water, preparing clean and healthy food, and taking measures to "germ-proof" their homes. In doing so, they contributed to the broader goal of creating sanitary cities.¹¹⁰

As shown above, the coupling of morality with public health in nineteenth and twentieth century Ottoman writings was a recurring theme that contributed to the maintenance of gendered social structures. Here, *terbiye* functioned alongside morality [*ahlak*]. For instance, an article published in *Hanımlara Mahsus Gazete* titled "The Hygiene of the Body and Morality" [*Hıfz-ı sıhhat-ı Beden, Hıfz-ı sıhhat-ı Ahlak*] asserts that there is a direct link between the health and cleanliness of both body and mind, emphasizing the importance of the family in maintaining both. The author argues that the health of the mind and hygiene can be realized through one thing: *terbiye*. Therefore, maintaining bodily hygiene, alongside the moral education of the younger members of the family by their elders, was deemed essential for

109 Susanna Ferguson, "A Fever for an Education: Pedagogical Thought and Social Transformation in Beirut and Mount Lebanon, 1861–1914," *Arab Studies Journal* 16, no. 1 (2018): 58–83.

110 Töres, *The Gospel of Germs*, 22.

preserving both individual and public health.¹¹¹ Common references to morality within the framework of public health likely served to neutralize the potential destabilizing impact of the emerging norms of personal health and hygiene in Ottoman society. By linking hygiene with morality, public health campaigns could align the new practices with traditional values, thereby making them more acceptable and reinforcing the existing social order. This coupling ensured that the promotion of health did not threaten the moral and social fabric of society but rather supported its continued stability.

As shown in the previous part, in the late nineteenth and early twentieth centuries, numerous publications in Ottoman newspapers and books addressed the topic of household hygiene, reflecting the growing interest in the issue. In addition to structural and infrastructural aspects—such as the availability of individual water plumbing, sewage systems, proper ventilation, and quality building materials—household hygiene also carried symbolic, gendered, and discursive components.

Clearly, a sexual division of labor existed in these households, which was also reflected in the publications. In several of Besim Ömer's writings, women were positioned as the primary agents responsible for maintaining household cleanliness. In addition to overseeing hygiene, women were also considered accountable for ensuring a proper diet for family members, as well as managing adequate ventilation and lighting within the home.¹¹² On similar issues, other doctors wrote articles that directly addressed women in various journals. For example, *Servet-i Fünun* featured a column titled "Conversations of Health: Between the Doctor and the Woman" [*Sıhhi Musahabeler: Kadın ile Doktor Arasında*] during the early 1900s. Penned by Şekib Arif, this column appeared in more than ten issues of the journal and covered topics related to general hygiene, health, and beauty. The column was written in a question-and-answer format, with the questions seemingly written by the writer himself. Although no voice was given to the women themselves, it is clear that

111 "Hıfz-ı Sıhhat-ı Beden, Hıfz-ı Sıhhat-ı Ahlak." *Hanımlara Mahsus Gazete* no. 16, vol. 12 (Teşrîn-i Evvel 1311 [24 October 1895]): 1–2.

112 Besim Ömer, *Nevsal-i Afiyet* (1315[1899]); Evered & Evered, "Dispensary, home, and 'a women's army.'"

the primary goal of the series was to inform and educate women about the general principles of public health. Women were viewed as key agents in the sanitary transformation of households, and by empowering them with knowledge, they were expected to contribute to the creation of a sanitary Ottoman polity.¹¹³

Not surprisingly, the most dominant theme of the column was food. Through several articles, Şekib Akif provided detailed information on the components of a proper diet that would not overwhelm the digestive system, as well as food hygiene. As will be discussed in more detail in Chapter 3, following several cholera outbreaks, Ottoman authorities and doctors recognized the importance of hygienic food and maintaining a healthy digestive system during the late 1890s. In this context, experts like Şekib Akif wrote articles emphasizing the importance of eating clean, healthy, and hygienic food. These articles had a dual purpose. The first was to raise awareness among women about what constitutes a healthy diet, and how to prepare, cook, and store various food items to ensure the health of the family. The vast amount of information provided in the column covered everything from the number of meals one should have each day to proper meal times, and the correct cooking and storage techniques for essential components of the Ottoman diet, such as meat, fish, milk, and grains.

Food has the potential to bring both health and disease. For health, Şekib Akif's food articles recommend eating in moderation, with fresh, balanced, and slow meals. Hence, the second aim of his food-related articles can be summarized as emphasizing the insalubrious and even poisonous effects food can have if not handled properly. He stresses the hygienic aspect of food safety, highlighting the importance of washing fruits and vegetables thoroughly to remove potentially harmful microbes, which can cause diseases such as cholera or typhoid. Additionally, he draws attention to the emergence of microorganisms in food when exposed to heat or air, particularly in products like milk, dairy, meat, and seafood. Şekib Akif also discusses how these food items can pose risks to human health and extensively covers the transmission

113 Şekib Akif, "Sihhi Musahabeler, Kadın ile Doktor Arasında," *Servet-i Fünun* 37, no. 958 For other articles in the column, see: vol. 37, no. 962; vol. 38, no. 964; vol. 38, no. 966.

of diseases from animals to humans, such as tuberculosis, emphasizing the importance of maintaining healthy livestock to ensure the health of the population.

As outlined in Chapter 3, numerous articles during the late nineteenth and early twentieth centuries addressed the significance of food in constituting *hıfz-ı sıhhat*. What distinguishes Şekib Akif's articles from those of his counterparts is the specific audience he targeted: women. The hygienic framework in these writings speaks directly to domestic life, remaining within the confines of the household. While the environmental conditions that challenge the cleanliness of foodstuffs were rarely discussed, the author focuses on providing women with tools to minimize such risks. For instance, when addressing the potential contamination of fruits and vegetables from polluted water, the author emphasizes that women should ensure these foodstuffs are properly washed before consumption.¹¹⁴ Similarly, while discussing whether it was unhealthy to eat oysters and other seashells, Şekib Akif focuses on the importance of consuming fresh seashells in moderation to avoid overwhelming the digestive system. However, he leaves out any discussion of the hygienic conditions under which these seashells were raised, as well as the Ottoman authorities' responsibility in addressing these challenges and their role in the spread of cholera. Hence, while women were considered crucial agents in maintaining "public" health and ensuring a sanitary society, their contribution was framed through the role of keeping the private sphere—specifically the household—neat and sanitary.

Clearly, these articles target an upper-class female audience. Upon revisiting Şekib Akif's writings, it becomes evident that he also provided instructions on how to set the table. He advised that the tablecloth should be clean and white, the tableware should be complete and sanitary, and the temperature of the dining room should be in line with the season, neither too cold nor too hot. He even suggested that adding flowers to the table would bring joy to the diners, which in turn would have a positive impact on digestion. The improvement of table manners was not only seen as crucial for hygiene, but also aligned with what Norbert Elias referred to as "the civilizing

114 Ibid.

process.” From Elias’ perspective, between the fifteenth and nineteenth centuries, Europeans became more civilized, marked by an increasing self-control in various social and individual behaviors, including table manners. His framework helps us understand the function of table utensils such as the fork, knife, and spoon, which not only facilitate the consumption of food but also transform our relationship with both the food itself and the people around the table.¹¹⁵ Hence, being civil was also closely associated with personal hygiene as well as public health.

Beauty emerged as a theme at the intersection of gender and *hıfz-ı sıhhat*, with a focus on “healthy beauty” that extended public health discourse into personal appearance, reinforcing gendered expectations around health, hygiene, and morality for Ottoman women. As Berrak Burçak highlights in her research, late Ottoman ideals of female beauty were shaped by anxieties surrounding morality, health, and hygiene. She argues that the notion of “healthy beauty,” developed during the Hamidian Era, aimed to balance the exterior and interior of the body, bridging a traditional Ottoman Muslim lifestyle with Western hygienic and medical discourses. Within this framework, numerous journal articles targeted at women emphasized the hygiene of teeth and hair, the importance of appropriate clothing, good nutrition, and an overall healthy lifestyle.¹¹⁶

§ 2.7 Conclusion: The Legacy of *Hıfz-ı sıhhat* in Ottoman Urban Health

In conclusion, the Ottoman concept of *hıfz-ı sıhhat*, or public hygiene, represented a distinctive sanitary-bacteriological synthesis, blending traditional moral values with modern bacteriological knowledge to address the health challenges of urban life. As the Empire embraced scientific advancements, *hıfz-ı sıhhat* evolved beyond individual health practices to

115 Elias, *The Civilizing Process*, 126.

116 Berrak Burçak, “Hygienic Beauty: Discussing Ottoman-Muslim Female Beauty, Health and Hygiene in the Hamidian Era,” *Middle Eastern Studies* 54, no. 3 (2018): 343–360.

form a comprehensive framework for managing urban spaces, integrating infrastructure, sanitation, and public health in a way that reflected the Empire's ambitions to modernize and sustain a healthy population.

This synthesis was deeply intertwined with demographic concerns, as concerns over the inadequate population growth heightened the urgency for effective public health measures. Maintaining a healthy, resilient population was seen as essential to Ottoman modernization efforts, and urban hygiene became a civic responsibility that extended from individuals to the collective urban environment. Through public hygiene, the Ottoman state sought not only to prevent disease but also to shape a productive and orderly society. Moral obligations underpinned this approach, positioning hygiene and health as virtues and framing neglect of these responsibilities as a risk to society. This moral framing reinforced social hierarchies, casting certain groups, often from lower socioeconomic backgrounds, as sources of potential health risks, thus linking public health efforts with class-based moral judgments. Within households, *hıfz-ı sıhhat* expectations placed a unique burden on women, who were seen as the primary caretakers responsible for maintaining domestic cleanliness and health. This reinforced gender roles, as women's responsibilities expanded to include the moral and practical duties of preserving family health, aligning private household practices with the state's public health goals.

Ultimately, the Ottoman approach to *hıfz-ı sıhhat* exemplified a sophisticated response to the demands of urban modernization, synthesizing bacteriological insights with traditional values to create a holistic model of public health. This vision of sanitary-bacteriological synthesis positioned public hygiene not just as a medical concern but also as a civic and moral cornerstone, reflecting the Ottoman commitment to a modern identity rooted in both scientific progress and social order. Through *hıfz-ı sıhhat*, the Empire sought to transform urban hygiene into a defining element of Ottoman life, one that balanced the needs of a growing population with the ideals of a healthy, organized, and civilized society.



Sanitizing the Foodscape: Food Oversight and Public Health in Late Ottoman İstanbul

During the 1910 cholera outbreak in Istanbul, fishing activities around Terkos Lake, located northwest of the city, were prohibited as part of measures to curb the spread of the disease.¹ Fishing in Terkos Lake posed two main hazards. First, it risked contaminating the lake, a crucial water source for the private Terkos Water Company. Second, there was concern that fish from the lake could transmit cholera to the local population. In December 1910, a tax farmer named Mustafa Rifat submitted a petition to the Contract Office of Istanbul Municipality, explaining the financial losses he faced due to the fishing ban. Mustafa Rifat had paid 40,000 *guruş* to the Ministry of Foundations for fishing rights in a specific region of Terkos Lake, using large nets and a team of 12 boats. After securing this right, he developed a business plan: he hired 30 fish workers, made advance payments, and contracted Bulgarian merchants to supply them with 20,000 *kıyye* of salted fish. All these preparations and expenses were based on the understanding that he could fish in the lake's designated area for three years. However, despite his significant investment, Mustafa Rifat was unable to exercise this right that winter due to

1 BOA., DH. İD. 36-6, 8 Kanun-ı Evvel 1326, [21 December 1910].

the cholera-related ban.² Whereas the Ottoman state was justifying the bans they impose on fishing activities (and the financial costs emerging in due process) within the framework of public health and broader public good, the tax-farmer was trying to justify his demands from the state on the basis of a “fiqh principle” [*kaide-i fıkhiye*]: “necessity does not invalidate the right of another” [*ıztırâr gayrın hakkını iptal etmez*].³ The various actors involved in this process—the tax farmer (and his contracted personnel), the Dersaadet Water Company, the State, and the Municipality—each had their own interpretation of what constituted the “public good” and what caused “harm.” Each sought to shape the concepts of public good and public health in ways that would minimize their respective financial losses.

The case of Mustafa Rifat illustrates the socio-economic dimensions of the Ottoman state’s interventions in the foodscape for hygienic purposes in the nineteenth and twentieth centuries, as well as the competing claims on public good and the conflicts that arose from these regulations. His experience reflects how efforts to sanitize the Ottoman food market impacted more than individual diets, extending into broader economic and contractual disputes. This case was not unique; similar instances occurred both before and after his time. For example, during the cholera outbreak of 1893, tax farmer Mehmed Salim submitted a petition to the Office of the Grand Vizier, arguing that bans on the sale of certain foods—such as eggplants, figs, and tomatoes—enacted to combat cholera were causing him financial losses and violating his legal contract with the Ottoman state.⁴ Although Mehmed Salim’s argument in his plea was framed more in modern legal terms than in *fiqh* principles, he also invoked the “justice” of the Sultan, attempting to mobilize discourses around the moral authority of the state.

Taking these examples into consideration, this chapter attempts to demonstrate the hygienic transformation of the Ottoman “foodscape” between the early nineteenth and twentieth centuries. A combination of the words “food” and “landscape,” the term foodscape describes the environment in which food is produced, traded and consumed. Foodscapes detail the “local everyday

2 Ibid.

3 Ibid.

4 BOA., BEO., 406-30403, 5 Mayıs 1310 [7 May 1894].

spaces of food and eating,” and outline the socio-spatial conditions of production, consumption and trade.⁵ Gaining popularity in the past two decades, foodscape framework allows us to glimpse the dynamic setting where ordinary individuals meet and consume their food, as well as the complex set of relationship between the various actors taking part in these processes.⁶ This case also offers a critical lens for understanding the positions of different social groups regarding hunger, nutrition, and food security. The Ottoman foodscape included a diverse array of actors: ordinary consumers, food producers, merchants, tax farmers, as well as food chemists, doctors, customs officials, and municipal personnel. Each of these groups played a role in shaping the policies and practices surrounding food regulation and public health.

While the plagues of the long nineteenth century transformed Ottoman state and society on different levels, they have also impacted Ottomans’ food consumption, food production and food trade, as well as the relations among the actors that were involved in these processes. Ottoman markets have been under economic and moral oversight of the authorities since the very foundation of the state. While this market surveillance underwent significant transformations in line with the evolving state structure and the economic changes over the centuries, the public health crises played a leading role in driving these changes in the nineteenth and early twentieth centuries. The municipal and the state authorities of the long nineteenth century conducted their food market inspection for public health purposes with two primary aims. First, they aimed to limit the trade/consumption of foodstuff that was considered as a vector of epidemic diseases. Second, they tried to prevent food fraud and

5 Helene Brembeck and Barbro Johansson, “Foodscapes and Children's Bodies,” *Culture Unbound: Journal of Current Cultural Research* 2 (2010): 800.

6 For an application of foodscape in the literature, see: Christiana Miewald and Eugene McCann, “Foodscapes and the Geographies of Poverty: Sustenance, Strategy, and Politics in an Urban Neighborhood,” *Antipode* 46, no. 2 (March 2014): 537–56; Bente E. Mikkelsen, “Images of Foodscapes: Introduction to Foodscape Studies and Their Application in the Study of Healthy Eating Out-of-Home Environments,” *Perspectives in Public Health* 131, no. 5 (2011): 209–16; Ruth Panelli and Garry Tipa, “Beyond Foodscapes: Considering Geographies of Indigenous Well-Being,” *Health & Place* 15, no. 2 (2009): 455–65.

adulteration, a common problem around Europe and the North America caused by the increasing commercialization of agriculture and economic competition that was facilitated by a growing trade contact among countries.

The threat and actual occurrence of cholera were key factors in the regulation of food markets during the nineteenth and twentieth centuries. The primary objectives of these restrictions were to safeguard digestive health and prevent diarrhea, as the cholera bacterium could easily pass through the intestines in cases of gastrointestinal distress. One aspect of this policy focused on raising public awareness about the role of food in spreading the disease, while another aimed to prevent the trade and consumption of foods that could strain the digestive system. In this context, newspapers published advice on avoiding foods and drinks known to disrupt digestion, such as “too sour or too watery vegetables, raw or overripe fruits, stale meats, fatty foods... and cold water.” These public health advisories were reinforced by regulatory efforts. During cholera outbreaks, in particular, the Ottoman state sought to limit the consumption and trade of specific food items believed to exacerbate gastrointestinal issues. It is important to recognize that these targeted restrictions, implemented during times of crisis, were part of a broader framework of food regulations developed in alignment with urban and public health reforms from the mid-nineteenth century to the 1910s.

Another key motive behind the Ottoman state’s intervention in the food market was to protect individual and public health by preventing food fraud and adulteration. Food adulteration and fraud had become increasingly common by the late eighteenth and early nineteenth centuries, driven by factors like industrialization, urbanization, and the spread of capitalism. These changes widened the gap between food producers and consumers, while the commercialization of agriculture and a reduction in local food regulations further contributed to the issue. The nineteenth-century population growth placed additional pressure on food supplies, exacerbating the problem. Retailers and producers engaged in food adulteration to cut costs and improve the appearance of their products to stay competitive.

Food regulations in the Ottoman context has been receiving more attention thanks to the growing interest on Ottoman food studies and the plagues. The expanding literature on the topic inquired what types of food and drinks

were prohibited in times of epidemics, or how these prohibitions halted the Ottoman trade.⁷ Whereas state interventions into the Ottoman “foodscape” for public health purposes were considered as an important component of biopolitics, less interest has been showed for how different social actors responded to these limitations. A thorough analysis of the Ottoman archival documents proves that neither the Ottoman state nor the Ottoman society were monolithic entities. As I will demonstrate throughout this chapter, the food regulations had different impacts for different social groups of the urban life, and investigating these differences provides us with important insights on how the food regulations worked in practice.

Another point that the existing literature fails to address is the continuities and changes that the nineteenth and twentieth century food control mechanisms had with those of the earlier centuries. Though the Ottoman state had new concerns while imposing food regulations during the last century, they were still informed by the principles of *ihtisab* to a certain extent, that governed the interventions of the previous decades. Although the conventional literature views *hisba* as an “archaic” (and religious) practice that was abandoned with secularization of the legal landscape and with the development of modern municipal services, I show that the governing principles of *hisba* was relevant in the period under discussion here. Building on the revisionist literature on this topic, I argue that the social control and moral functions that was historically associated with the institution of *ihtisab* was relevant in food control mechanisms of the nineteenth and twentieth centuries. A modernist reading of the legal moves of the Ottoman foodscape of the long nineteenth century fails to address these connections.

7 See for instance, Nuran Yıldırım, “Osmanlı Devleti’nde Gıda Kontrolüne Bakış,” *Sağlık Düşüncesi ve Tıp Kültürü Dergisi*, no. 21 (2011): 68–73; Oya Gözel-Durmaz, “Osmanlı’da Gıda Güvenliği: Halk Sağlığı ve Uluslararası Ticaret Kısıcında Mahlût Zeytinyağları Meselesi,” *Osmanlı Araştırmaları / The Journal of Ottoman Studies* 54 (2019): 277–305.

§ 3.1 How was Food analyzed in Ottoman Studies?

Food plays a crucial role in shaping social structures, with power dynamics deeply embedded in its production, consumption, and trade. While early twentieth-century food history focused on national cuisines, later scholarly perspectives expanded to highlight the material and symbolic importance of food and its ecological contexts.⁸ In Ottoman historiography, economic historians initially concentrated on the intricacies of food supply and production systems, notably emphasizing provisionism in Istanbul.⁹ The latter half of the twentieth century saw a burgeoning interest in Ottoman food culture, fueled by folklore studies and enriched by primary sources like cookbooks, which enhanced understanding of the diverse culinary culture shaped by multiple ethnic and religious influences.¹⁰ More recently, the politics of food during natural disasters has emerged as a significant theme, with scholars examining famine, hunger, drought, and state relief mechanisms. These studies explore the intricate connections between these mechanisms and broader domestic and international issues, striving to transcend state-centric biases and highlight the political-ideological dimensions of famines and the experiences of ordinary people, thus adding

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- 8 Katarzyna J. Cwiertka, Megan J. Elias, and Jeffrey M. Pilcher, "Editorial Introduction: Writing Global Food History," *Global Food History* 1, no. 1 (2015): 7.
 - 9 For an analysis of Istanbul's provisioning, see: Lütfi Güçer, "XVIII. Yüzyıl Ortalarında İstanbul'un İaşesi İçin Lüzumlu Hububatın Temini Meselesi," *İstanbul Üniversitesi İktisat Fakültesi Mecmuası* 11 (1950): 397–416; Tevfik Güran, "İstanbul'un İaşesi," in *İstanbul: Şehir ve Medeniyet*, ed. Ş. Kamil Akar (İstanbul: Klasik Yayınları, 2012), 319–25. Barkan uses palace kitchen registries for an analysis of the culinary culture of Ottoman palace: Ömer Lütfi Barkan, "Saray Mutfağının 894-895 (1489-1490) Yılına Ait Muhasebe Bilançosu," *İstanbul Üniversitesi İktisat Fakültesi Mecmuası* XXII, no. 1–2 (1963): 380–93; Ömer Lütfi Barkan, "İstanbul Saraylarına Ait Muhasebe Defterleri," *Belgeler* IX, no. 13 (1979): 3–380.
 - 10 For a thorough analysis of the development of Ottoman food historiography, see: Özge Samancı, "Food Studies in Ottoman-Turkish Historiography," in *Writing Food History: A Global Perspective*, ed. Kyri W. Claflin and Peter Scholliers (Oxford: Berg, 2012), 107–20; Özge Samancı, "Ten Years in Ottoman-Turkish Food Historiography," *Food & History* 10, no. 2 (2011): 233–42.

depth to our understanding of the political dynamics intertwined with food-related challenges in the Ottoman context.¹¹

Despite the increasing interest in Ottoman food historiography, the exploration of health, disease, hygiene, and sanitation in connection to food has remained relatively peripheral. Seeking to address this gap, Nuran Yıldırım has made noteworthy contributions to the field. In her article, “Soups, Main Dishes, and Desserts Recommended to Sick People,” Yıldırım concentrates on the intersection of health and dietary practices, drawing insights from her analysis of four medical books of the fourteenth and fifteenth century. Her work delves into the intricate relationship between diets and the treatment of various illnesses, as evidenced by the recipes found in these medical texts. Through this examination, Yıldırım sheds light on the connections between food choices and therapeutic measures, thereby enriching our understanding of the often-overlooked aspects of health and nutrition in Ottoman culinary history.¹² In another notable work, Yıldırım offers an examination of the food control mechanisms implemented by the Ottoman State during the nineteenth century within the context of public health practices.¹³ Yıldırım’s articles make valuable contributions, but they lack an analytical framework for understanding the relationship between food, power, and political and social relations within the context of sanitation and public health discourses of the state. Further development is needed to elucidate the broader implications of how food intersect with power structures in the Ottoman context.

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- 11 On famine, drought and natural disasters in the Ottoman Empire, see: Mehmet Yavuz Erler, *Osmanlı Devleti’nde Kuraklık ve Kıtık Olayları (1800–1880)* (İstanbul: Libra, 2010); Özge Ertem, “‘Önce Ekmekler Bozuldu’: 1880 Diyarbakır Ekmek İsyanı,” *Toplumsal Tarih* 194 (2010): 74–79; Özge Ertem, “Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview,” *Studies Across Disciplines in the Humanities and Social Sciences* 22 (2017): 151–72; Zafer Karademir, *İmparatorluğun Açlıkla İmtihani, 1560–1660* (İstanbul: Kitap Yayınevi, 2014); Yaron Ayalon, *Natural Disasters in the Ottoman Empire* (Cambridge: Cambridge University Press, 2014).
 - 12 Nuran Yıldırım, “Soups, Main Dishes and Desserts Recommended to Sick People,” ed. Arif Bilgin and Özge Samancı, *Turkish Cuisine* (Ankara: Kültür ve Turizm Kültür Bakanlığı Yayınları, 2008): 153–163.
 - 13 Yıldırım, “Osmanlı Devleti’nde Gıda Kontrolüne Bakış,” 68–73

Studies on Ottoman pandemics and public health often briefly mention the state's food control mechanisms during public health crises. Typically adopting a Foucauldian perspective, these studies view the Ottoman state's regulation of the food market as just another manifestation of the evolving state-subject relations, wherein the state gradually extends its influence over individuals and society. The Ottoman state's interest in its subjects' consumption, within the broader context of fostering a "healthy" population for taxation and military recruitment purposes, is a significant aspect of examining food in this context and highlighting power mechanisms. However, this perspective, while crucial, is not comprehensive. Food controls have repercussions beyond individual diets, deeply ingrained in power dynamics among various social actors and their relationships with the state.

§ 3.2 An Overview of the Moral and Economic Oversight of the Ottoman Food Market and the Place of Provisioning Istanbul in this Context

The origins of market inspection and food control mechanisms in the Ottoman Empire can be traced back to the practice of *hisba* and the institutions of *ihtisab*. Before the establishment of modern municipalities in the Ottoman Empire and the broader Middle East, economic oversight in urban centers was managed by a state officer known as the *muhtasib*. Generally speaking, *muhtasib*'s primary role was to ensure market justice and fairness through regular price and quality inspections. Rooted in the Qur'anic principles of "commanding right" and "forbidding wrong," the *muhtasib*'s duties were considered as a religious obligation, involving the prohibition and punishment of practices contrary to sharia.¹⁴ Their responsibilities included checking for adulterated or harmful foodstuffs and drinks, regulating prices and ensuring hygienic conditions. They also imposed limits such as the maximum weight that a water-bearer can carry. The scope of *muhtasib*'s authority extended beyond the marketplace, encompassing oversight of various aspect of public life,

14 Ergin, *Mecelle*, vol. 1, 301.

including limiting the use of violence by teachers towards their students.¹⁵ Essentially, the *muhtasib* aimed to promote justice and fairness in public spaces. Only a Muslim could hold the position of *muhtasib*, as it was considered as a religious service.¹⁶ Yet, limiting *muhtasib*'s duties within the scope of market regulation narrows down the position's sphere of authority. Kristen Stilt and M. Safa Saraçoğlu argues that *muhtasib*'s position can be better expressed as a "inspector and regulator of the markets and public behavior generally."¹⁷ Indeed, as Lange reveals in reference to the Seljuq Empire, the *muhtasibs*' authority permeated into the private households as well, in line with the Empire's extensive system of surveillance.¹⁸

Referring to the existence of similar practices in non-Islamic Empires preceding the Ottoman Empire, such as the work of *agoranomos* in the Byzantium, some scholars argued that the Islamic side of the practice had been over-emphasized.¹⁹ Other scholars are more cautious for seeing *muhtasib* as a continuation of *agoranomos* claiming that there had been a long year gap between the operations of the two officers.²⁰ Another point of divergence in analyzing the meaning of *hisba* in modern states is the question of the basis of *muhtasib*'s authority. In his extensive and a nuanced analysis of *hisba* based on several *fiqh* treaties and *hisba* manuals, Khaled Fahmy proposes that *muhtasib* derives his power not from the community but the state. In so doing, Fahmy criticizes the idealized interpretations of the term which tend to divorce it from violence and locate the responsibility for its implementation on the community rather than the state. Here, Fahmy mainly criticizes Talal Asad's views, who considers *hisba* as a practice "communal moral regulation" among fellow

15 Ergin, *Mecelle*, vol. 1, 299-303.

16 Ibid.

17 Kristen Stilt and M. Safa Saraçoğlu, "Hisba and Muhtasib," in *The Oxford Handbook of Islamic Law*, ed. Anver M. Emon and Rumea Ahmed (Oxford: Oxford University Press, 2018), 327-56, <https://academic.oup.com/edited-volume/28121/chapter/212291852>.

18 Christian Lange, "Changes in the Office of Hisba Under the Seljuqs," in *The Seljuqs: Politics, Society and Culture*, ed. Christian Lange and Songül Mecit (Edinburgh: Edinburgh University Press, 2012), 160-61.

19 Ortaylı, *Osmanlı Mahalli İdareleri*, 129.

20 Khaled Fahmy, *In Quest of Justice: Islamic Law and Forensic Medicine in Modern Egypt* (Oakland, CA: University of California Press, 2018), 179-83.

Muslims.²¹ Fahmy's close textual examination shows that the idealized version of moral economy that was envisioned by *hisba* was maintained through extreme forms of violence in pre-modern times. His further analysis of the Egyptian public hygiene decrees, police reports and chemical textbooks in the second half of the nineteenth century reveals that this overt violence that accompanied *hisba* was replaced by the subtler violence of the modern actors such as the policemen and the food chemists. Fahmy also observes a change in the understanding of *hisba*. The main aim was now transformed from protecting public morality towards the preservation and maintenance of public health. Likewise, Ahmed Ezzat also underscores the relevance of *hisba* in the context of late-nineteenth and early twentieth centuries Egypt. In parallel to Fahmy's argument, Ezzat emphasizes that the diminishing role of *muhtasib* was not due to the abolition of shari'a but the social and economic transformations that rendered the role of this traditional actor insufficient.²² He shows how the 1883, 1904 and 1937 penal codes involved criminalizing acts that were previously under the purview of *muhtasibs*. According to Ezzat's argument, the essence of *hisba* were still incorporated into the modern legal system through the replacement of qadi courts and *muhtasibs* by a modern criminal justice system, judges, police officers and prosecutors.²³ Through analyzing these penal codes, he demonstrates how the public decency was still on the agenda, a phenomenon that he calls "moralities of criminal law." Thus, whereas Fahmy points out that the focus of *hisba* shifted from public morals in the market to maintaining public health, Ezzat reveals that *hisba* in the twentieth and 21st century Egypt was more concerned with the protection of the public order.²⁴

Though the discussions on *hisba* often refers to the case of Egypt, the analysis is also relevant for the case of the Ottoman Empire. Following the conquest of Istanbul, Fatih Sultan Mehmed personally visited places where the various foodstuff was sold such as Unkapanı, Yemiş İskelesi Çardağı, Selhane

21 Ibid., 185.

22 Ahmed Ezzat, "Law and Moral Regulation in Modern Egypt: *Hisba* from Tradition to Modernity," *International Journal of Middle East Studies* 52 (2020), 682.

23 Ibid.

24 Ibid., 684.

and Sebzebane Divanı. Ottoman grand viziers paid similar visits to market-places.²⁵

As one of the duties of *muhtasib* was ensuring that there was enough food for the inhabitants of a given territory, a discussion on Ottoman provincialism is also relevant here. Provisionism [*iaşecilik*] was one of the most important aspects of Ottoman economic life during the classical age roughly dating from the sixteenth to early-nineteenth century,²⁶ and Istanbul had a prominent position within this policy. Aiming to establish a balance between the consumption and production, the provisionist policies of the Ottoman state during the classical age were organized as follows: once the product is harvested from the fields, the primary aim was to meet the consumption needs of the nearby *kaza* where that specific agricultural product is grown. Then, the agricultural surplus was allocated either to meet the needs of the military and the palace or transported to Istanbul. In case there is remaining agricultural surplus, then the Ottoman state would allow the transportation of this surplus to other towns on the basis of need, or even export in accordance with certain restrictions as regards with the customs and the quantity. In other words, during the classical age, the Ottoman state directly intervened to the processes of the production and the sale of the food, and the economic activities were organized on the basis of meeting the needs of the population, the capital city, the military and the palace rather than maximizing profit.²⁷ This was mainly because of low productivity in agriculture alongside the difficulties in transportation, and lack of capitalist relations in agriculture.

Providing the residents of Istanbul with an affordable and plentiful supply of bread, meat, wheat, and legumes was a fundamental tenet of the provisionist perspective. This priority stemmed not only from Istanbul's high population density but also from its role as the political center of the Empire. In addition to hosting the Empire's bureaucratic elite, the city played a critical role in governance and administration. Authorities were keenly aware that a shortage

25 Ömer Lütfi Barkan, "15. Asrın Sonunda Bazı Büyük Şehirlerde Eşya ve Yiyecek Fiatlarının Tesbit ve Teftişi Hususlarını Tanzim Eden Kanunlar," *Tarih Vesikaları* (Istanbul, 1942), 326.

26 Mehmet Genç, "Osmanlı İktisadi Dünya Görüşünün İlkeleri," *Istanbul University Journal of Sociology* 3, no. 1 (2012): 175–86.

27 Ibid., 178–80.

of essential foods—or, in the worst case, a famine—could threaten the stability of the regime.

To address these challenges, food and other essential goods were brought to Istanbul's *kapans* from across the Empire, where they were unloaded, inspected, and then distributed throughout the city according to established rules and regulations.²⁸ Among the essential goods transported to Istanbul, wheat, flour, and meat held particular importance. Wheat, meat, and other provisions were sourced from Rumelia and the Marmara coast, while oil was supplied from Kefe. Egypt provided rice and lentils, and Diyarbakır and Maraş were key centers for livestock supplies.²⁹ As highlighted by Tabakoğlu, the Ottoman state established an extensive bureaucratic organization to manage the provisioning process in the city and to regulate both the prices and quality of goods.³⁰ Following the conquest of Istanbul, a trade hall [*Ehl-i Hiref Divanhanesi*] was established in Un Kapanı, and an harbour [*çardak*] was set up at Yemiş İskelesi. These locations became central hubs, bringing together those involved in taxing, trading, controlling, selling, and distributing goods brought to Istanbul. Key actors included constables and chamberlains, responsible for regulating transactions and managing relations among shopkeepers, guild officials, and merchants. Initially, chamberlains calculated and collected taxes, but as budget deficits grew, tax farming was introduced as an alternative revenue collection method.³¹ In the second half of the eighteenth century, growing challenges in meeting Istanbul's provisioning needs led to the establishment of the Ministry of Grains [*Zahire Nezareti*] in 1793. The ministry's primary tasks were to support merchants by facilitating access to affordable and abundant essentials for Istanbul and to make bulk purchases on behalf of the Ottoman state for storage in state-owned warehouses. Although briefly abolished after the end of the *Nizam-ı Cedid*

28 Nuri Akbayar et al., eds., "Kapanlar," in *Dünden Bugüne İstanbul Ansiklopedisi* (Tarih Vakfı, 1993), 430.

29 Tabakoğlu, "Osmanlı Döneminde İstanbulun İâşesi," 103.

30 Ibid., 104.

31 Akbayar et al., eds., "Kapanlar," in *Dünden Bugüne İstanbul Ansiklopedisi* (T.C. Kültür Bakanlığı & Tarih Vakfı, 1993), 430.

program, the *Zahire Nezareti* remained active until the Tanzimat period.³² In sum, as Candan Türkkan suggests, the Ottoman central authority—the sultan and the high bureaucracy, known as the Sublime Porte [*Bab-ı Ali*—made significant interventions in the provisioning process, including documenting, registering, and measuring the quality and quantity of foods produced. The state sometimes even arranged shipping routes and enforced storage and distribution within the city through various networks, practices, and mechanisms. Additionally, it inspected the quality of foodstuffs entering the city and enforced compliance with storage, sale, and pricing regulations.³³

As previously noted, the *ihtisab* service played a vital role in these regulations, often being tax-farmed for one-year periods. Following the abolishment of the Janissary Corps in 1826—one of the most violent episodes in Ottoman history—the Ministry of Market Inspection [*İhtisab Nezareti*] was established. While the Ottoman sultan succeeded in eliminating a social group that challenged state authority, the state strategically incorporated some former Janissaries into the Ministry. As Turna's analysis reveals, these surviving Janissaries were employed as market officers [*ihtisab neferi*] to leverage their familiarity with the taxable population and their social connections within the urban community.³⁴ Similar to its Islamic roots, the Ottoman institution of *ihtisab* encompassed both market and price regulation as well as the maintenance of public order. However, following the Tanzimat reforms, the responsibilities of the *muhtasib* began to be distributed among various institutions. For instance, *Zabtiye Müşirliği* was established in 1846. In the latter half of the nineteenth century, in the context of increasing commercial ties with Europe, the challenges posed by the Crimean War, and labor migration from the provinces to the capital the Ottoman state Istanbul Municipality [*Şehremaneti*] was established in 1854. In other words, the municipal structure was a tool developed by the Ottoman state to facilitate the

32 Tevfik Güran, “İstanbul’un İlaşesinde Devletin Rolü (1793-1839),” *İstanbul Üniversitesi İktisat Fakültesi Mecmuası* 44, no. 1–4 (1986), 248.

33 Candan Türkkan, *Feeding Istanbul: The Political Economy of Urban Provisioning* (Leiden, Boston: Brill, 2021), 7.

34 Nalan Turna, “Pandemonium and Order: Suretyship, Surveillance, and Taxation in Early Nineteenth-Century İstanbul,” *New Perspectives on Turkey* 39 (2008): 181.

reorganization of urban space through medical and engineering interventions. Wars, population changes, economic pressures, and epidemics strategically justified this instrumentalization.

Some figures regarded these transformations as simply the decline of a corrupt, outdated institution and the establishment of Western-style institutions in its place. For instance, Ziya Kazıcı and Ahmet Akgündüz see the *İhtisab Nezareti* as a precursor to modern municipal governance.³⁵ In contrast, İlber Ortaylı views the *İhtisab Nezareti* as an “example of a prohibitive and despotic practice rather than a constructive municipal service.”³⁶ Osman Nuri Ergin similarly associates *ihtisab* closely with the development of modern municipal governance. Along these lines, he and others emphasize *ihtisab* as an early example of modern municipal government practices.³⁷ As Stilt and Saraçoğlu highlight, scholars have given “limited attention to the social control functions historically associated with the *muhtasib* or to the larger economic transformations in the Ottoman Empire.”³⁸

Building on previous works that emphasize the continuing relevance of *ihtisab* in the modern era, the next section will examine how discourses of moral authority and public good were mobilized within the public health mechanisms of the nineteenth and early twentieth centuries. As Fahmy and Ezzat argue, the responsibilities of the *muhtasib* became dispersed among various actors—including food chemists, doctors, police, prosecutors, judges, and municipal authorities—during the Ottoman Empire’s final century. In debates and disputes surrounding food regulations and sanitation measures, social actors frequently invoked the “moral” authority of the state, while the state underscored the public benefit of these regulations. Thus, the functions of “forbidding the wrong” and “commanding right” extended beyond individual morality, becoming linked to the broader public good amid

35 Ziya Kazıcı, *Osmanlı’da ihtisab müessesesi: Yerel yönetim* (İstanbul, 2006); Ahmed Akgündüz, *Osmanlı Devletinde Belediye Teşkilatı ve Belediye Kanunları* (İstanbul: OSAV, 2005).

36 Ortaylı, *Osmanlı Mahalli İdareleri*, 129.

37 Ergin, *Mecelle*, v.1, 299-376.

38 Stilt & Saraçoğlu, “Hisba and Muhtasib.”

multiple public health crises. Ottoman officials invoked the principle of public welfare, as they increasingly regulated the urban environment in response to disease outbreaks. In this context, *ihtisab* became a mechanism to enforce not only fair market practices but also hygienic regulations that served the public good.

§ 3.3 Food, Sickness and Health: Sanitizing the Ottoman Foodscape in the Context of Cholera

The link between food and health has been recognized since ancient times, but the developments in bacteriology during the nineteenth century transformed this understanding. With “microbes” identified as legitimate and powerful agents of disease, daily-consumed food and beverages—and their sources—gained new scrutiny as potential disease vectors. Now seen as capable of transmitting illness, these items needed to be obtained, stored, transported, sold, and consumed under ideal conditions. The likelihood of decomposition and bacterial growth varied based on each food’s material qualities. Recognizing this risk, Ottoman authorities in the late nineteenth and early twentieth centuries introduced regulations to combat food adulteration and fraud, while restricting the production, sale, and consumption of certain foods and drinks that did not meet the standards set by health authorities.

Cholera, caused by the ingestion of *Vibrio cholerae*, has a strong relationship with food, as contaminated food and water serve as primary transmission pathways. In areas with inadequate sanitation, *Vibrio cholerae* can contaminate drinking water, raw or undercooked seafood, fruits, and vegetables washed with unsafe water, as well as food prepared in unsanitary conditions. Once ingested, the bacterium produces a toxin in the small intestine, leading to severe diarrhea, dehydration, and potentially death if untreated. Additionally, a weak immune system can reduce gut barrier function, allowing *V. cholerae* to thrive and resulting in more severe symptomatic illness than might

otherwise occur. This underscores the importance of safe drinking water, proper sanitation, and food hygiene to prevent cholera outbreaks.³⁹

Throughout the nineteenth century, there was growing consensus on the importance of avoiding certain foods and drinks during epidemics. *Kolera Risalesi* by Hekimbaşı Behçet Efendi, for example, reflects on the role of diet in disease prevention. Published during the 1831 pandemic, this manuscript not only advises readers to consume light foods but also highlights the preventive and therapeutic potential of specific foods. Behçet Efendi recommends vinegar as an antiseptic and emphasizes the protective effects of garlic and onion in helping individuals avoid the disease.⁴⁰ Certain fruits and vegetables, such as melon, watermelon, peach, apricot, plum, and cucumber, were commonly suspected of facilitating cholera contraction, likely due to their tendency to expedite digestion and increase the likelihood of diarrhea.⁴¹ It should be noted that Mustafa Behçet Efendi published this manuscript before cholera had been identified as the cause of the disease. As a result, he refers to it as the “horrendous disease” [*illet-i müdhişe*] or the “new disease” [*illet-i cedide*].

Over the century, the Ottoman newspapers covered hundreds of articles on the significance of food in public health. In fact, the appearance of these kind of informative articles on the importance of diet in health and sickness on the newspapers was as part of the Ottoman state’s coordinated efforts against cholera. Following the 1893 outbreak, for instance, Public Hygiene Commission [*Hıfzısıhha-i Umumiye Komisyonu*] submitted a request to the Office of Grand Vizier, underlining the necessity of informing the public through the newspapers and publications regarding the place of foods and drinks in contracting cholera.⁴² Besim Ömer’s influential manuscript *Hıfz-ı sıhhat* devotes two separate chapters for foods and drinks [*mekulat ve meşrubat*], and investigates the components of a healthy diet within the framework

39 Centers for Disease Control and Prevention. *Cholera – Causes and Transmission*. <https://www.cdc.gov/cholera/causes/index.html>.

40 Mustafa Behçet Efendi, *Kolera Risalesi* (İstanbul, 1247 [1832]); Yıldırım, “Osmanlı Devleti’nde Gıda Kontrolüne Bakış,” 18.

41 Yıldırım, “Osmanlı Devleti’nde Gıda Kontrolüne Bakış.”

42 BOA. DH. MKT., 392-108, 15 Haziran 1311 [27 June 1895].

of preservation of health in great detail.⁴³ Other publications provide more detailed information on the components of healthy eating. The authors emphasize the importance of eating fresh, moderate, and balanced meals in a clean, well-ventilated environment, using proper kitchen utensils. They also highlight the risks of consuming spoiled food, or food that may be contaminated with microbes. These risks can arise from vegetables irrigated with wastewater contaminated by sewage or from meat and dairy products obtained from sick livestock.⁴⁴ While implicitly referring to urban-environmental connections, these authors fail to consider class dimension of these advises. Neither the fresh food and a healthy diet, nor the clean eating environment was equally accesible to all segments of society. As outlined in the previous chapter, these medical discourses around public hygiene not only constituted *hıfz-ı sıhhat* as a daily practice, but also established moral, cultural, class-based and gendered divisions.

Almost a hundred years later from Mustafa Behçet's manuscript on cholera, Doctor Galip Ata published a similar informative piece on his column "Care for Health" [*Sıhhate İtina*] at *Şehbal* magazine describing the characteristics of cholera, its contraction and transmission in the emergent context of 1910 cholera pandemic in Istanbul. As it was by then acknowledged that cholera was an acute diarrheal infection caused by ingestion of food or water contaminated with the bacterium *Vibrio cholerae*,⁴⁵ Galip Ata informs the public about the crucial role of human's gastrointestinal system in the contraction of the disease. Based on this knowledge that cholera "enters the body through the gastrointestinal system,"⁴⁶ Galip Bey reiterated the advices by his fellow doctors and scientists to avoid the food and drinks that disrupt digestion such as "too sour or too watery vegetables, raw or overripe fruits, stale meats, fatty

43 Besim Ömer, *Hıfz-ı Sıhhat*, (Istanbul: Mülkiye Askeri Matbaası, 1330 [1914]), 180-287.

44 *Servet-i Fünun* journal's "Musahabe-i Sıhhiye" [Conversations on Health] column covers several articles on this subject matter. See for instance no. 663 and 666 in volume 26; no. 686, 687, 689, 690 and 691 in volume 27. These articles cover information on the benefits and potential harms of various foods from vegetables to grains.

45 <https://www.who.int/news-room/fact-sheets/detail/cholera>. Accessed January 20, 2024.

46 Doktor Galip Ata, "Koleraya Karşı", *Şehbal*, No. 28, 1 Teşrin-i Evvel 1326 [14 October 1910]: 66-67.

foods ... and cold water.”⁴⁷ Even “a small and insignificant diarrhea,” he says, “often prepare the ground for cholera.”⁴⁸ Although Galip Ata framed these steps as individual precautions (as opposed to national ones) against the disease, by the late nineteenth and early twentieth centuries both the Ottoman state and the municipality intervened into the types of food and drinks that the public consumed, and the way food was produced and traded as part of its overall public health policies.

As awareness of public health risks increased, the sale of certain fruits and vegetables—such as melon, watermelon, cucumber, eggplant, tomatoes, peach, banana, fresh figs, and raisins—was prohibited during outbreaks.⁴⁹ In state discourse and medical manuscripts, these items were often labeled as “harmful foods and drinks” [*mekulat ve meşrubat-ı muzirre*]. Similarly, the harvesting of seashells from Haliç and the consumption of mussels, oysters, octopus, and other shellfish were banned during cholera outbreaks.⁵⁰ Constabulary and police forces were tasked with enforcing these restrictions, yet vendors and individuals often sought ways to circumvent them. For instance, during the 1893–94 pandemic, street vendors continued selling unsanitary meat, tomatoes, and eggplants despite the bans.⁵¹ Based on British traveler Charles White’s account from the first half of the nineteenth century, we learn that melons, particularly watermelons, held a special place in the Ottoman diet. They were inexpensive and available from August to October. White claims that some individuals consumed up to three watermelons a day, leading to the prevalence of “fevers and gastric complaints.”⁵² Hence, it was no surprise that the restriction on the consumption of certain fruits, which were part of the daily diet for much of society, provoked a popular reaction.

47 Ibid.

48 Ibid.

49 Yıldırım, “Osmanlı Devleti’nde Gıda Kontrolüne Bakış”; Ayar, *Osmanlı Devleti’nde Kolera*, 331–36.

50 BOA., A.}MKT.MHM., 594-18, 16 Mart 1310 [28 March 1894].

51 BOA., Y.PRK. ZB. 12-47, 28 Teşrin-i Evvel 1309 [9 November 1893].

52 Charles White, *Three Years in Constantinople: Or, Domestic Manners of the Turks in 1844*, vol. 3 (London: Henry Colburn, 1845).

These specific food restrictions, implemented during times of crisis, were part of a broader framework of food regulations that developed at the intersection of urban and public health reforms from the mid-nineteenth century to the 1910s. As argued earlier in the chapter, the traditional role of *iẖtisab* in ensuring fair pricing evolved to incorporate public health measures, with sanitation efforts becoming integral to safeguarding collective well-being.

Food was also believed to have preventive powers. In addition to maintaining a healthy and balanced diet, certain foods were especially recommended during cholera pandemics. Although the documents do not specify any information in what ways it provides protection, tea seems to have been a common drink widely suggested during times of cholera. During the same period, brief memos were sent to the provinces highlighting the benefits of consuming tea, and local imams were tasked to inform with informing the public about these benefits of consuming tea. If black tea was difficult to find, sage tea was suggested as an alternative.⁵³ Apparently, tea was also considered a remedy for the disease ecology of the Ottoman fronts. Archival records show that authorities were advised to provide the soldiers with tea, rice mash, and soup during the Balkan Wars.⁵⁴ Tea's therapeutic reputation even reached the palace. In response to a cholera surge in December 1912, the doctor of the Topkapı Palace recommended drinking black tea with lemon at least twice a day.⁵⁵ The encouragement of tea consumption starting in the late nineteenth century mirror the development of tea culture.

The encouragement and discouragement of certain foodstuff in times of public health crises have more ingrained meanings than being the tools of state's biopolitical powers. For instance, in 1892, it was decided to open a Dutch auction for the procurement of tea for the Ottoman army for preventing the soldier's contraction of cholera.⁵⁶ Whereas these kinds of auctions created opportunities for financial gains, the prohibitions of the sale of foodstuff resulted in financial losses. Focusing on the cases of tax-farming [*iltizam*] contracts

53 BOA., BEO. 112-8338, 13 Teşrin-i Sani 1308 [25 November 1893]

54 Milli Savunma Bakanlığı Askeri Tarih Arşivi, 273-354 – 27, 110-9-1-7 / Balkan Harbi (1912-1913)

55 BOA., TS. MA. E, 1065-44, 29 Teşrin-i Sani 1328 [12 December 1912].

56 BOA., Y.MTV. 70-183, 7 Teşrin-i Sani 1308 [19 November 1892].

that were cancelled in the context of cholera epidemics, the next section will attempt to reveal the political-economic side of sanitizing Ottoman food market.

§ 3.4 Who will Shoulder the Financial Costs of Food Hygiene?:

Multiple Claims on “Benefit,” “Harm,” and Public Health

Unlike its contemporaries in Europe, the Ottoman Empire preserved tax-farming throughout the nineteenth century. Contrary to the perspectives that consider this as an anomaly or an archaic practice, Nadir Özbek argues that the delegation of tax collection to private individuals was “compatible with the attributes of a modern fiscal state, namely, centralized control over taxation and debt management.”⁵⁷ In this way, Özbek proposes, the Ottoman state was able to manage the “multifarious contingencies of the nineteenth century.”⁵⁸ In explaining the persistence of tax-farming practice -especially for the tithe [*aş'ar*]- in the nineteenth century, Özbek proposes two main reasons: the first is the Ottoman state's success in transforming the tax-farmers into more “controllable entities” by modifying them from powerful “provincial magnets” into “small-time entrepreneurs operating within the confines of a sub-district [*kaza*] or village”⁵⁹ The reduction of the geographical scope of tax farms aimed at diminishing the power wielded by tax farmers. The second rationale for the persistence of tax farming practices, according to Özbek, is the creation of more direct connections between the central ruling elite and emerging small-scale entrepreneurial tax farmers. In this reconfigured model of tax farming, novel political and economic alliances were formed between the state and the new tax farmers.⁶⁰ Through several alterations to tax-farming contracts over the century, the Ottoman state ultimately succeeded in increasing its revenue share. By the final decade of the century, the state delegated the risks and

57 Nadir Özbek, “Tax Farming in the Nineteenth-Century Ottoman Empire: Institutional Backwardness or the Emergence of Modern Public Finance?,” *Journal of Interdisciplinary History* 49, no. 2 (2018), 223.

58 Ibid., 224.

59 Ibid.

60 Ibid., 230.

responsibilities of tax collection to tax-farmers while closely monitoring their activities through the fiscal administration.⁶¹

In this section, I illustrate the connection between the hygienic policing of Ottoman foodscape and the tax farming process. I establish that the late nineteenth century cholera pandemics bore significant “hygienic contingencies” within the Ottoman foodscape with financial risks attached. To overcome these hygienic contingencies, the Ottoman state opted to externalize the emerging public health risks within the Ottoman foodscape especially to merchants and tax farmers. As a response, merchants and farmers referred to the moral authority and justice of the sultan and attempted to develop their own competing definitions of public good. Examining these conflicts between tax farmers and the state through a sanitation lens also offers valuable insights into the practical workings of food regulations at the everyday level.

3.4.1 *Ahali, Mültezim and the State in Conflict: Tax-Farming Fruit and Vegetables during the 1893-1894 Cholera Outbreak*

In May 1894 the tax-farmer [*mültezim*] Mehmed Salim submitted a petition to the Office of the Grand Vizier, summarizing his previous correspondence with the Ministry of Finance, the General Directorate for the Tithe, and himself. According to these correspondences, Mehmed Salim acquired the right to collect the tithe tax from the villages of Başbüyük and Eren in Kartal, Istanbul, for the year 1893.⁶² As mentioned before, during that year, Istanbul faced a severe cholera outbreak, prompting the government to implement various measures to curb its spread. Restrictions on the sale of certain food items, including eggplant, figs, melon, watermelon, and tomatoes, were among the precautionary measures taken. Eggplants, tomatoes, and figs held particular significance for Mehmed Salim. In his petition, he asserted that the local populace [*ahali*] owed him approximately five thousand gurus of *öşr*, in addition to other financial losses resulting from the ban on selling eggplants and figs. He sought the reimbursement of this amount either directly from the Ottoman government or from the local population, and this request was denied by

61 Ibid.

62 BOA., BEO. 406-30403, 5 Mayıs 1310 [17 May 1894].

the Ministry of Finance claiming that the tax-farmer owned risks associated with the tax collection process. Following this decision, Mehmed Salim penned another letter to the Council of State, seeking a remedy for this decision. According to Mehmed Salim, and in accordance with the terms and conditions outlined in his contract with the state, the tax-farmer was entitled to collect *öşr* regardless of circumstances, and it was the responsibility of the State to bear the risks associated with agricultural production.

In the following section of his letter, Mustafa Salim contemplated a hypothetical scenario, posing the question: If, instead of an auctioning process, the government were to assume the responsibility of directly collecting the *öşr* through its own administrative channels [*emaneten idare*], would it be feasible for the state to gather taxes from the people for a crop, whose sale was prohibited for medical reasons [*tibben fûruhtu men edilen*], or would it rather bear the financial costs itself? Mustafa Salim's petition ends with praising the justice of Sultan, urging for a fair resolution to his case.⁶³ In a way, Mustafa Salim was appealing to the "moral authority"⁶⁴ of the Sultan, and was expecting the ruler to end this injustice.

Mehmed Salim and the Ministry of Finance both adopt a discourse centered around legality, referencing the "terms and conditions of the contract,"⁶⁵ although they differ in their interpretations of these terms under the influence of *force majeure*. The Ministry of Finance promptly responded to Mehmed Salim's request within a month, deeming his appeals essentially inadmissible. This response provides intricate details concerning the dynamics among the

63 BOA., BEO. 406-30403, 5 Mayıs 1310 [17 May 1894].

64 In his analysis of conflict between the people of Vranje and the governor Huseyin Pasha in the context of Tanzimat reforms, Cengiz Kırılı demonstrates how the former attempted to appeal to the moral authority of the sultan. Using petition as a medium and embracing the legal language of the Tanzimat reforms, the people sought compassion from the Sultan to end the injustices and violence that they suffered. See: Cengiz Kırılı, "Tyranny illustrated: from petition to rebellion in Ottoman Vranje," *New Perspectives in Turkey* 53 (2015): 3-36.

65 As Özbek's analysis reveals, from 1839 until 1908, the Ottoman government prepared several regulatory frameworks focusing on the contracts type between the tax-farmers and the state. The modifications had an overall impact of strengthening the government control over the tax farmers. See, Özbek, "Tax Farming."

state, the gardeners [*bahçıvan*], and the tax-farmer [*mültezim*], and illustrates how cholera disrupted this relationship. Evidently, the *bahçıvan esnafı* took legal action against Mehmed Salim, contending that he sought the *öşr* for products the *ahali* could not sell due to imposed bans, specifically citing tomatoes, eggplants, and figs. Finance Minister Ahmed Nazif Paşa unequivocally asserted that Mehmed Salim had no entitlement to claim tithe tax since the *ahali* could not sell the eggplants and figs. The earnings generated from the limited sales were allegedly utilized for the expenses incurred in cultivating these products. The situation regarding tithe rights for tomatoes, however, was more complicated. It appears that the *ahali* managed to sell some tomatoes before the bans were imposed, prompting Mehmed Salim to request five thousand *guruş* on this basis. From the producers' standpoint, they could not sell as many tomatoes as planned and sought amnesty for the tithe on tomatoes as well. Ahmed Nazif Paşa, however, emphasized that producers sold the initial crop of tomatoes before the bans were implemented, and the remaining products were processed into puree [*pelte*], following standard practice. Although the whereabouts of the five thousand *guruş* remain unclear, Ahmed Nazif Paşa rejected Mehmed Salim's plea for compensation of financial losses from either the *ahali* or the state. Instead, he proposed that both the benefits and the costs should be shouldered by the tax-farmer.⁶⁶

Özbek's analytical framework provides explanation for Mehmed Salim's vulnerability. Accordingly, the tax-farming model of the 1890s came at a double price for the tax-farmers. On the one hand, the government increased their power vis-à-vis the small tax farmers. On the other hand, there was an increasing resistance from the taxpayers.⁶⁷ While the state allegedly saved the taxpayers from the oppression of the tax farmers, the latter were left at the mercy of the market which was resulted in bankruptcy in some cases.⁶⁸ In this case, we observe how the Ottoman government embraced the discourse of sanitation and public health for arbitrating a tax conflict, and saving the state from the headache of shouldering the financial burden. The same sanitary discourse was embraced by the tax-farmer himself while also communicating with the

66 BOA., BEO. 406-30403, 8 Haziran 1310 [20 June 1894]

67 Özbek, "Tax farming," 242.

68 Ibid.

“moral authority” of the sultan, as mentioned above, alongside the producers and the consumers.

While the *mültezims* aimed to leverage the moral authority of the Sultan, the urgencies of the pandemic also provided a conducive environment for the government to seize the properties of *mültezims* who were unable to settle their tax-farming-related debts to the state. This supports Özbek’s aforementioned argument. During the 1893 cholera outbreak, *mültezims* Mehmed Ali from Dolayoba and Mustafa from Şeyhli villages in Istanbul submitted a petition to the Ottoman government, echoing Mehmed Salim’s concerns. They had acquired the tax farming rights of several villages around Kartal, Istanbul, in 1893, but were unable to collect the tithe tax due to cholera-related state-imposed bans. The loss of products such as melon, watermelon, tomatoes and eggplants amounted to a financial setback exceeding 2,000 *gurus*. While expecting state compensation, the Treasury confiscated some properties owned by Mehmed Ali, Mustafa and their guarantors, leading to the devastation of fifteen households. In their petition, they appeal to the Office of the Grand Vizier to nullify the judgement made by the Ministry of Finance,⁶⁹ seeking compassion and mercy from their almighty Sultan. In response, Finance Minister Hüseyin Tevfik referred to the precedent set in Mehmed Salim’s case and recommended the Council of State to reject the tax-farmers’ request.⁷⁰ It is noteworthy how the Ministry of Finance’s decision in Mehmed Salim’s case served as a precedent for subsequent conflicts between the state and the tax farmers, indicating a continuity in the state’s approach in this specific issue.

It took twelve years for the case involving Mehmed Ali and Mustafa to be resolved. In 1906, the Local Treasury Director [*Mal Müdürü*] of Kartal wrote a letter to the Office of the Grand Vizier, emphasizing their inability to sell the confiscated property of Mehmed Ali and Mustafa due to the unresolved status of the case.⁷¹ Surprisingly, in 1919, Mehmed Ali and Mustafa emerged victorious in the case, even though Mehmed Ali had already passed away by that time. According to the decision based on the Regulation on the Tithe [*Aşar Nizamnamesi*] Mehmed Ali’s financial loss, totaling around 150,000 *guruş* was

69 BOA., ŞD. 2983-5, 28 Haziran 1313 [10 July 1897]

70 BOA., ŞD. 2983-5, 23 Teşrin-i Evvel 1313 [4 November 1897]

71 BOA., ML.EEM. 778-40, 28 Şubat 1321 [3 March 1906].

to be deducted from the amount he paid to acquire the tax-farming rights of specific villages in Kartal.⁷²

3.4.2 *Vested interest in the Shadow of the Fish and Water: Fishing Bans in 1910 Cholera*

Similar conflicts, contestation and resistance were also evident in fishing activities. Fishing played a crucial role in the economic life of Ottoman Istanbul, with seafood being an essential component of the Ottoman food regime. While the information about the number of fishermen and the quantity of fish consumed during the classical age is limited, we do have some insights into the methods and organization of fishing activities during this period. During this era, fishing activities were overseen by *balık emini*, whose primary mission was to provide the palace with enough amount of fish. The *emin* used to buy the right to control the fishing activities, wholesaling, and collecting the relevant dues through yearly tax farmings throughout the nets set up on poles (*dalyan*) into the bottom of the Bosphorous and the Sea of Marmara. According to Evliya Çelebi's and Eremya Çelebi's narratives, *dalyans* existed along the both side of Bosphorous, Beykoz being one of the most significant sites.⁷³ With the establishment of *Dûyun-u Umumiye* in 1881, *Balıkthane Nezareti* has been established and the tax on fish started to be collected by this administration until 1923.

As Suraya Faruqi demonstrates in reference to the account of Karekin Deveciyan, most of the technologies and methods used in fishing during the classical age – such as the *dalyans* and *volis* survived up until the twentieth century. The investment costs of the *dalyans*, however, have increased to a value between 200 and 1000 Ottoman gold coins. This rise is due to increasing number of personnel needed in comparison to the seventeenth century, alongside the vehicles needed such as *mavna* and *kayıks*, and the change in materials needed to establish the weirs –iron, instead of wood.⁷⁴ Deveciyan therefore

72 BOA., MV. 260-11, 9 Şubat 1335 [9 February 1919].

73 Suraiya Faruqi, "Fish and Fishermen in Istanbul," in *Water on Sand: Environmental Histories of the Middle East and North Africa*, ed. Alan Mikhail (Oxford: Oxford University Press, 2013), 95.

74 Faruqi, "Fisher and Fishermen in Istanbul," 101.

warned investors in *dalyans* that they would need not only significant financial reserves but also a good deal of experience and know-how, as mistakes could quite easily result in the bankruptcy of an incautious investor.⁷⁵ What Deveciyan does not mention are the risks that pandemics pose and the potential state interventions that could cause financial and operational hazards within this framework.

Ottoman archival documents reveal the persistence of tax-farming practices in fishing until the early twentieth century. As an illustration, as mentioned at the beginning of this chapter, Mustafa Rifat, the son of Hacı Emin, from Aksaray acquired the tax-farming rights for fishing in specific regions of Terkos lake for a three-year period through an agreement with the Ministry of Foundations. Fishing activities around Terkos lake had an interesting story that relates with the establishment of Dersaadet Water Company. After a prolonged dispute with the Bezm-i Alem Valide Sultan Foundation over its use of resources around Terkos Lake, Dersaadet Water Company secured exclusive fishing rights through a formal agreement in 1887. The contract granted the company the right to fish in the lake and manage operations independently for a period of three years, in exchange for an annual payment of 200 guruş to the Evkaf-ı Hümayun Treasury, paid in quarterly installments. Additionally, the company was authorized to construct and maintain water channels, as well as carry out repairs and modifications on the lake's shore, allowing them to control both fishing and water infrastructure in the area.⁷⁶ As Mehmet Kentel shows, this new arrangement marked a shift in control over Terkos Lake's resources, as Dersaadet Water Company expanded its reach to include fishing, adding it to its economic ventures. Restrictive policies on local fishing contrasted with the lake's rising appeal among Istanbul's elites as a leisure site, particularly for European-style hunting.⁷⁷ It was in this precedent

75 Ibid.

76 İlhami Yurdakul, *Aziz Şehre Leziz Su: Dersaadet (İstanbul) Su Şirketi, 1873-1933* (İstanbul: Kitabevi, 2010), 56-57.

77 Kentel, "Assembling 'Cosmopolitan' Pera," 176-178. For a contemporary analysis see Irmak Ertör's research on small-scale fishermen and fishing communities. Ertör reveals how "blue justice" demands emerge in response to the ecological and social injustices faced by this social

that Mustafa Rifat submitted his petition to Istanbul Municipality's contracts office in December 1910, detailing that his contract encompassed a three-years usufruct, wherein he committed to an annual payment of 40,000 gold coins. Mustafa Rifat specified that the payment was to be made in two installments each year.⁷⁸

In 1910, Istanbul faced another deadly cholera outbreak, with a high number of fatalities underscoring the urgent need for safe water and effective sewage infrastructure to combat water-borne diseases like cholera, typhoid, and dysentery. As will be shown in the next chapter, authorities had implemented strict prohibitions on using water sources, which were deemed potential sources of contamination. The establishment of private water companies and the imperial Hamidiye waterworks in the early twentieth century further complicated the landscape. Alongside disputes over fishing rights in Terkos, private companies and state-run water projects clashed over issues of water purity and infrastructure. This competition, driven by conflicting interests, led to frequent disputes about the cleanliness and safety of the water supplied by each provider.⁷⁹

Following the surge in cholera cases in Istanbul, the Ottoman state imposed a ban on fishing activities at Terkos Lake for an unspecified duration. This prohibition had two primary reasons. Firstly, fishing activities posed a risk of contaminating the lake. Secondly, authorities were concerned that the fish could serve as a vector for cholera, carrying the cholera bacterium from the lake to those who consumed them. This move coincided with the winter season, which was the only time fishing activities were permitted, and lucrative for profit generation as emphasized in the petition of tax-farmer Mustafa Rifat. He proceeded to outline the financial repercussions of this prohibition. He mentioned having already paid 100 *liras* each to 30 fishermen and entered into an agreement with Bulgarian merchants, committing to supply them with 20,000 *kıyye* of salted fish. He underscored that if the prohibitions persisted,

group due to the spread of industrial fishing. Irmak Ertör, "‘We are the oceans, we are the people!’: Fisher People's Struggles for Blue Justice," *The Journal of Peasant Studies* 50, no. 3 (2023): 1157-1186.

78 BOA., DH. ID. 36-6, 8 Kanun-ı Evvel 1326, [21 December 1910].

79 BOA., DH. MKT 1303-33, 29 Teşrin-i Evvel 1324 [11 November 1908].

he would be compelled to compensate each fisherman with 200 *liras* and reimburse the financial losses incurred by Bulgarian merchants due to the failure to deliver the agreed-upon salted fish. Additionally, he would need to cover the installments paid for his *iltizam* rights. According to Mustafa Rıfat's calculations, the prohibition would also result in a missed opportunity to catch approximately 60,000 *kıyye* of fish, each yielding around 1 *guruş* in profit. In conclusion, his petition requested reimbursement for the aforementioned costs and the potential loss of profit should the prohibitions endure.⁸⁰

Mustafa Rıfat's petition serves as another illustration of how food-control mechanisms, particularly in the context of epidemics, intersect with the broader socio-economic order. Like other tax-farmers discussed in this chapter, Mustafa Rıfat was a profit-seeking individual with the goal of maximizing his gains. What adds intrigue to his petition is his emphasis on the Dersaadet Water Company and subtle allegations regarding the collaboration between the state and the company. In the petition, Mustafa Rıfat echoes the Ottoman state's hygienic motivation that the hunting prohibitions were implemented safeguard the health of the people of Istanbul [*İstanbul ahalisinin muhafaza-ı sıhhati*]. Yet, he also did not refrain from highlighting the collaboration between the company and the state, implying that these measures were taken not only for the sake of the public good, but also to protect the company's interest [*su kumpanyasının zarardan sıyaneti*].⁸¹ Consequently, even boating on the Terkos was prohibited to minimize the risk of contaminating the lake, which underwent regular sampling to check for the presence of cholera bacterium. Mustafa Rıfat, in a way, accused the Ottoman state of prioritizing the interest of Dersaadet Water Company at the expense of his own. "Even though it is not my place to object these decisions" Mustafa Rıfat continues referring to a *fiqh* principle, "necessity does not invalidate the right of another" [*ıztırâr gayrın hakkını iptal etmez*].

Invoking legal, sanitary, and religious language simultaneously, Mustafa Rıfat's petition provides a basis for deconstructing the language of public good. The public health bans imposed by the Ottoman state in the name of

80 BOA., DH.ID. 36-6, 8 Kanun-ı Evvel 1326 [21 December 1910].

81 BOA., DH. ID. 36-6, 18 Kanun-ı Evvel 1328 [21 December 1910].

broader public interests also entailed conflicting financial stakes among various social actors. It appears that Dersaadet Water Company's primary concern was not the public health of Istanbul's residents, but rather the risk of lake's contamination and potential bans on the company's water provisioning to the city. Thus, while the Company sought to protect its financial gains, the tax-farming rights of Mustafa Rifat were jeopardized. As this example demonstrates, each actor involved in the case –namely, the state, the company, and the tax-farmer- had a unique definition of “harm” and “benefit” shaped by their position in society. The Ottoman ministries alongside the municipal and local authorities involved in this case participated in “commanding right” and “forbidding wrong” in the early twentieth-century context. Furthermore, although the Dersaadet Water Company's exclusive fishing rights in Terkos Lake ended by the early twentieth century, they remained indirectly involved in the area's resource use, notably by obstructing Mustafa Rifat's fishing activities.

It appears that *Şehremaneti* was not part of the ongoing discussion. In response to Mustafa Rifat's petition, *Şehremini* Suphi wrote to the Ministry of Interior, stating that he was unaware of the fishing ban in Terkos Lake. Despite his exclusion from the initial discussion, Suphi aligned himself with the Ottoman government, asserting that Mustafa Rifat's requests are inadmissible. According to Suphi, Mustafa Rifat was entitled only to seek reimbursement for the rental costs incurred during the period when hunting was prohibited. Suphi contended that it did not make any sense to compensate Mustafa Rifat for costs stemming from his contracts with Bulgarian merchants and fishermen.⁸² Two months following Mustafa Rifat's petition, in February 1911, the quarantine surrounding Terkos Lake was lifted through a decree issued by the Public Health Council. However, in March 1911, Governor of Çatalca, Mehmed Celaledin, penned a letter to the Ministry of Interior, reporting that constabulary officers were still hindering the *iltizam* holders from fishing at the lake, resulting in ongoing financial losses. Mehmed Celaledin sought an official decree from the Ministry of Interior to clarify the removal of the

82 Ibid.

fishing ban.⁸³ Evidently, there existed a disagreement among various bureaucratic units of the state regarding the enforcement of the fishing ban removal.

What does the relationship between tax-farming and hygienic interventions in the Ottoman foodscape during cholera outbreaks reveal? The outbreak posed a threat to all actors involved in food production, trade, and sale—including producers, tax-farmers, merchants, state officials, and consumers. The Ottoman state's interventions to control the outbreak challenged established boundaries of what these actors considered “just,” in terms of both legality and legitimacy. From the state's perspective, tax-farming the tithe rights on certain foodstuffs presented an opportunity to offload the financial burden of implementing hygienic measures in the late Ottoman foodscape. This approach not only provided flexibility but also gave the Ottoman state an additional tool for controlling the food market. As Fahmy has shown, the overt authority of the *muhtasib* was replaced by the more covert power embedded in the legal contracts of tax-farming. This underlying dynamic became even more apparent in the state's interventions to prevent food adulteration and fraud.

The involvement of companies like the Dersaadet Water Company in resource use exemplifies this layered control. Although the company's exclusive fishing rights in Terkos Lake ended by the early twentieth century, it continued to influence local resource access by obstructing individuals like Mustafa Rifat from fishing. Such indirect interference reflects the broader tensions between private control and state-led hygienic and regulatory measures aimed at safeguarding public health and order in the food supply

83 Ibid.

§ 3.5 Ottoman Attempts to Control Food Adulteration and Food Fraud: The Case of Ghee Trade

3.5.1 *Putting Fraud and Adulteration in Historical Context*

3.5.1.1 The European Case

If one motive of the Ottoman state to intervene into the food market to prevent the emergence and dissemination of epidemics, especially that of cholera, the other one was protecting individual and public health through prohibiting food fraud and adulteration. The prevalence of food adulteration and fraud escalated during the late eighteenth and early nineteenth centuries. The rise in adulteration was a consequence of rapid industrialization, urbanization, and capitalism, factors that collectively widened the gap between food producers and the general population. Additionally, as agriculture became more commercialized there was a gradual removal of local-level regulations on food.⁸⁴ The population growth of the nineteenth century further contributed to this problem. The rise in population has led to increased pressure on food supplies.⁸⁵ In addition to structural developments, individual motives of retailers and producers engaging in food adulteration encompassed the desire to cheapen the product and alter its color and appearance to enhance competitiveness. Some scholars took a radical approach and called for the necessity of reading adulteration as an innovation, i.e. the introduction of chemistry into the food industry, considering it as a natural component of internationalization of trade and urbanization.⁸⁶ In the “Sıhhate İtina” column of *Şehbal* magazine, Dr. Galip Ata expressed all these issues related to food adulteration

84 John Burnett, “The History of Food Adulteration in Great Britain in the Nineteenth Century, with special reference to Bread, Tea and Beer” (D. Phil. Thesis, University of London, 1958).

85 Edward J. Collins, “Food Adulteration and Food Safety in Britain in the nineteenth and Early twentieth Centuries,” *Food Policy* 18, no. 2 (1993): 95–109.

86 Alessandro Stanziani, “Negotiating Innovation in a Market Economy: Foodstuffs and Beverages Adulteration in Nineteenth-Century France,” *Enterprise and Society* 8, no. 2 (2007): 375–412.

clearly: “As civilization advances, it becomes increasingly difficult to find pure food.”⁸⁷

Adulteration not only resulted in financial losses for consumers but also presented health hazards especially for the working classes.⁸⁸ Consequently, food analysis and legal actions by the state were deemed necessary in both Europe and the Ottoman Empire to address these issues. In Great Britain, for instance, the problem of food adulteration was first iterated by Frederick Accum in his report titled “Treatise on Adulteration of Food and Culinary Poisons.”⁸⁹ The problem in the country peaked around 1850s and further research conducted by chemists and doctors in the mid-nineteenth century uncovered that essential components of the British diet, including bread, tea, beer, cocoa, and sugar, were frequently adulterated or mixed with substances such as alum, starch, and even hazardous elements like arsenite, copper, and sulphate. There was also a societal response. Anti-Adulteration Association was founded in February 1871, and demanded effective legislation. As a response, Adulteration of Food, Drink and Drugs Act was promulgated in 1872, and the Sale of Food and Drugs Act was issued in 1875. These acts established the public analyst as an actor to conduct research on foodstuffs of the markets.⁹⁰

However, despite these legislative measures in England, the food analyses over the last two decades of the nineteenth century in the country revealed that more than 19 percent of randomly sampled food was adulterated. Despite heightened public awareness, facilitated by articles in publications such as *Lancet* and alarming national statistics, food fraud persisted in the country during the late nineteenth and early twentieth centuries.⁹¹ Notably, over 19 percent of randomly analyzed food samples were found to be adulterated in the late 1870s. Despite these figures decreased to 8 percent by 1913 and the

87 Galip Ata, “Sıhhate İtina: Sıhhat ve Medeniyet,” *Şehbal* 4, no. 87 (1 Kanun-ı Evvel 1329 [14 December 1913]): 292-293.

88 Collins, “Food Adulteration and Food Safety in Britain.”

89 Ibid.; Burnett, “The History of Food Adulteration in Great Britain.”

89 Burnett, “The History of Food Adulteration in Great Britain,” 90. P. J. Rowlinson, “Food Adulteration Its Control in nineteenth Century Britain,” *Interdisciplinary Science Reviews* 7, no. 1 (1982), 6.

91 Collins, “Food Adulteration and Food Safety in Britain.”

adulteration was less of a problem during the twentieth century, the practice still persisted in domestic and international trade throughout the twentieth century.⁹² With the advancements in chemistry at the turn of the twentieth century, preservatives and/or additives began to be employed to prevent the perishability of foodstuffs, a process that Collins calls as the “legalized adulteration.”⁹³

The obsession with food quality, fraud and adulteration led to the establishment of laboratories across Europe. While Brussels was among the first cities to set up a laboratory,⁹⁴ similar facilities were also established in Great Britain, Germany, France and the Ottoman Empire. These institutional developments involved multiple power struggles among various actors. For instance, Derek Oddy highlights how conflicts between local authorities and the chemists arose due to food analyses in London, questioning how these debates influenced policy-making.⁹⁵ Similarly, Alessandro Stanziani examines the compromises and conflicts among stakeholders, such as consumers and others in the food chain, in late nineteenth century Paris.⁹⁶ Vera Hierholzer emphasizes the role of citizen association in unified Germany in developing food control mechanisms and investigates how these establishments contributed to the emergence of food control norms and the punishment of those who challenged them.⁹⁷

92 Ibid.

93 Ibid.

94 Peter Scholliers, “Food Fraud and the Big City: Brussels’ Responses to Food Anxieties in the Nineteenth Century,” in *Food and the City in Europe since 1800*, ed. Peter Atkins, Peter Lummel, and Derek Oddy (Hampshire: Asghate, 2006), 77–90.

95 Derek Oddy, “Food Quality in London and the Rise of the Public Analyst, 1870–1939,” in *Food and the City*, 91–104.

96 Alessandro Stanziani, “Municipal Laboratories and the Analysis of Foodstuffs in France under the Third Republic: A Case Study of the Paris Municipal Laboratory, 1878–1907,” in *Food and the City in Europe since 1800*, ed. Peter Atkins, Peter Lummel, and Derek Oddy (Hampshire: Asghate, 2006), 105–116.

97 Vera Hierholzer, “The ‘War Against Food Adulteration’: Municipal Food Monitoring and Citizen Self-Help Associations in Germany, 1870s–1880s,” in *Food and the City in Europe since 1800*, ed. Peter Atkins, Peter Lummel, and Derek Oddy (Hampshire: Asghate, 2006), 117–128.

3.5.1.2 *Halis* or *Mahlut*? The Ottoman Context

Parallel food regulation initiatives and codification efforts were observed in the Ottoman Empire during the late nineteenth and early twentieth centuries. These regulations initially targeted two primary concerns: first, prohibiting the trade and consumption of spoiled food; and second, preventing adulteration and fraud by banning the mixing of foodstuffs with harmful substances. These measures were often complemented by temporary bans enacted during cholera outbreaks, such as the prohibition on selling melons during the 1893 epidemic or restrictions on fishing during the 1910 cholera outbreak.

Such measures required oversight of individuals and entities involved in food production, trade, and distribution. The law became a crucial tool for establishing a normative framework to combat food fraud and adulteration. While there was often a gap between these legal principles and their practical implementation, analyzing the legal landscape provides insight into the ideal envisioned by Ottoman bureaucrats and municipal officials. This analysis also sheds light on the actors responsible for policing the Ottoman foodscape. Only after such an examination can we assess the continued relevance of *hisba* norms in the nineteenth and early twentieth centuries.

One of the earliest attempts at codifying food control in the Ottoman Empire is evident within the framework of Criminal Law. Article 257 of the 1858 Criminal Law prohibits the sale of rotten fruit and vegetables that pose a threat to public health, this article provides a legal basis for punishment in cases of rule violations.⁹⁸ The urban regulations of the same era include more detailed provisions related to food regulations, taking Article 257 of the Criminal Law as a reference point. For example, the Regulations on the Streets [*Sokaklara Dair Nizâmnâme*] (1858) views the food problem as integral to regulating the urban space and urban hygiene, for instance, by imposing restrictions on animal slaughter and the sale of meat to specific urban locations but also include clauses on the spatial organization of butcher shops.⁹⁹ Mainstream urban

98 Ahmet Akgündüz, *Mukayeseli İslam ve Osmanlı Hukuku Külliyyatı* (Diyarbakır: Dicle Üniversitesi Hukuk Fakültesi Yayınları, 1986), 875.

99 For instance, Articles 61-67 of this regulation aim to establish an ideal framework for sanitary conditions in bread production. These articles stipulate that bread should be made from clean

historiography frequently interprets the 1858 Regulation on the Streets as a measure aimed at enhancing and standardizing Istanbul's urban fabric within the context of the city's westernization.¹⁰⁰ However, a meticulous examination of the articles reveals that this regulation aspired -at least on paper- to more than just the reconstruction of Ottoman streets; it sought to regulate and oversee various elements and participants integral to Istanbul's urban life including but limited to the production and trade of foodstuff.

In the subsequent decades, the actors who were involved in policing the foodstuff in Ottoman Istanbul were multiplied. For instance, 1871 Regulation on the Duties of the of Municipality Sergeants [*Devâir-i Belediyeye Çavuşlarının Vezâifine Dair Talimatnâme*] authorized the sergeants for the inspection of foodstuff with the aim of identifying non-sanitary elements. This regulation includes a specific clause on the sale of different types of oil that are sold in shops and markets, ghee in particular, as well as cheese. Accordingly, it was outlawed to sell adulterated ghee and cheese (or ghee and cheese that were mixed with non-sanitary substances) in shops.

As will be shown below in more detail, the regulation of milk and dairy goods were among the most significant elements of regulating late Ottoman Istanbul's foodscape, especially in the context of international trade. The Council of General Health [*Meclis-i Sıhhiye-i Umumiye*] which was established in 1883 with a view to convene once a month, for instance, used to investigate the complaints about the foods and drinks that were sold in Istanbul, and arriving at Istanbul customs.¹⁰¹ In 1887, the Ministry of Interior issued a notification to the provinces regarding different types of adulterated oils, such as ghee, which were being imported from overseas and distributed in the Ottoman markets. The authorities emphasized the importance of conducting thorough bacteriological analyses on imported food items at customs. According to Feza Günergun's research, chemical analyses for foodstuff in the Ottoman Empire were conducted during the second half of the nineteenth and early twentieth centuries. During this period, the Ottoman state employed

wheat flour, free from mold, and should not be adulterated with any harmful substances. See: Ergin, *Mecelle*, vol. 4, 1792.

100 See for instance, Çelik, "Remaking Istanbul."

101 Yıldırım, "Osmanlı Devleti'nde Gıda Kontrolü."

laboratories within the Medical School, Military School, and the pharmacy at Yıldız Palace. Private pharmacies and laboratories were also engaged in these analytical processes. Günergun highlights the importance of the laboratory at the Istanbul customs department for analyzing foodstuff and other imported substances. She argues that this laboratory collaborated with the laboratories of the Military Medical School. In cases of conflicts between merchants and the customs laboratory, the Military Medical School acted as a mediator.¹⁰²

Two Ottoman archival documents shed light on the scope of food analysis conducted between 1891 and 1900. These documents detail the analysis of 101 food items, providing information on sample quantities taken, the amount analyzed, and the food sent to the Office of Public Prosecutors [*Müdde-i Umumi*]. Although they do not specify where these food samples were sourced, the list of items offers some clues. The inclusion of cacao, chocolate, coffee, tea, rum, and cognac—alongside oranges, milk, and flour—indicates that both imported and domestic products were subjected to chemical analysis prior to the twentieth century.¹⁰³ This confirms Fahmy's argument that the Ottoman state gradually moved away from the direct enforcement methods of the *ihtisab*, where the *muhtasib* held immediate authority over market regulation. By the late nineteenth century, the state had embraced a new, more institutionalized approach to food control. Now, chemists in laboratories and prosecutors in courtrooms were the enforcers of food purity, marking a shift from visible market oversight to a concealed, scientific, and legal apparatus dedicated to public health and market integrity. This transformation reflects the Ottoman state's adaptation to modern regulatory practices, wielding the tools of science and law to safeguard its citizens.

102 Feza Günergun, "Chemical Laboratories in Nineteenth-Century Istanbul: A Case- Study on the Laboratory of the Hamidiye Etfal Children's Hospital," in *Spaces and Collections in the History of Science The Laboratorio Chimico Overture*, ed. Marta C. Lourenço and Ana Carneiro (Lisbon: Museum of Science of the University of Lisbon, 2009), 91-92.

103 BOA., Y.PRK.ŞH., 11-127, no date available; BOA., Y.PRK.ŞH., 50-1, no date available.

THE POLITICS OF HYGIENE

[illegible]

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Figure 3.1

The list of food that was analyzed to identify adulteration and fraud. SOURCE BOA., Y.PRK.ŞH. 11-127, (n.d).

The chemical analysis of the foodstuff was an arduous task given the limited number of personnel and their unpaid salaries, as well as the disagreements among different bureaucratic units. Nonetheless, these earlier practices might have set the ground for the Regulation on Sanitary Inspection to be Conducted by Customs [*Gümrüklerce İcrâ Edilecek Muâyene-i Sıhhiyeye Dâir Nizâmnâme*] of 1906. This latter regulation was promulgated to inspect the hygienic and sanitary conditions of the imported chemical and pharmaceutical materials, and foods such as oil, flour, coffee, and tea. To this aim, a laboratory was established within Istanbul Municipality's Custom Office, which would employ a chief chemist, three chemists, and a bacteriologist to conduct the necessary analyses. The laboratory was to have a branch with three chemists at International Commodity Customs of Galata [*Galata Emti'a-i Ecnebiye Gümrüğü*] and customs offices at İzmir, Salonica, Trabzon, Shkodër, Beirut, Alexandria, Basra and Tripoli ports were required to employ a chemist. These professionals were tasked to analyze the abovementioned imported materials to control whether they contain any health hazard. In case the material was found improper for import, it would be returned to the country of origin.¹⁰⁴ These regulations enhanced the practice of conducting chemical analysis for both domestic and international products. An Ottoman archival document from 1911, in the context of 1910-1911 cholera outbreak, provides some details regarding the nature of chemical analysis. Accordingly, samples were collected from several foodstuffs such as yoghurt, oil, cognac, wine, lemonade, and bread, and they were found impure and including hazardous components. Accordingly, whereas ghee and olive oil were mixed with margarines and cotton oil, the drinks such as lemonades and soda were sold in dirty bottles and were consisting unhealthy substances. The circulation of foodstuff under these conditions would facilitate the spread of epidemic diseases and have harmful impact on the public health of the country.¹⁰⁵

It should be noted that the increasing attention paid to the Ottoman customs regulations on food trade for hygienic purposes took place in the broader context of increasing international food trade. By the beginning of the

104 Ergin, *Mecelle*, vol. 6, 3077-3081.

105 BOA., DH. MUI., 149-65, 19 Şevval 1329 [13 October 1911].

nineteenth century, the Ottoman reform movement which was intertwined with integration into the world economy, fostered transformations in agriculture and trade. The Ottoman state's financial needs for reforms as well as the difficulties faced in controlling centrifugal forces pushed the government to seek for external support, often at the price of economic concessions.¹⁰⁶ The 1838 Baltalimanı Free Trade Treaty with Great Britain, for instance, was signed in the context of the crisis in Egypt and was soon followed by similar agreements with other European states. In a nutshell, free trade policy reduced Ottoman customs in favor of the European merchants and opened Ottoman territories to European capital and foreign investments, which had important reverberations for the Ottoman economy in general and the agricultural sector in particular. As Şevket Pamuk puts forward "The Ottoman economy, and that of Anatolia in particular, was transformed into an economy that was exporting large volumes of agricultural commodities and raw materials while importing in exchange manufactured products and some food items."¹⁰⁷ The volume of agricultural export was quite large and approximately one-fourth of the total agricultural production was being exported on the eve of the First World War, according to Pamuk's calculations.¹⁰⁸ Exported agricultural products were mainly tobacco, wheat, barley, raisins, figs, raw silk, mohair, hazelnuts, opium, cotton, and olive oil. There were regional divergences in terms of integration into the World economy, and market relations took different forms and shapes in different parts of the Empire.¹⁰⁹ Overall, as Pamuk says, "When production for export is combined with production for urban markets, close to but less than half of the agricultural production was being produced for markets on the eve of World War I."¹¹⁰ As a result of these developments, market and export oriented production have replaced subsistence based

106 Şevket Pamuk, *Uneven Centuries: Turkey's Economic Development Since 1820* (Oxford, Princeton: Princeton University Press, 2018), 112.

107 Pamuk, *Uneven Centuries*, 115.

108 Ibid.

109 Ibid., 121.

110 Ibid.

agriculture.¹¹¹ Though Pamuk puts more emphasis on exportation of foodstuff rather than their import, the figures provided by the British consular reports and Ottoman archival documents concur that the importation of foodstuff was also common and was crucial in Ottoman Empire's sanitary control mechanisms.¹¹²

3.5.2 Ottoman Milk Question: Policing the Ghee Trade

One of the primary drivers of food fraud was the escalating international competition in the food and beverage industry. The surge in imports prompted producers and retailers to manipulate the composition of foodstuffs. This inclination was particularly noticeable in milk and dairy products, which constituted a substantial portion of the food examined in newly established laboratories.¹¹³ Examining the challenges related to domestic and international trade, and production of ghee in Istanbul offers valuable insights into the intricate dynamics of how food sanitation intersected with international trade. Bringing a hygienic point of view to the issue, this analysis aims provide insight into the socio-economic context in which the aforementioned "milk legislations" were developed and implemented. It also sheds light on how the involved actors positioned themselves within the legal and normative hygienic framework outlined earlier.

Despite the sanitary challenges involved in their production and trade, essential dairy products like milk, cheese, yogurt, butter, and ghee were integral to the daily diet and cuisine of the Ottomans. Given their perishable nature, these items were supplied to Istanbul and other Ottoman cities from nearby

111 Şevket Pamuk, *Osmanlı-Türkiye İktisadî Tarihi 1800-1914* (İstanbul: İletişim, 2005), 216; Türkkan, *Feeding Istanbul*, 4.

112 See for instance: House of Commons Parliamentary Papers, "Diplomatic and Consular Reports, Turkey: Report for the Year 1906 on the Trade and Commerce of the Consular District of Smyrna," No. 3921 (London: 1907), 15; House of Commons Parliamentary Papers, "Diplomatic and Consular Reports, Turkey: Report for the Year 1910-1911 on the Trade of Smyrna," No. 4809 (London: 1911), 16; House of Commons Parliamentary Papers, "Diplomatic and Consular Reports, Turkey: Report for the Year 1908 on the Trade of Constantinople and District," No. 4188 (London: 1909), 15.

113 According to Peter Scholliers' research, for instance, milk and butter constitutes 47% of the total foodstuffs that were analyzed in 1913. See: Scholliers, "Food Fraud and the Big City," 87.

creameries and farms. Silivri and Çatalca were crucial centers for providing dairy products to Istanbul. Yoghurt came from Eyüp, Kasımpaşa, and Kanlıca, while Eyüp and Üsküdar were renowned for their curd. Cheese, being less perishable, could be traded from more distant places like Izmit and even the Balkan provinces. Butter and ghee held significance in both the Ottoman palace and the wider population.¹¹⁴ Ghee, specifically used for cooking, was produced by heating butter, sometimes adding salt at the end of the process. Boiling down the material separated water, milk solids, and proteins from the butter, making ghee more suitable for storage. According to a report by certain Ekrem Bey, despite the crucial role ghee and butter played in Ottoman diet and cuisine, there were challenges involved in butter production due to the significant time, effort, and resources it required. Furthermore, the absence of a well-organized oil production workshop meant that butter production was insufficient to meet the population's needs.¹¹⁵ Agricultural record books confirm Ekrem Bey's point. In 1913, consular records indicated that out of approximately 8.5 million *kıyye* of milk produced in Istanbul, only 36,800 *kıyye* of butter was made.¹¹⁶ While the available records lack details on ghee production, it is likely that it was inferior to butter. Considering the population pressures of the time, the survival of Ottoman Istanbul and other major cities depended on the trade of both domestic and foreign ghee and butter. Clues may be found in consular trade reports, such as the importation of 185 tons of butter at the Izmir port in 1905, 304 tons in 1906, 125 tons in 1908, 33 tons in 1909, and 61 tons in 1910. Istanbul imported 224 tons of butter between March 1907 and February 1908.¹¹⁷ Ottoman archival records indicate that Silistre and Rusçuk

114 Ruhat Alp, *Bakraç'tan Şirkete: Osmanlı İmparatorluğu'nun Süt ile İmtihanı (XIX. Yüzyılın Son Çeyreğinden XX. Yüzyıla)* (İstanbul: Libra Kitap, 2021), 51-64.

115 Ekrem, "Sütçülük Hakkında/İstanbul ve Havalisine Ait Rapor," *Çiftçiler Derneği Mecmuası*, no. 9, 15 Haziran 1333 [15 June 1917].

116 Alp, *Bakraç'tan Şirkete*, 420.

117 House of Commons Parliamentary Papers, "Diplomatic and Consular Reports, Turkey: Report for the Year 1906 on the Trade and Commerce of the Consular District of Smyrna," No. 3921 (London: 1907), 15; House of Commons Parliamentary Papers, "Diplomatic and Consular Reports, Turkey: Report for the Year 1910-1911 on the Trade of Smyrna," No. 4809 (London: 1911), 16; House of Commons Parliamentary Papers, "Diplomatic and Consular Reports,

(present-day Bulgaria), as well as Hocabey (present-day Ukraine), were among the locations where the Ottoman Empire sourced butter.¹¹⁸ A 1911 report from the American consul general revealed that the Ottoman Empire imported salted butter from various countries, including England, Denmark, Holland, Ireland, and France. Affirming Ekrem's observations, the consul general highlighted the poor, non-scientific, and unsanitary conditions of milk procurement in Istanbul, leading to the necessity of importing milk, butter, and cheese from abroad.¹¹⁹ While this created export opportunities for the United States, the circulation of ghee and butter raised sanitary concerns for the Ottoman state and heightened insecurity about the perceived lack of competitiveness of domestic ghee in both domestic and foreign markets.

To address sanitary concerns, Ottoman health authorities conducted chemical analyses on ghee to determine purity, both at customs and domestic workshops to determine whether it was pure [*halis*] or adulterated [*mahlut*]. Health statistics records indicate that ghee and other oil sources were among the primary goods analyzed by chemists in Istanbul, with a significant portion of ghee and butter found to be *mahlut*. Between 1331 [1915] and 1334 [1918], analyses of ghee and butter samples revealed a persistent issue with impurity and adulteration. In 1331, 61 out of 170 samples were found impure or adulterated, rising to 107 out of 159 samples in 1332. By 1333, 50 of 81 samples tested were impure, and in 1334, 69 of 120 samples fell into this category. That year, 47 samples were deemed pure, while 4 were classified as unsuitable for consumption.¹²⁰ Notably, the creation of this separate "unsuitable for consumption" category suggests that some of the adulterated and impure ghee and butter continued to be consumed, underscoring the ongoing challenges in regulating food quality. Additionally, some items deemed unfit for human

Turkey: Report for the Year 1908 on the Trade of Constantinople and District," No. 4188 (London: 1909), 15.

118 BOA., DH. MKT., 1470-1, 3 Kanun-ı Evvel 1303 [15 December 1887].

119 Department of Commerce and Labor Bureau of Manufactures, "Daily Consular and Trade Reports," v. 1, No. 1-76 (Washington: 1912), 1125.

120 Şehremaneti Sıhhiye Müdüriyeti, *İstanbul'un 1331-38 senelerine Mahsus Sıhhi İstatistikidir* (İstanbul: Nazır Matbaası, 1339), 138-149.

use were repurposed as animal feed, further reflecting the complexities of managing food safety during this period.

The inspection and chemical analysis processes faced challenges, and in some cases, they took too long, causing the deterioration of materials even before completion. In 1892, ghee producers and sellers filed a complaint about the slow process, resulting in financial losses.¹²¹ Similar grievances were voiced by foreign merchants. In the summer of 1888, the Ministry of Interior urged the Ministry of Medicine to hasten the analysis of ghee held up at Ottoman customs for an extended period. As the proceedings prolonged, the volume of complaints escalated each day, casting a shadow on the Ottoman state's reputation for impartiality and justice. As previously noted, archival records indicate that in the final two decades of the nineteenth century, the chemical examination of imported ghee at customs was mandatory. Only products meeting the purity criteria set by the Ottoman state were allowed to pass through customs.¹²² In spite of these inspections, the presence of impure ghee persisted in the Ottoman domestic markets. In April 1900, a letter from the Ministry of Interior to Istanbul Municipality reported that the city chemist in Izmir had analyzed two barrels of ghee sent from Istanbul by train. The analysis revealed that the ghee was adulterated with harmful herbs, rendering it impure. In response, the Governorship of Aydın urged the Ministry of Interior to caution Istanbul Municipality and prompt them to take measures to prevent the production of impure ghee in the city. Later that same year, a significant portion of the ghee sold within the Sixth District in Istanbul was discovered to be impure, posing health risks to the public in Istanbul. Similarly, in 1904, the Governorship of Bursa filed a complaint, asserting that ghee, oil, and oil soap with unhygienic qualities were being traded from Istanbul to Bursa, jeopardizing the health of the latter's residents.¹²³

Some state authorities attributed the persistence of impure ghee in domestic markets and Istanbul to the health inspectors' lack of attention, as they were

121 BOA. DH. MKT., 2013-55, 8 Teşrin-i Evvel 1308 [20 October 1892].

122 BOA., DH. MKT., 1525-67, 14 Temmuz 1304 [26 July 1888]]. Gözel's analysis demonstrate that similar procedures were in place for the import of olive oil, which was often mixed with cotton-oil to reduce the price. See: Gözel-Durmaz, "Osmanlı'da Gıda Güvenliği."

123 BOA., DH. MKT., 911-58., 14 Teşrin-i Sani 1320 [27 November 1904].

owed more than 10,000 piasters in unpaid salaries.¹²⁴ The Ministry of Interior recommended paying the inspectors' salaries promptly and called for stricter and faster chemical controls at the customs and the oil workshops in Der-saadet.¹²⁵ Yet, in the face of increasing trade liberalization, enforcing stricter controls proved more challenging than the Ministry of Interior envisioned.

Another challenge confronting Ottoman authorities was to avoid subjecting domestically produced ghee to unfavorable conditions compared to international dairy products, while maintaining essential hygiene standards. For instance, a letter penned by the Ministry of Interior was suggesting to prepare a recipe, [*tarifname*] outlining the precise ratio of milk fat required to produce pure ghee instead of simply banning the sale of impure domestic ghee. This recipe would then be distributed to oil producers in Istanbul and other provinces. What the Ministry of Interior feared was that taking harsh measures against domestic ghee production might lead to a shift in demand toward foreign products, ultimately resulting in financial losses for the country.¹²⁶ It is important to note that milk and dairy products had a symbolic value in the nineteenth and twentieth century and the competitiveness of these products vis-a-vis other countries often associated with national/imperial pride. Thomas Davis Du Bois' research demonstrates how the transformations of the Chinese dairy industry had become one of the symbols of economic growth and political power in the country.¹²⁷ Similarly, Barbara Orland reveals how the quality of milk and cheese had become of the prominent symbols of the Swiss nation's self-image.¹²⁸ Hence, observing similar symbolic attachments in the Ottoman context should not surprise us.

124 BOA., DH. MKT., 1364-36, 26 Ağustos 1302 [7 September 1886].

125 BOA., DH. MKT., 1470-1, 3 Kanun-ı Evvel 1303 [15 December 1887].

126 BOA., DH. MKT. 1574-51, 26 Teşrin-i Sani 1304 [8 December 1888].

127 Thomas Davis Du Bois, "China's Dairy Century: Making, Drinking and Dreaming of Milk," in *Animals and Human Society in Asia: Historical, Cultural and Ethical Perspectives*, eds. Rotem Kowner, Guy Bar-Oz, Michal Biran Meir Shahar, Gideon Shelach-Lavi (London: Palgrave Macmillan, 2019), 179-211.

128 Barbara Orland, "Turbo-Cows: Producing a Competitive Animal in the Nineteenth and Early Twentieth Century," in *Industrializing Organisms: Introducing Evolutionary History*, ed. Susan R. Schrepfer and Philip Scranton (New York & London: Routledge, 2003), 177.

Several years later, the Ministry of Interior made another effort to safeguard domestic ghee. The Ministry emphasized the disparity in treatment, noting that adulterated imported ghees were permitted to clear customs with the awareness of the Council of Inspection of Sanitary Affairs. In contrast, domestically produced ghee found to be impure was confiscated by the state, and producers were prohibited from continuing their craft based on a decision by the Council of State. The Ministry pointed out that these discrepancies served as an incentive for some domestic producers to manufacture mixed ghee and engage in the trade of imported adulterated ghee within domestic markets.¹²⁹

A merchant named Yağcı Yorgi's case exemplifies the Ministry of Interior's point. Yorgi utilized imported margarines from Europe in his Kumkapı workshop, rebranding them as "Anadolu Tereyağı" (Anatolian Butter) before selling them to the residents of Istanbul. Municipality officers were uncertain about how to categorize this product, given that Yağcı Yorgi used margarines considered safe and permitted to pass through customs. Despite the use of the term "Anatolian" to convey authenticity and locality, the product was neither local nor authentic, contradicting the sanitary principles established by health officials and the municipality for domestic products.¹³⁰ The war against margarine was common across geographies. Rowlinson, for instance, propose that although adulteration was prevented in most of the foodstuff in Britain, butter was increasingly mixed with other fats, especially margarine. The Margarine Act of 1887 was put in place to oppose this trend.¹³¹ Similarly, in the same year, France Minister for Agriculture issued a special law on butter, to prevent the mixing of butter with any other substances, margarine being the most common.¹³²

This disparate treatment by state and municipality officers prompted complaints from local oil producers and traders. In a letter directed to the Istanbul Municipality, Ministry of Medicine, and Ministry of Trade and Public Works, they highlighted the financial losses resulting from the inconsistent treatment

129 BOA., DH. MKT 2349-83, 10 Mayıs 1316 [23 May 1900].

130 Ibid.

131 Rowlinson, "Food Adulteration: Its Control in nineteenth Century Britain," 70.

132 Stanziani, "Negotiating Innovation in a Market Economy," 390.

of foreign and locally produced adulterated ghee and called for a standardized approach.¹³³ The letter suggested that foreign merchants were blending their butter with tail and flower seed oil to extend storage duration, and these mixed products were allowed through customs. Conversely, when local merchants used sesame oil for the same purpose, their butter was confiscated, and cauldrons were sealed. The merchants' petition urged an end to this differential treatment, citing the injustices arising from the process.¹³⁴

The Ottoman state's more lenient approach towards imported ghee may have been influenced by its disadvantaged position in relation to international merchants during the late nineteenth and early twentieth centuries. Gözel's analysis, for example, illustrates how French and American authorities opposed the Ottoman state's attempts to prevent the adulteration of olive oil with cotton oil, citing violations of free trade agreements and financial risks for their merchants operating within Ottoman lands.¹³⁵

In the complex backdrop of these circumstances, Hasan Bey and Vasilaki Efendi submitted a petition to the Ottoman state in late 1897 seeking approval for the establishment of an oil factory in Çubuklu dedicated to producing pure ghee. Embracing the modern sanitary language promoted by the Ottoman state and capitalizing on the concerns about the lack of competitiveness of domestic dairy products against imported ones, they endeavored to exploit the circulation of adulterated and impure ghee in domestic markets for their financial gain. The petition asserted that the solution lay in eliminating all small-scale oil shops in Istanbul that continued to produce adulterated and impure ghee despite the effort of Ottoman officials, identifying them as the main reason behind the demand for foreign products. Hasan Bey and Vasilaki Efendi pledged, through their proposed factory, to deliver high-standard sanitary ghee meeting the needs of the Ottoman population and military at a fair price. They believed this approach would save the Ottomans from relying on foreign producers for ghee that was neither sanitary nor of high quality.¹³⁶ While the Ottoman state's response to this request remains unknown, it is

133 BOA., DH. MKT. 1597-22, 8 Şubat 1304 [20 February 1889].

134 Ibid.

135 Gözel-Durmaz, "Osmanlı'da Gıda Güvenliği."

136 BOA., ŞD. 793-25, 20 Teşrin-i Sani 1313 [2 December 1897].

noteworthy how these entrepreneurs pragmatically employed the language of sanitization not only to eliminate foreign rivals but also to establish a production monopoly over small producers in Istanbul.¹³⁷ What is interesting to observe is that the justification for adulteration was framed as preventing the butter from spoiling, whereas the actual motive was likely to reduce production costs and gain a competitive advantage over foreign products.

This section has offered an overview of how the battle against adulteration in dairy products, ghee in particular, unfolded in the realm of everyday life, within the framework of international trade. By delving into everyday interactions, it illuminated the dynamics among different actors, their stances regarding the state's hygienic regulations, and the degree to which they internalized and engaged with the discourse on sanitation. Furthermore, as in the context of tax-farming, each actor had a different claim on what constitutes "harm" and "benefit." It is complicated whether the international products were deemed harmful because they were adulterated and impure, or because they were dominating the Ottoman domestic market and jeopardizing the profit margin of domestic producers. Furthermore, in this complex picture, multiple actors intervened into the food market and the international trade at a time when state's role was assumed to be shrinking.

3.5.2.1 Legislating the Milk Question in the Ottoman Context

The abovementioned conflicts and contestations encouraged the Ottoman state to codify its interventions into the dairy market throughout the early twentieth century. These legal moves attempted to regulate the conditions of production and trade of milk and dairy products, which M. J. Rosenau conceptualized as the "milk question." As summarized above, the milk question entails challenges associated with the production, transportation and consumption of milk and dairy products.¹³⁸ The adulteration of milk and dairy goods, the addition of potentially toxic preservatives to extend their shelf life, and disease transmission via these foodstuff (mainly bovine tuberculosis but also other diseases such as typhoid, scarlet fever and diphtheria) were among

137 Ibid.

138 J. Rosenau, *The Milk Question* (Houghton Mifflin Company, 1912).

the main components of the milk question.¹³⁹ The late nineteenth and early twentieth centuries witnessed efforts to legislate this “milk question” across different cultures and geographies.

In the late nineteenth and early twentieth century, Istanbul faced a “milk problem” similar to that outlined by Rosenau. The issue encompassed various aspects including the “materiality” of milk and dairy products, the risk of disease transmission, challenges in transportation and storage, and adulteration. Milk, being more susceptible to bacterial growth and decomposition compared to certain fruits and vegetables, posed particular challenges.¹⁴⁰ The widespread adoption of pasteurization and the general acknowledgement that milk must be boiled before consumption partially addressed this problem by the mid-nineteenth century. Moreover, milk served as a potential vector for various bacteria and viruses, facilitating the transmission of diseases like bovine tuberculosis, typhoid fever, scarlet fever, and diphtheria. This transmission could happen from animals to humans as well as among humans. This was especially significant as animals were seldom kept and milked in sanitary environments during the late nineteenth century. The lack of access to cooling technologies presented a challenge in transporting milk and dairy products. Common measures to tackle this issue included the use of preservatives, bottles, and cans, or maintaining the milk at elevated temperatures until delivery. Lastly, adulteration of milk was common across different geographies. This involved blending “good” milk with “bad” milk or adding different substances to improve taste, appearance or smell, or increasing the milk volume simply by adding water into it.¹⁴¹ Cemil Topuzlu’s memoir confirms that these components prevailed in Istanbul during the late nineteenth and early twentieth centuries.

“It was nearly impossible to find pure milk, ghee, or butter. The city was plagued with countless unsanitary cow barns, housing diseased animals amidst filth. Observing the milking process in these barns left

139 Deborah Valenze, *Milk: A Local and Global History* (New Haven: Yale University Press, 2012), 66; Rosenau, *The Milk Question*, 290-291.

140 For an analysis of how the material qualities of milk determined the ways how it is produced, transported, sold, consumed, regulated and policed see: Peter Atkins, *Liquid Materialities: A History of Milk, Science and the Law* (Surrey: Ashgate Publishing Limited, 2010).

141 Rosenau, *The Milk Question*, 295.

people disheartened and unwilling to consume milk again. In contrast to civilized cities, where milk was sold in closed and sealed bottles, here it was dispensed in open tin cans, diluted with half water, and lacking any form of quality control.”¹⁴²

In 1903, the Ordinance on the Protection of Purity of Domestic Ghee Production [*Mamûlat-ı Dahiliyyeden Olan Sade Yağlarının Muhafaza-i Sâfiyetine Dair Nizamname*] set strict standards for producing and trading ghee, forbidding adulteration and empowering municipal officials to inspect and penalize non-compliant traders.¹⁴³ At the same time, Ottoman authorities began regulating milk hygiene and trade.

The Instructions on the Duties of the Council of Medical Affairs at Dersaadet and Municipality Circles [*Dersaadet ve Devâir-i Belediyye Heyât-i Tibbiyesi'nin Vezâifine Dair Talimat*] (1909-10) and the Provincial Health Regulation [*Vilayat-ı İdâre-i Sıhhiye Nizâmnâmesi*] (1913) mandated inspections of milk shops [*süt kârhaneleri*] and dairies [*süthane*], enforcing quality standards to protect public health and trade integrity.¹⁴⁴ The latter document also emphasized that state officials should report any spoiled, adulterated, or potentially harmful food or drinks to local authorities and/or the municipality for necessary action.¹⁴⁵

To support these efforts, the General Directorate of Veterinary Matters [*Umur-ı Baytariye Müdiriyeti*] ensured animal health in markets, barns, and slaughterhouses, reinforcing the hygiene essential to a stable milk trade. Further, the Ordinance on the Istanbul Municipality's Directorate of Health [*Şehremaneti Sıhhiye Müdiriyetinin Vezâifine Dair Talimat*] (1912-13) empowered officials to detect milk adulteration, highlighting trade quality control.¹⁴⁶ The 1914 Ordinance on Cow Barns and Creamery [*İnek Ahırlarıyla Süthaneler Hakkında Ta'lîmât-nâme*] introduced comprehensive standards for barns and dairies, covering structural and hygiene requirements to ensure uncontaminated milk for consumers. Similar regulations applied to milk shops, mandating ventilation, drainage, and sealed storage to meet trade and health

142 Topuzlu, *80 Yıllık Hatıralarım*, 112.

143 Ergin, *Mecelle*, vol. 6, 3586-3587.

144 Ibid., vol. 6, 3164 & 3110.

145 Ibid., vol. 6, 3110.

146 Ibid., vol. 6, 3150 & 3187.

standards.¹⁴⁷ It is noteworthy that these Ottoman regulations paralleled Britain's Public Health Act (1891), underscoring a shared commitment to public health and the trustworthy regulation of the food trade.¹⁴⁸

Overall, these regulations aimed to create an ideal sanitary urban environment where dairy products were produced and traded under strict hygiene standards, free from fraud and adulteration. While the regulations established a normative framework, their implementation varied in practice; however, they significantly increased the number of actors involved in food market oversight. Conflicts arising from domestic and international dairy trade, especially with the growth of global commerce and food commercialization in the late nineteenth century, played a decisive role in shaping these regulations in the early twentieth century.

§ 3.6 Conclusion

The Ottoman state's interventions in Istanbul's foodscape reveal an ambitious attempt to control public health, hygiene, and trade within a complex urban environment. These efforts engaged a broad range of actors—producers, tax-farmers, merchants, state officials, and private companies—each with their own stakes in the production, regulation, and trade of essential foodstuffs. The state's reliance on tax-farming to fund sanitary measures provided a practical solution to the financial demands of these interventions while simultaneously reinforcing its regulatory authority over food markets. Tax-farming became a strategic tool for enforcing hygienic standards, transforming the state's role from overt enforcement to a more subtle control through legal and economic contracts. This arrangement not only regulated public health but also served as a mechanism to monitor and influence food trade practices.

The involvement of private enterprises, such as the Dersaadet Water Company, underscores the entanglement of public health and trade interests. Despite losing exclusive fishing rights in Terkos Lake, the company continued to exert indirect influence over local resource use, as illustrated by its

147 Ibid., 3614-3632.

148 Collins, "Food adulteration," 103.

interference in the fishing activities of figures like Mustafa Rifat. Such conflicts highlight the tensions between public and private interests in resource management and the economic stakes tied to water and food regulation. The state's measures were not merely health-driven but were deeply intertwined with the control of trade, aiming to create a regulated food market that balanced public welfare with economic stability.

Ultimately, the transformation of the Ottoman foodscape during the nineteenth and early twentieth centuries was marked by these overlapping interests in health, trade, and legitimacy. The state's attempts to regulate food adulteration and maintain sanitary standards were part of a larger vision to establish an orderly, hygienic urban environment, with strict oversight on both food quality and trade practices. Yet, as this chapter has shown, the practical implementation of these regulations often diverged from their intended goals, shaped by the conflicting interests and definitions of justice among the actors involved. These dynamics reveal a layered Ottoman foodscape, where public health, economic control, and moral authority intersected to redefine the boundaries of the state's role in managing both public welfare and commercial interests.

At the same time, Ottoman food control mechanisms of the nineteenth and twentieth centuries were shaped by the ideas and principles associated with earlier frameworks like *iḥtisab*. The state continued to draw upon the moral and social values historically tied to *hisba* to inform its vision of regulation. While conventional narratives frame *hisba* as a premodern, religious institution abandoned with legal secularization, its underlying principles of justice and moral oversight remained relevant in shaping the broader goals of food regulation during this period. By aligning these ideas with new public health and trade priorities, the Ottoman state redefined its approach to managing urban welfare and food commerce.

“Flows of Scarcity” in Late Ottoman İstanbul: Struggle over Water

In October 1892, *Imam* Akif Efendi, along with approximately 50 other *hafız*, conducted a rain prayer around the Kağıthane River. Pleading with God to send rain [*istinzâl-i rahmet-i ilahiye*], the group placed the stones that they had collected from the surrounding area into the river, symbolizing the union of their prayers’ with water.¹ The choice of location seems unarbitrary, given that the Kağıthane River and its surroundings were crucial in providing the residents of İstanbul with drinking water for centuries. Later that month, the newspapers covered the event, informing the public that such a prayer took place, the *hafız*s were well treated and given gifts by the order of the Sultan.² If seeking God’s help for rain was one response to a dry fall as a last resort, maintaining public calm to prevent any source of discontent over water scarcity was another. Through this newspaper advertisements, Sultan Abdülhamid II aimed to achieve both.³

For the residents of İstanbul and the Ottoman authorities, water scarcity was a frequent occurrence that often led to disputes over access to water sources, with rain prayers being just one of the coping mechanisms they

1 BOA., Y. MTV. 68-110, 29 Eylül 1308 [11 October 1892].

2 BOA., Y. PRK. BŞK. 28-2, 11 Teşrin-i Evvel 1308 [23 October 1892].

3 For an analysis of Sultan Abdülhamid II’s interest in waterworks and their symbolic importance, see Sharon Mizbani, “The Art of Infrastructure: Hamidiye Fountains in Late Ottoman İstanbul,” *Journal of the Ottoman and Turkish Studies Association* 8, no. 1 (2021): 395–404.

developed for relief. Istanbul sourced its water from both surface waters and groundwater through wells, dams, aqueducts, and water mains. The authorities faced the critical task of effectively distributing water across Istanbul, striving to ensure the quality and quantity of the distributed water. Although the challenge of sourcing and distributing water in the Ottoman Empire was constant, its intersection with contemporary concerns varied. Depending on the context, water issues became intertwined with state-building, inter-imperial rivalry, modernization, urbanization, and public health, while also serving as a manifestation of imperial strength and benevolence.⁴ Yet, the distribution of water in some urban spaces meant the flows of scarcity for other parts. In this chapter, benefiting from a political ecology perspective, I will show how various social groups, the state and municipality claimed water in Istanbul, and how this struggle over water produced scarcity. In so doing, I aim to denaturalize the issue of water scarcity in late Ottoman Istanbul, by unraveling its socio-political and economic underpinnings.

Amidst its urban reforms and public health challenges, Istanbul's water systems attracted renewed attention throughout the nineteenth and early twentieth centuries. Having a well-functioning, modern, and sanitary waterway system became an important aspect of Istanbul's "urban environmental imaginary,"⁵ considered essential for public health and a demonstration of

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- 4 See for instance, Husain, *Rivers of the Sultan*; Mikhail, *Nature and Empire*; 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): 269–290; Faisal H. Husain, "In the Bellies of the Marshes: Water and Power in the Countryside of Ottoman Baghdad," *Environmental History* 19, no. 4 (2014): 638–664; Miriam R. Lowi, *Water and Power: The Politics of a Scarce Resource in the Jordan River Basin* (Cambridge: Cambridge University Press, 1995).
 - 5 Diana Davis defines urban environmental imaginary as "the constellation of ideas that groups of humans develop about a given landscape, usually local or regional, that commonly includes assessments about that environment as well as how it came to be in its current state." Davis argues that these imaginaries are not just reflective but constitutive—actively shaping physical and social landscapes. In this context, Davis critiques the enduring legacy of the colonial imaginaries in contemporary environmental policies and development practices in the Middle East and North Africa. She highlights the need to dismantle orientalist assumptions and re-center local knowledge systems to address environmental challenges more equitably and

civilization. As Istanbul was “remade”⁶ as part of the Empire’s modernization efforts in its last century, the components of its ancient and modern water infrastructure were in constant construction, reconstruction, and repair. This period coincided with recurring cholera outbreaks and the bacteriological “revolution,” which heightened scientific awareness about the importance of water hygiene. This era introduced new challenges and layers to Ottoman authorities’ focus on water infrastructure, emphasizing the evolving concerns over water quality and public health.

Just as the city’s architectural structures varied, so too did the institutions and actors involved in sourcing and distributing water. This diversity reflected the complex network of traditional and modern systems coexisting within the city. Water management was not the responsibility of a single entity in the last century of the Ottoman Empire. Rather, it involved a range of bodies, including religious foundations, local municipalities, and private companies. This multifaceted approach to water management mirrored the broader socio-political landscape of the Ottoman Empire, where various stakeholders had vested interests in the distribution of water. The interaction among these groups was often marked by conflicts and negotiations, which shaped both the urban water infrastructure and its operations. This complexity compounded the challenge of ensuring the accessibility of clean water for Istanbul’s growing population, especially as the city experienced rapid urbanization and modernization.

Paul Robbins differentiates political ecology from apolitical ecology by emphasizing their distinct approaches to environmental issues. Apolitical ecology views environmental problems as isolated, often attributing them to local behaviors or technical failures while focusing on technical solutions without addressing social or political contexts. In contrast, political ecology considers environmental problems as deeply connected to political, economic, and social dynamics. It reveals how power relations and inequalities drive

effectively in the Middle East. See, Diana K. Davis, “Imperialism, Orientalism, and the Environment in the Middle East: History, Policy, Power, and Practice,” in *Environmental Imaginaries of the Middle East and North Africa*, ed. Diana K. Davis and Edmund Burke III (Athens: Ohio University Press, 2011), 1–22.

6 Çelik, *The Remaking of Istanbul*.

environmental change, emphasizing that degradation is influenced by broader political and economic structures that disproportionately affect marginalized communities. Political ecology seeks to uncover these root causes, highlighting the socio-political underpinnings of environmental issues.⁷ Inspired from this perspective, I aim to politicize and denaturalize water scarcity in Istanbul. Water scarcity in Istanbul, I argue, was not merely a natural consequence of limited resources, but a socially constructed phenomenon shaped by power dynamics, competing interests, and the politics of distribution.

§ 4.1 An Overview of Istanbul's Water Infrastructure

“There was the Horhor fountain, a little beyond Hasan Pasha's tree. Its water, as thick as an arm, flowed into a trough without a tap and from there went to the sea. I rinsed and filled the tinned, shallow bowl on the wall. I drank to my heart's content. We also used to drink this sweet water at the bakery... Further up, there was a second fountain. This one had a tap, but its water was not cold. The water from Horhor was cool. All the fountains had clean and sweet water. The water came underground, covered at the top. People, both rich and poor, drank from these waters. Water carriers [*sakas*] would deliver water to homes using long leather bags made of black leather, slung over their shoulders. These bags could hold more water than a tin can. A bag cost twenty to thirty coins. There was also sweeter water brought from distant places, like Sarıyer. Coffee sellers and haberdashers would sell it for ten coins a glass. For years, Terkos water had also been available, but people avoided it. It was rumored that the Terkos Lake was full of all kinds of carcasses.”⁸

Writing in the late nineteenth century, Hagop Mintzuri's narrative captured the essence of Istanbul's fragmented and complex water infrastructure. He paints a vivid picture of the city's fountains, underground water channels, and the daily routines of its residents, highlighting the essential role of water in urban life. Mintzuri's account reveals a city sustained by a patchwork of natural springs, communal fountains, and water carriers. His observations emphasize the dual nature of Istanbul's water system—plentiful yet fragile, communal yet fragmented. By documenting these details, Mintzuri provides a unique

7 Paul Robbins, *What is Political Ecology?* (Chichester: Wiley-Blackwell, 2012).

8 Hagop Mintzuri, *İstanbul Anıları (1897-1940)* (İstanbul: Tarih Vakfı Yurt Yayınları, 2002), 103.

perspective on Istanbul's socio-environmental history, revealing how water not only sustained life but also connected and divided the city's spaces, classes, and communities.

By the late nineteenth century, Istanbul's water needs were still primarily met by traditional waterways and structures, some of which dated back to the Roman and Byzantine periods and were inherited by the Ottomans. The city's water supply came from local springs and surface waters that were carried to the different parts of the city through several water structures. In addition to smaller water systems, Ottoman Istanbul relied on four significant waterways: the Halkalı Waterways, Kırkçeşme Waterways, Taksim Waters, and Üsküdar Waters. During the nineteenth and early twentieth centuries, private water companies also began to play a role in meeting the city's water needs, serving the needs of Istanbul's residents in both side of the Bosphorus.

The Halkalı Waters was the oldest Ottoman facility providing water to Istanbul's inner-city areas, with construction beginning during the reign of Sultan Mehmed II (1451-1481) after the conquest of Istanbul. Approximately 130 kilometers long, the Halkalı waterways sourced water from the area between Halkalı village (west of Istanbul's walls) and Cebeciköy (northwest of the walls). Incorporating earlier Roman water structures, such as aqueducts, the Halkalı system had seventeen different watercourses connecting to the main waterway, supplying water to 435 places in the city, including Istanbul's major mosque complexes [*külliyes*]. The Halkalı waters were less abundant, drawing from natural springs and delivered to the city through closed pipes.⁹

The Kırkçeşme Waterways were commissioned by Sultan Süleyman I (1520-1566) and designed by the famous architect Sinan to meet the growing water demand of Istanbul's increasing population. The Kırkçeşme system

9 Ahmet Kal'a, *İstanbul Su Külliyesi XXIII: Vakıf Su Defterleri, Avrupa Yakası Suları 1 (1603-1826)* (İstanbul: İstanbul Büyükşehir Belediyesi & İstanbul Su ve Kanalizasyon İdaresi Genel Müdürlüğü, 2002), XXIII; Ahmet Kal'a, *İstanbul Su Külliyesi XIII: Vakıf Su Tahlilleri, XIX ve XX. Yüzyılda İstanbul Suları* (İstanbul: İstanbul Araştırmaları Merkezi, 2000); Gülfettin Çelik, *İstanbul Su Külliyesi XIV: Vakıf Su Tahlilleri 2 - Su Hukuku ve Teşkilatı* (İstanbul: İstanbul Araştırmaları Merkezi, 2000); Kazım Çeçen, *İstanbul'un Osmanlı Dönemi Suyolları* (İstanbul, 1999); Ahmet Tabakoğlu, "Osmanlı İstanbul'unun Su Tarihi," in *Büyük İstanbul Tarihi*, vol. 6 (İstanbul: İstanbul Büyükşehir Belediyesi Kültür ve İSAM, 2015), 82-117.

sourced water from two main branches. The more abundant eastern branch drew water from the Kirazlı, Topuz, and Pasha streams of the Kağıthane stream, while the western branch received water from the Ayvat, Orta, and Bakraç streams. Both branches merged in a central reservoir southwest of Kemerburgaz. Unlike the Halkalı waters, the Kırkçeşme waters were surface waters that transported water from streams and dams, making them more susceptible to contamination and disease. The Kırkçeşme system was more extensive in scale, supplying water to around 580 different places across the city. While the Halkalı waterways provided water to areas located at higher elevations, the Kırkçeşme system served lower regions, such as Eyüp and parts of intramural Istanbul.¹⁰ Both systems incorporated various water structures, including fountains, dams, aqueducts, and cisterns, which underwent numerous repairs over the centuries.

These two more extensive waterways remained incapable of meeting the growing demand for water in the eighteenth century. As a response, the Taksim Waters were established in the first half of the eighteenth century to cater to the expanding settlements around Taksim, Galata, and particularly along the Bosphorus. Taksim's water was supplied to the coastal neighborhoods of Beyoğlu and Galata, extending from Yeniköy to Kasımpaşa. This water supply originated from the Topuzlu Dam, Valide Dam, and Sultan Mahmud Dam [*Bend-i Cedid*], along with their branches, all situated close to each other in Bahçeköy. The waters from these three dams merged at Bahçeköy and then flowed through the Bahçeköy aqueduct towards Beyoğlu. The Mahmud I Aqueduct and Taksim Division Center [Maksim] were the primary infrastructures facilitating this water supply. The construction of these facilities was necessitated by the increasing population density in the Galata district. Starting from the mid-sixteenth century, settlements began to emerge in the region, leading to a population increase in the western coastal areas of the Bosphorus. There are several sources which demonstrate that from the early eighteenth century, water from the Humbarahane (1739) was supplied to Hasköy and Kasımpaşa, while the Levent Çiftlik water was directed towards

10 Çeçen, *Istanbul'un Osmanlı Dönemi Suyolları*, 100.

Teşvikiye, Harbiye, and the Taksim area.¹¹ Similar to Kırkçeşme waters, Taksim waters, were surface waters, and their use as drinking water was problematic due to the risk of pollution.¹²

In today's Asian side of Istanbul, there were Üsküdar Waterways. These waterways consisted of 18 smaller watercourses, each approximately 3-15 km in length. All of these waterways were built by various foundations between 1547 and 1874. Like the Halkalı and Hamidiye waters, the Üsküdar waters were also sourced from springs. Notably, six of these waterways were commissioned by female patrons, leaving a significant mark on the city's water structures.¹³ These waterways and structures were frequently damaged, requiring considerable time and resources. This situation contributed to the spread of epidemics and increased the risk of famine in a city already struggling with limited water resources.

In addition to these larger systems, smaller-scale waterworks were incorporated into Halkalı and Kırkçeşme waterways and Taksim and Üsküdar facilities. For instance, the Hamidiye Facilities, built by Abdülhamid II in the early 1900s to supply water to places such as Beyoğlu, Galata, Tophane, Şişli, Nişantaşı and Beşiktaş areas. Water collected from springs in these facilities was collected in different dams, and was distributed to different parts of the city, through the use of a steam machine, including the Yıldız Palace, via transmission lines and water structures, ultimately supplying public fountains.¹⁴ As will be detailed below, the waters of Kağıthane were renowned for their cleanliness, as they were sourced from spring water and the area from which the water was drawn had few settlements.¹⁵

By the late nineteenth and early twentieth centuries, the water distribution to the city started to be privatized and the role of private water companies became vital in the water distribution sector. This shift was driven by several

11 Kal'a, *Avrupa Yakası Suları; Çeçen, İstanbul'un Osmanlı Dönemi Suyolları*.

12 Ibid.

13 For a visual representation of female patrons' mark on Istanbul see, <https://saltonline.org/tr/map>, accessed on November 6th, 2024.

14 Kal'a, *XIX ve XX. Yüzyılda İstanbul Suları*, 19-20; Çeçen, *İstanbul'un Osmanlı Dönemi Suyolları*, 311-334

15 Ergin, *Mecelle*, v.3, 1177-1178.

factors, including the growing population of Istanbul, inadequate existing infrastructure, challenges posed by the pandemics, water scarcity, and evolving water consumption habits.¹⁶ In this context, Dersaadet Water Company (also known as Terkos Company) and Üsküdar-Kadıköy Water Company were founded with foreign capital. To tackle the problem of inadequate water supply and to provide pressurized water suitable for modern buildings, Sultan Abdulaziz awarded a concession to a French company in 1868, leading to the creation of the Dersaadet Water Company. This company was responsible for collecting and distributing spring, stream, and underground water, purifying water from Lake Terkos, and ensuring its distribution across the city. The first major facility, the Water Elevation Center near Lake Terkos, was constructed in 1883. In 1888, the lake's rim was raised to increase water capacity. Similarly, Üsküdar Water Company was established in 1893, to meet the water demands of the Anatolian side. This Company constructed the Elmalı Dam in 1893 and built up water networks in the area from Anadoluhisarı to Bostancı. Later, the company constructed a water-treatment plant, an elevation center, a water-distribution pipeline, and a water tank in Bağlarbaşı.¹⁷

How was the institutional structure that governed this diverse and fragmented source of water? As in other public services, foundations played a key role in water management, as they were responsible for the construction and repair of waterways and related structures, reinforcing the social status of donors. As part of its centralization efforts, the Ottoman State sought to exert more control over these foundations. In 1836, the Directorate of Water [*Su Nezareti*], which had been managing Istanbul's waterworks independently since the sixteenth century, was incorporated into the Ministry of Foundations, then into the Istanbul Municipality in 1876/77, and back into Ministry of Foundations in 1908/09. The Ministry of Foundations oversaw the Kırkçeşme and Halkalı water systems, while the municipality managed the Hamidiye Water. Istanbul Municipality was primarily responsible for ensuring and monitoring water hygiene. However, the fragmented management

16 *Tarih Boyunca İstanbul Suları ve İstanbul Su ve Kanalizasyon Sorunu* (İstanbul: İSKİ, 1983); Noyan Dinçkal, "Reluctant Modernization: The Cultural Dynamics of Water Supply in Istanbul, 1885–1950," *Technology and Culture* 49, No. 3 (2008), 675–700.

17 Tabakoğlu, "Osmanlı İstanbul'unun Su Tarihi."

structure led to institutional confusion. Records from the Ottoman archive reveal ongoing conflicts between the Ministry of Public Works, the Ministry of Foundations, and the Istanbul Municipality, as well as disputes involving the ministries of Health, Finance, the Interior, and the Council of State over the distribution of expenses and responsibilities, further complicated by political tensions.

While the quantity of water supplied to Istanbul was crucial, equally important was the quality. The scarcity of potable water in Istanbul, coupled with challenges faced by the poorer population in securing quality water, had become a pressing issue considering the cholera and typhoid outbreaks of the nineteenth and early twentieth centuries. During this time, cholera and typhoid fever had become an indicator of a city's water quality; the absence of these diseases signified the good sanitary conditions of drinking water. Therefore, cities became highly focused on securing clean, pure water free from all harmful contaminants and microbes. For instance, a typhoid outbreak in Istanbul in 1914–1915 underscored the urgent need for technical inspections of the city's primary dams, which were conducted by Doctor Tevfik Rüşdi, Doctor Rıza Nuri, and Hydraulic Engineer Burhaneddin Bey. The team conducted on-site investigations at the main dams, including those at Büyükdere—the Sultan Mahmud, Valide, and Topuzlu dams, which were maintained by the Ministry of Pious Foundations. As mentioned above, these dams, along with the Great Dam and the disrepair-ridden Kirazlı Dam, formed an interconnected network that channels water to the European side of the Bosphorus, including the Taksim and Beyoğlu areas. Waters from the Ayvad and Topuzlu dams also merged at the Büyükhavuz reservoir, which distributed water to surrounding regions. Together, these seven dams supplied water across the city, with three serving Beyoğlu and four meeting Istanbul's demands. The report highlights that although the area around these dams was ideal for rain-water collection, with forests that supported this function, inadequate protection had allowed contractors to harvest wood and charcoal, leading to partial forest degradation. While some sediment-clearing had been done on the Valide, Sultan Mahmud, and Belgrad dams, the absence of consistent, standardized maintenance led to their deterioration, resulting in mud buildup and water contamination from decaying leaves and tree debris. The report

underscored the urgent need to improve Istanbul's water supply and quality by implementing specific measures. It recommended clearly marking and protecting basin boundaries to prevent unauthorized access, relocating villages¹⁸ from these sensitive areas, and designating certain zones as preservation areas on official maps. To further ensure water safety, the report advised that water be transported hygienically from dams to the city, requiring the construction of large filtration systems near the city outskirts to purify the water before distribution. Within the city, water distribution needed secure, controlled infrastructure, ideally through iron piping to maintain its quality. Recognizing that current administrative structures were insufficient, the report called for the formation of a skilled technical and administrative committee dedicated to water management and suggested disbanding the existing administration to establish more effective oversight. The existing dams, basins, and channels also required regular maintenance, cleaning, and restoration to scientific standards, with forest areas near these sites protected from deforestation. The costs for addressing these issues were substantial. To improve water access and maintain sanitary standards, an estimated 88,000 liras was required for piping installation within the city, while 36,000 liras would fund new filtration systems, and 24,000 liras would cover essential infrastructure upgrades. These investments, totaling 124,000 liras, would supply approximately 15,000 cubic meters of potable water daily, which was projected to provide immediate public health benefits. However, to comprehensively meet the city's needs, further expenditures of 500,000 liras would be necessary to expand and repair water conduits, install water-lifting machinery, and support other infrastructure improvements.¹⁹

Cholera, typhoid, and to a lesser extent dysentery, played a significant role in the late nineteenth and early twentieth-century discussions about hygienic drinking water. In his report of the conditions of drinking waters in Istanbul

18 Burcu Kurt's article focuses on the evacuation process of the Belgrad, Kömürcü and Bahçeçik villages due to the threat of disease the inhabitants of these villages pose to waterways. See, "The Ottoman State between Urban Space and Environment: Preserving the Drinking Water of Istanbul," *Belleten* 85, no. 304 (2021): 933–966.

19 Tevfik Rüşdi, Rıza Nuri, Burhaneddin Bey, "İstanbul Suları Hakkında," *Sıhhiye Mecmuası* 3, no. 7 (1331): 474–78.

and several towns of Anatolia, Nazmi Asaf Bey, for instance points out to the interconnected nature of sewer and water infrastructures. Generally conveyed to fountains through channels or pipes made of stone and mortar, the water of the neighborhoods often ran parallel to or even alongside sewage channels for long distances. Sometimes, as they passed under, beside, or in front of houses, they were inadvertently contaminated through allocated vents.²⁰ In his analysis of Istanbul's spring water sources, Ahmed Safi Bey also traced this link. Recognizing the digestive system as a pathway for contracting typhoid, he emphasized that the primary cause and method of transmission was drinking contaminated water. This contamination could occur if a typhoid patient's clothing was washed in a stream, or if waste from a hospital, including an infected patient's excreta, seeped into a nearby stream or well.²¹ Referring to the results of chemical analysis conducted chemist Ali Rıza Bey, Besim Ömer makes similar connections. According to his point of view, when one person contracts typhoid, their waste enters the sewer system, then seeps from the sewer into nearby water pipes and channels, spreading the illness to households that consume this contaminated water. For him "there is nothing mysterious about this process." In other cases, even if the specific pathogen causing typhoid (or other water-borne diseases) was not present in the water, other harmful microbes might be present. These microbes could interact with intestinal bacteria, weakening the person's resistance and causing illness. For this reason, Besim Ömer argued that regular water testing was necessary to identify the source of such illnesses and ensure public access to clean, pure drinking water. It was in this context that Besim Ömer presented a table of the chemist Ali Rıza Bey's water analysis, which demonstrated the cleanliness of Istanbul's spring water sources.

20 Nazmi Asaf, *Anadoluda İçilecek Sular Vefeyât Üzerinde Mühim Bir Âmildir* (İstanbul: Yeni Matbaa, 1926).

21 Ahmed Sâfi Bey, "İstanbul'un Menba Suları," transliterated and published in *İstanbul Su Külliyyatı XIII: Vakıf Su Tahlilleri 1, XIX ve XX. Yüzyılda İstanbul Suları* (İstanbul: İstanbul Büyükşehir Belediyesi ve İstanbul Araştırmaları Merkezi, 2000), 110-111.

Table 4.1 Results of analyses conducted by the Ali Rıza Bey, chemistry and hygiene instructor at the Royal School of Medicine [Mekteb-i Fünun-ı Tıbbiyye-i Şahane], on mineral waters (memba) of Istanbul and its surroundings. The exact date of the analysis is unknown but it should be during the early years of 1900.

Name of the Water Source	Water Hardness Degree	Sodium Chloride Per liter (mg)	Organic Matter per liter (relative to oxygen content, mg)	Potassium Nitrite per Liter (mg)
Taşdelen	1,8	18	0,45	0,1
Karakulak	2	21	0,25	0,1
Kayışdağı	2	23	0,3	0,1
Göztepe	2	22	0,3	0,1
Hünkâr Water	3	22	0,15	0,2
Kirazlı Water (from Kağıthane Waters)	3	38	0,4	0,5
Water Supplied to the Imperial Army	3,5	24	0,4	2
Çamlıca Water	4	34	0,35	0,7
Kağıthane Waters	4	52	0,2	0,5
Ayazma Water (Yakaçık)	5	21	0,45	2,5
Çırçır Water	5,9	25	0,25	0,5
Keçe Water	6	37	0,25	3,5
Üsküdar Kadıköy Water Company's Water	7	29	3	1
Terkos Water	12,5	45	3	1,5

SOURCE Kal'a, *XIX ve XX. Yüzyılda İstanbul Suları*, 98.

Though Terkos and Üsküdar-Kadıköy companies did not source their water from springs, they were included in the table for comparison, demonstrating their hygienic weaknesses relative to Istanbul's underground water sources. Despite this strength, Besim Ömer urged caution, emphasizing that while Istanbul may have clean water sources, this does not necessarily mean that the fountains provide inhabitants with clean and accessible drinking

water. In the first place, water was expensive in Istanbul. Secondly, there were hygienic challenges during the water's journey from its source to the fountains and from the fountains to households. The practice of transporting water in rarely washed wooden barrels risked contamination, with dirty funnels and filthy cloth filters further compromising hygiene. Besim Ömer's analysis ends with glorifying the public works of Sultan Abdülhamid II, claiming that bacteriological analysis confirmed that Kağıthane spring waters were among the purest in Istanbul. From his point of view, not only were they superior to all the other fountain waters used in Istanbul at the time, but they were also entirely comparable to, and even purer and healthier than, some of the spring waters sold in barrels or bottles at high prices in the city.

As shown in the above table, despite the company's initial promises, Terkos Lake fell far short as a source of clean water for Istanbul. By 1903, investigations revealed the lake's waters to be stagnant and polluted, filled with decaying organic matter, algae, and even dead animals, which led to foul odors and serious health concerns. The infrastructure itself added to the problem—pipes were poorly maintained, and many sections, coated in tar to prevent leaks, instead worsened the contamination. Repeated government inspections and reports from 1903 to 1904 warned that Terkos water was unsafe for drinking, urging the Terkos Water Company to take swift action. Yet, despite these demands, the company struggled to meet basic hygiene standards, proving that Terkos was far from the dependable solution it was projected to be.²² Whereas the Ottoman state requested regular samples from the lake and the installation of filters, the company often resisted and delayed its efforts.

Though the hygienic quality of Hamidiye Waters was presented as a “scientific fact,” Besim Ömer's aforementioned article also aimed to praise the rule of Sultan Abdülhamid II.²³ Though known for his stance against the Hamidiye regime, even Osman Nuri praises the cleanliness of Hamidiye Waters. Based on the statistics recorded during the distribution of Kağıthane waters, he argued that the incidence of typhoid in the Beyoğlu area decreased by 10-15% in the first year, by 20-25% in the second year, by 50% in the third year, and by

22 Yurdakul, *Aziz Şehre Leziz Su*, 135-138.

23 Besim Ömer Paşa, “Kağıthane Suları ve Hamidiye Çeşmeleri,” *Nevsal-ı Afîyet*, (İstanbul: Matbaa-ı Ahmed İhsan ve Şürekası, 1320), 2-37

70% in the fourth and fifth years.²⁴ Yet, as will be shown in the next chapter, the typhoid had an endemic presence in Istanbul, causing several hundred fatalities each year during the last decades of the Empire.

As Nadir Özbek argues Abdülhamid II's rule involved a shift toward personalized, symbolic governance, where acts of imperial philanthropy projected the Sultan as a benevolent, paternal figure. Though he limited his direct contact with subjects ensconcing himself in the Yıldız Palace in Beşiktaş, the visual presence of his charitable works like Hamidiye Waters fostered an intimate bond with his subjects, reinforcing his authority through Islamic and monarchical symbolism. Özbek sees this blend of personalized rule and symbolic charity as central to Ottoman modernity under Abdülhamid, merging traditional power with modern ideals.²⁵ The flow of clean, hygienic water from Hamidiye Fountains were part of this imperial benevolence as well. As Sharon Mizbani highlights, the cast iron and marble fountains that distributed Kağıthane waters, with symbols like Abdülhamid II's imperial seal (*tuğra*) and the name of God, reflected a distinct hydromentality that added spiritual meaning to water distribution. The Tophane fountain, for instance, likened its water to the Zamzam well in Mecca, equating drinking from it with prayer. These fountains fostered a public space for charity and supplication, contrasting with the private act of using tap water.²⁶

Hamidiye's establishment had annoyed Dersaadet Water Company, leaving the hygienic competition aside. This competition between the Company and the Hamidiye/Kağıthane water sources highlights a clash between commercial interests and public welfare. Dersaadet Water Company claimed that they had a concession for distributing Terkos water in Istanbul and saw itself as the city's main supplier. However, when the government began distributing Kağıthane water for free through a network of public fountains and reservoirs, the company perceived this as a direct threat. The availability of Kağıthane water reduced demand for Terkos water, cutting into the

24 Ergin, *Mecelle*, v.3, 1179.

25 Nadir Özbek, "Imperial Gifts and Sultanic Legitimation during the Reign of Abdülhamid II (1876–1909)," in *The Ottoman Middle East: Studies in Honor of Albert Hourani*, ed. Eugene Rogan (London: I.B. Tauris, 1999), 182–193.

26 Mizbani, "Hamidiye Fountains in Late Ottoman Istanbul,"

company's revenue and undermining its monopoly. The construction of a large reservoir in Yıldız to store Kağıthane water further intensified the conflict, as it promised to bring free water closer to a wider urban population, diminishing the company's market. This expansion, according to the Dersaadet Water Company, was a calculated encroachment on their domain, potentially leading to a significant drop in their profits.²⁷

§ 4.2 The Promise of Political Ecology and Environmental History in Studying Water

How does the scholarship seek to understand this intricate landscape of water works, structures, and waterways, with their various technologies, hygienic qualities, ownership models that grant authority to fragmented institutions and interventions within the city's ecology? The ancient and modern waterways and water structures discussed above have attracted the attention of art historians, architectural historians, urban planners, and engineers alike. Several works provide detailed information on the water systems inherited by the Ottomans from Byzantium, as well as the water structures and aqueducts that supplied water to Ottoman Istanbul, particularly highlighting the works of Mimar Sinan.²⁸ For instance, Istanbul Metropolitan Municipality (İBB) and Istanbul Water and Sewerage Administration (İSKİ) contributed to this literature by publishing an extensive collection of books on Istanbul's water. Notably, *Istanbul Su Külliyesi*, with its 34 volumes, provides the researchers with a wide array of documents from the pious foundations' water records to qadi registers, covering almost every aspect of the history of water management in Istanbul from the sixteenth to the early twentieth century, often framed by

27 Yurdakul, *Aziz Şehre Leziz Su*, 166-168.

28 Among many, Çeçen's works are notable on this subject matter See, *İstanbul'un Osmanlı Dönemi Suyolları*; Kazım Çeçen, *İstanbul'un Vakıf Sularından Halkalı Suları* (İstanbul: İSKİ, 1991) Kazım Çeçen, *İstanbul'un Vakıf Sularından: Üsküdar Suları* (İstanbul: İSKİ, 1991); Kazım Çeçen, *Mimar Sinan ve Kırkçeşme Tesisleri* (İstanbul: İSKİ, 1988) Also see, Burhan Oğuz, *Bizans'tan Günümüze İstanbul Suları* (İstanbul: Simurg, 1998); Davut Hut, *İstanbul'un 100 Su Yapısı* (İstanbul: İstanbul Büyükşehir Belediyesi Kültür A.Ş. Yayınları, 2010).

narratives that praise the glorious Ottoman past.²⁹ Other studies examine the pious foundations (waqfs) that played a crucial role in water distribution and the foreign companies that became involved in this sector from the nineteenth century onwards, relating these developments to Ottoman modernization and integration into capitalist systems.³⁰ While these studies offer valuable information on the distribution, use, and management of water, most remain descriptive and provide a limited framework for understanding political and social hierarchies, conflicts of interest, relevant political and economic transformations, the role of water in daily life, and the ecological processes associated with water.³¹ They also fall short by adhering to the modernization paradigm, presenting a linear narrative of the development of a centralized water management system.

Recent scholarship has taken steps to overcome these limitations. Noyan Dinçkal's brought a cultural perspective to the transformation of water supply management in late nineteenth-century Istanbul. Yet, his analysis falls short of critically engaging with the modernization paradigm, as he terms the transition to subscription based water consumption as "reluctant modernization."³² Deniz Karakaş's research, too, analyzes the socio-cultural dynamics behind the patronage, design, construction, operation, and maintenance of Istanbul's waterworks in the late seventeenth and early eighteenth centuries. It delineates the multifaceted transformation of water allocation practices in the Imperial capital. By showing the existence of privatization-like practices in early modern period, he corrects the linear narrative that associates the "modernization" of water management solely with the late nineteenth

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- 29 Çelik, *Su Hukuku ve Teşkilatı*; Mustafa İnce, "İstanbul Su Külliyesi," *Türkiye Araştırmaları Literatür Dergisi* 2, no. 4 (2004): 669-679
- 30 Haydar Kazgan & Sami Önal, *İstanbul'da Suyun Tarihi: İstanbul'un Su Sorunun Tarihsel Kökenleri ve Osmanlı'da Yabancı Su Şirketleri* (İstanbul: İletişim Yayınları, 1999); İlhami Yurdakul, *Aziz Şehre Leziz Su: Dersaadet (İstanbul) Su Şirketi, 1873-1933* (İstanbul: Kitabevi, 2010)
- 31 İnal, "Environmental History as an Emerging Field."
- 32 Noyan Dinçkal, "Reluctant Modernization: The Cultural Dynamics of Water Supply in Istanbul, 1885-1950," *Technology and Culture* 49, no. 3 (2008): 675-700.

century with the influx of foreign capital.³³ Other studies bring a critical perspective to the Ottoman waqf system. Aslı Cansunar's article examines the philanthropic provisioning of water in Istanbul through the waqfs, highlighting the unequal access to water based on ethno-religious and socio-economic divisions.³⁴

Water, is "thick with politics" according to Wiebe Bijker.³⁵ In other words, water, both as resource and infrastructure, is deeply intertwined with the shaping of landscapes, societies, and power dynamics. Environmental history and political ecology frameworks unravel these dynamics, showing how water constructs social realms and is central to organizing life in past and present societies. These works highlight the existence of "multiple water ontologies," where the meaning of water shifts between being a resource, a commodity, or a political tool depending on the context.³⁶

In *Cultivating the Nile*, Jessica Barnes explores the complex and contested nature of water management along the Nile River in Egypt.³⁷ By examining the interactions among farmers, state officials, and natural systems, Barnes demonstrates how water is constantly negotiated and redefined, revealing the socio-political dynamics embedded in everyday practices of allocation and use. Similarly, Matthew Vitz's *City on a Lake* illustrates how Mexico City's urban development was closely linked to water control, revealing the deep connections between water management, inequality, and elite power.³⁸ Nikhil Anand, in *Hydraulic City*, explores the "politechnics" of water supply in Mumbai, showing that water is never just a material resource but a contested

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- 33 Deniz Karakaş, "Clay Pipes, Marble Surfaces: The Topographies of Water Supply In Late Seventeenth-and Early Eighteenth-Century Ottoman Istanbul," (PhD diss., State University of New York at Binghamton, 2013).
 - 34 Aslı Cansunar, "Distributional Consequences of Philanthropic Contributions to Public Goods: Self-Serving Elite in Ottoman Istanbul," *Journal of Politics* 84, no. 2 (2022): 889–907.
 - 35 Wiebe E. Bijker, "Dikes and Dams, Thick with Politics," *ISIS* 98, no. 1 (2007): 109–123.
 - 36 Jessica Barnes and Samer Alatout, "Water Worlds: Introduction to the Special Issue," *Social Studies of Science* 42, no. 4 (2012): 483–488.
 - 37 Jessica Barnes, *Cultivating the Nile: The Everyday Politics of Water in Egypt* (Durham, NC: Duke University Press, 2014).
 - 38 Matthew Vitz, *City on a Lake: Urban Political Ecology and the Growth of Mexico City* (Durham, NC: Duke University Press, 2018).

and politicized entity.³⁹ Together, these works demonstrate that water governance and infrastructure are dynamic sites of negotiation and power, shaped by technical, social, and political forces that often exacerbate inequalities and transform landscapes to serve particular interests.

Recent environmental and ecological interventions also enriched the historical scholarship in the history of water in the Ottoman Empire and the larger Middle East. Alan Mikhail's *Nature and Empire* investigates Egypt's transition from an Ottoman imperial system of natural resource management to a centralized Egyptian bureaucracy from an environmental history perspective.⁴⁰ Micheal Christopher Low's research makes an environmental reading of Ottoman attempts to provide potable water to pilgrimage through infrastructural interventions in Hijaz. He reveals, how Ottoman technopolitical moves to reshape environmental imaginary of this region interacted with broader frontier politics.⁴¹ Other works focus on the ecological aspects of developmental and infrastructural projects that were projected onto rivers and streams. Faisal Husain's works, for instance, evaluate the political tensions in Ottoman Iraq through the ecological history of the Euphrates River. On a similar note, Husain's book *Rivers of the Sultan* fills a significant gap in the literature by highlighting the overlooked role of the Tigris and Euphrates, the "twin rivers" as he terms them, in the political, military, and socio-economic transformations of the early modern Ottoman Empire. The work shows how people engaged with their natural environment, harnessed its resources, and navigated the challenges and disruptions it brought.⁴² Camille Cole's research focuses on Tigris, again, from a different angle. She explores the political disputes surrounding irrigation and the expansion of the steam fleet on the Tigris to understand the complex relationship between ecological vulnerability,

39 Nikhil Anand, *Hydraulic City: Water and the Infrastructures of Citizenship in Mumbai* (Durham, NC: Duke University Press, 2017).

40 Alan Mikhail, *Nature and Empire in Ottoman Egypt*.

41 Michael Christopher Low, *The Mechanics of Mecca: The Technopolitics of the Late Ottoman Hijaz and the Colonial Hajj* (Unpublished PhD dissertation, Columbia University, 2015), 230-263; Michael Christopher Low, "Ottoman Infrastructures of the Saudi Hydro-State: The Technopolitics of Pilgrimage and Potable Water in the Hijaz," *Comparative Studies in Society and History* 57, no. 4 (2015): 942-974.

42 Husain, *Rivers of the Sultan*.

technological precarity, and the practices of empire and diplomacy. Her study argues that the environmental and geopolitical precariousness steamships faced reinforced one another, ultimately shaping the character of the British steam enterprise on the river. It also underscores how these overlapping forms of precariousness influenced broader imperial strategies in the region.⁴³ In another work investigating ideological and economic investments in steamship as a tool of *nafia*, Cole reveals how infrastructural interventions spoke to different temporalities, linking present to future.⁴⁴

Regarding the case of Istanbul's water, Esra Sert's article explores the shift in Istanbul's water management in the nineteenth century, emphasizing how the city's infrastructure was influenced by a "metabolic flow" of water that reflected the transition from labor-intensive to capital-intensive methods. This transformation was marked by the entry of private capital, which introduced modern water systems, such as the Dersaadet Water Company, shifting the management of water from communal labor and state oversight to technology-driven and profit-focused approaches. However, this modernization was uneven and largely served elite areas, leaving poorer districts with inadequate access and sanitation, mirroring broader social inequalities.⁴⁵ Though Sert includes the relationship between urban space, nature, and humans in her analysis, her framework ultimately presents a modernist, unilinear perspective that envisions a transition from labor-intensive water provisioning to a capital-intensive model. Historian Mehmet Kentel's research provides valuable insights that help address these limitations. He uses water as a critical lens to show how modern urban spaces "have been shaped by the interaction of a wide variety of human and non-human actors."⁴⁶ Focusing on the Dersaadet Water Company's infrastructural works in and around Lake Terkos, Kentel reveals how these operations altered local access to water resources while also

43 Camille Cole, "Precarious Empires: A Social and Environmental History of Steam Navigation on the Tigris," *Journal of Social History* 50, no. 1 (2016): 74–101.

44 Camille Cole, "Nafia for the Tigris: The Privy Purse and the Infrastructure of Development in Late Ottoman Iraq, 1882–1914," *History of Science* 64, no. 4 (2021): 459–492.

45 Esra Sert, "Metabolic Flows of Water in Istanbul in the Nineteenth Century: Tap Water, Waste, and Sanitation," *Journal of Urban History* 50, no. 1 (2024): 198–215.

46 Kentel, "Assembling 'Cosmopolitan' Pera," 159.

creating new attractions and leisure opportunities for the upper classes.⁴⁷ In recent times, art and architectural historians also benefited from the political ecology framework. As discussed above, for instance Mizbani analyzes “hydromentality” of Hamidiye fountains of Istanbul by exploring the discourses of hygiene, aesthetics, charity, piety, and beauty in which they are situated, as well as the fountains’ physical characteristics.⁴⁸

§ 4.3 Infrastructure and Water Scarcity

Political ecology and environmental history frameworks invite us to de-naturalize the issue of water scarcity. These critical perspectives have increasingly demonstrated that water scarcity is not solely a natural condition but is often shaped by government policies, technological choices, and regulatory frameworks. Barnes argues that state interventions frequently contribute to water scarcity,⁴⁹ while Gyawali and Dixit highlight the role of technological decisions in determining access to water.⁵⁰ Similarly, Bakker examines how regulatory regimes can exacerbate scarcity by influencing water distribution.⁵¹ These studies suggest that scarcity is often socially constructed for political purposes, including nation-building, protecting specific agricultural interests, or supporting large infrastructure projects.⁵² Additionally, Kaika contends that water scarcity is sometimes used to justify resource privatization.⁵³ This body of work calls for deeper analysis of who controls water resources, the political

47 Ibid.

48 Mizbani, “Hamidiye Fountains in Late Ottoman Istanbul.”

49 Barnes, *Cultivating the Nile*.

50 Dipak Gyawali and Ajaya Dixit, *The Construction and Deconstruction of Scarcity in Nepal: The Political Ecology of Water* (Kathmandu: Nepal Water Conservation Foundation, 2010).

51 Karen Bakker, *An Uncooperative Commodity: Privatizing Water in England and Wales* (New York: Oxford University Press, 2000).

52 Samer Alatout, “Bringing Abundance into Environmental Politics: Constructing a Zionist Network of Water Abundance, Immigration, and Colonization,” *Social Studies of Science* 39 (2009): 363–394.

53 Maria Kaika, “Constructing Scarcity and Sensationalising Water Politics: 170 Days That Shook Athens,” *Antipode* 35, no. 5 (2003): 919–954.

and economic motives behind these decisions, and how they shape both the perception and reality of scarcity.⁵⁴

In *Cultivating the Nile*, Jessica Barnes also argues that water scarcity is not just a natural condition but socially constructed through political and institutional practices. She introduces the concepts of “flows of scarcity” and “production of scarcity” to explain how scarcity is unevenly distributed and actively created. “Flows of scarcity” refer to how water shortages move through irrigation systems, shaped by uneven distribution and bureaucratic decisions, while the “production of scarcity” highlights “what water flows where”.⁵⁵ Barnes emphasizes that water scarcity in Egypt is the result of governance, social negotiations, and institutional decisions, challenging the idea that scarcity is purely physical.⁵⁶ Her research is significant in terms of demonstrating “the presence or absence of water is not given but is produced through particular sets of social, technical, and political interactions.”⁵⁷

Through Ottoman conduits and fountains, scarcity flowed as well. Despite ongoing construction and repair efforts, Istanbul faced a persistent problem of water scarcity that impacted various social strata of Ottoman society. While infrastructural, topographic, and natural factors played a role, social and political dynamics were equally significant. Negotiations and conflicts between Ottoman residents and the state continually adapted, redirected, and reshaped the flow of scarcity. Drawing on Sennett’s framework, the interaction between the structured ville and the adaptive cité illustrates that water management in Istanbul was not merely a top-down imposition but a contested and negotiated process shaped by the everyday practices of its inhabitants.⁵⁸

Providing a very brief narrative of Ottoman’s waterway construction efforts in Istanbul, chronicler Abdurrahman Şeref underscores that water scarcity [*su müzayakası*] was part of the Ottoman urban experience. His historical overview cites the population growth as one of the most important

54 Gyawali and Dixit, *The Construction and Deconstruction of Scarcity in Nepal*.

55 Barnes, *Cultivating the Nile*, 36.

56 Ibid.

57 Ibid.

58 Sennett, *Building and Dwelling*.

reasons for the inadequate water supply and the driving force for the development of new sultanic waterways since the establishment of the Empire. According to his narrative, before the conveyance of Terkos Waters, the residents of Beyoğlu and Tophane suffered from draught as the wells that they depended on would dry up during the summer months.⁵⁹ The portrayal of Terkos Waters as the solution to water scarcity will be critically examined at the end of this chapter.

Though water scarcity was a common denominator for the whole city, some parts of the city suffered more. In nineteenth-century Ottoman Istanbul, transporting water to higher elevations was particularly challenging due to the city's hilly terrain and the limitations of existing water infrastructure. Traditional systems like aqueducts, cisterns, and fountains relied primarily on gravity for water distribution, making it difficult to push water uphill. The technology needed to overcome higher elevations—such as advanced pumps—was not yet widely available. While some rudimentary water-lifting devices existed, they were insufficient for transporting large quantities of water to higher districts. Additionally, the city's water infrastructure, designed over centuries to handle flatter areas, lacked the capability to effectively manage water pressure and flow to elevated locations. Without access to modern energy sources, such as electricity or reliable steam power in the early part of the century, lifting water remained a labor-intensive and inefficient task. As Abdurrahman Şeref also underlined, Beyoğlu's higher elevation, for instance, was making it difficult to carry water here. In such times, water carriers were roaming on the streets of Beyoğlu, selling water for extremely high prices.⁶⁰ Hence, in explaining water scarcity, Abdurrahman Şeref brings together topographic factors with socio-economic ones. On a similar vein, Basiretçi Ali Efendi's writings from the 1870s link natural factors to the failures of the city's water administration, highlighting the involved actors' tendency to prioritize their own interests over the public good.⁶¹

59 Abdurrahman Şeref, "İstanbul'da Su Muzayakası: 1179 Senesine Aid Birkaç Vesika," *Tarih-i Osmani Encümeni Mecmuası* 1, no. 38 (1332): 65–73.

60 Ibid., 65–67.

61 Basiretçi Ali Efendi, *Şehir Mektupları*, prepared by Nuri Sağlam (İstanbul: Kitabevi, 2011), 135.

The Ottoman bureaucracy and municipal administration sought several ways to address this water scarcity. While natural factors affected the amount of water flowing through Istanbul's conduits, the deteriorating condition of the existing infrastructure was another factor. For instance, from Paşabahçe to the neighborhoods of Üsküdar and Kadıköy, the aqueducts were intended to supply water to the mosques and other charitable works in the area. However, most of these aqueducts were in a state of ruin, and thus, the available water was insufficient to meet the needs and consumption of the local population.⁶² To address these breakdowns, constant repair and reconstruction efforts were undertaken. However, given the extent of the repairs required for Istanbul's water infrastructure and the associated costs, reconstruction activities were carried out in a fragmented manner rather than following a holistic, systematic approach. Even a quick review of archival documents reveals the extent of the financial struggles between the Istanbul municipality, the Ministry of Foundations, and the central government.⁶³ Common infrastructural interventions to Istanbul's waterscape included inserting new pipes and repairing the old ones, raising the height of dam barriers to collect more water, and cleansing pipes and waterways to prevent blockages.

In some cases, the ongoing repair activities added a human-made dimension to the naturally occurring water scarcity, further blurring the boundaries between natural and human factors in Istanbul's water management. Particularly during the last decade of the nineteenth century and the early twentieth century, one notable solution the Ottoman Empire developed to overcome this scarcity was purchasing water from the Dersaadet Water Company. This approach intertwined natural limitations with human-engineered solutions, and providing an implicitly justified water's privatization.

A letter from the Ministry of Foundations to the Grand Vizier exemplifies this complex situation. The Minister informed the Grand Vizier that, due to ongoing repair activities had disrupted the flow of water to the fountains of Beyazıd Mosque Complex, the Sultan Ahmed Mosque, and several fountains funded by other pious foundations [*hayrat*], causing hardship for people in

62 Ergin, *Mecelle*, v. 3, 1170.

63 See for instance, BOA., A.}MKT.MHM., 594-12, 23 Kanun-ı sani 1309 [4 Şubat 1894].

the surrounding neighborhoods. The letter detailed the water allocation across various regions. Recently, the amount of water reaching Dersaadet had decreased to 5 *lûles*.⁶⁴ Of this, 2 *lûles* were allocated to the Aksaray and Cerrahpaşa neighborhoods to relieve local residents, while the remaining 3 *lûles* were allocated to the General Prison [*Hapishane-i Umumiye*] and military offices [*Devair-i Askeriyye*]. Based on these calculations, the Minister informed the Grand Vizier that there was no water left to supply the fountains maintained by the pious foundations. As a solution, the Minister suggested purchasing water from the Dersaadet Water Company. He noted that while the company typically sold one cubic meter of water for 3 guruş, they had negotiated a discount, and the company agreed to sell water for 60 para per cubic meter.⁶⁵ There were earlier instances of buying water from Terkos Company. In the fall of 1898, the available water stored in the dams was completely depleted, and the fountains were supplied with water purchased from the Terkos Company, again. Yet, the authorities had complex feelings towards Terkos Water. To avoid having to buy water from the company again, Mayor Rıdvan Paşa suggested raising the height of the dam barriers in a letter he wrote to Yıldız Palace. He expected this would allow the dams to collect more rainfall.⁶⁶

Another factor that brought natural and non-natural factors together in producing water scarcity was natural disasters and epidemics. The 1894 earthquake, for instance, harmed city's water infrastructure greatly. Whereas broken aqueducts were failing to carry water and wasting it, the broken waterways cut the connection between the dams and fountains. This earthquake overlaps with the 1893-94 cholera outbreak, which further exacerbated the concern towards water hygiene. Following the infrastructural crises caused by this earthquake and the cholera outbreak, the Ottoman Empire formed a commission to investigate the water structures, estimate the costs for repair and reconstruction, and ensure the speedy recovery of water

64 One *lûle* is approximately 52 cubic meters of water.

65 BOA., Y. HUS. 504-82, 28 Haziran 1322 [11 July 1906].

66 BOA., Y.MTV. 184-52, 17 Teşrin-i Sani [29 November 1898].

provisioning.⁶⁷ As historian Burcu Kurt emphasizes, Dersaadet Water Company exploited this disaster, considering it an opportunity to increase its subscription numbers.⁶⁸

There were also instances when the water supply was intentionally cut off due to sanitary concerns. In 1904, the water supply of several fountains located in Sofular, Aksaray, was cut off after state authorities cited contamination from waste flowing from a nearby slaughterhouse as the reason. They deemed the situation a health hazard [*mugayir-i sıhhat*] and halted the fountains. Hoping to solve one problem, however, they created a new one: local residents struggled with water shortage.⁶⁹ These types of subterranean overlaps were not uncommon. In other cases, sewers contaminated drinking water, especially in densely populated areas. For example, a letter written by Mayor Rıdvan Paşa in November 1893, during the cholera outbreak, described how the Galatasaray waterway had been polluted by wastewater from Nişantaşı's houses, leading to the closure of some fountains supplied by this water. Despite financial strains, plans for construction and repairs were on the horizon. However, Rıdvan Paşa warned the Council of Ministers about the dangers of opening the sewers during a cholera outbreak, stressing that such actions could increase the number of illnesses and deaths. He advised postponing the repair and reconstruction plans until the cholera outbreak subsided, even though this would intensify the existing water shortage.⁷⁰ In this instance, water scarcity was both a cause and a consequence of the cholera outbreak.

Although the Ottoman elite had better resources to protect themselves from water shortages, archival documents show that even sultanic palaces occasionally experienced water scarcity or poor water hygiene at times. As mentioned earlier, ongoing repair and reconstruction activities caused water shortages. Istanbul's traditional water structures had many issues, and fixing them required effort, technical expertise, and financial resources, all of which

67 Burcu Kurt, "Payitaht'ın Suyunu Muhafaza Etmek: 1894 Depremi Sonrası Kırkçeşme Su Yolu-nun Tamiri," in *Kanunî Sultan Süleyman Dönemi ve Bursa*, ed. Burcu Kurt (Bursa: Gaye Kitabevi, 2019).

68 Ibid., 457.

69 BOA., DH. MKT., 838-53, 22 Mart 1320 [4 April 1904].

70 BOA., ŞD. 768-13, 20 Teşrin-i Evvel 1309 [1 November 1893].

contributed to the frequent disruption of water flow through city's conduits. In 1894, Mayor, Rıdvan Paşa, referenced a report from the Directorate of Water that warned the maintainers of water conduits about a potential water shortage in the imperial palaces located in Yıldız and Beşiktaş. The dams supplying water to these palaces were undergoing repairs and sanitization, and as a result, certain waterways would be sealed with cement for an indefinite period. As a precaution, the palace's maintainers of water conduits were advised to keep the contingency reservoirs filled with enough water to last two to three days.⁷¹ However, the unequal distribution of the available water from the dams to different districts of Istanbul underscores the privileged status of elite households and palaces.

Table 4.2 The allocation of daily amount of water from The New Dam, Valide Dam, Topuzlu Dam, and Galatasaray Waterways

Area	Water Supply (in <i>lüle</i>)	Percentage of Total Supply
Çırağan Palace	9	12%
Beşiktaş, Dolmabahçe Palace	12	16%
Yeniköy	4.5	6%
To Çiflik-i Hümayûn and Maslak	1.5	2%
To Emirgan, Boyacıköy and Baltalimanı	6	8%
To Arnavutköy and Kuruçeşme	4	5.3%
Towards Ortaköy	3	4%
To İshakiye Neighbourhood	1	1%
To Tatavla	2	2.7%
To the Barracks and Hospitals	4	5.3%
To Beyoğlu for Water Distribution (Taksim)	25	33.3%
From Levend Çiftliği Spring to Galatasaray	3	4%
	75	100

SOURCE Ergin, *Mecelle*, v. 3, 1170.

The table exemplifies a significant disparity in water distribution in Istanbul, with palaces receiving the highest allocations. Whereas the combined supply to Çırağan and Dolmabahçe palaces account for 28%, residential areas

71 BOA., Y.PRK.ZB., 13-28, 8 Haziran 1310 [20 June 1894].

such as İshakiye, Ortaköy and Tatavla receive only 1% 4% and 2.7% respectively.

§ 4.4 The Role of *Su Yolcus* in Producing Water Scarcity

The actors involved in the distribution, repair, and construction of waterways, as well as the transportation of water in late Ottoman Istanbul, contributed to the uneven patterns of water distribution in the city and even its scarcity. Among them, I will focus on the case of maintainers of water conduits [*su yolcular*].

Maintainers of water conduits were officers responsible for the maintenance and repair of waterways. In addition to receiving tax exemptions, they were paid wages based on the significance of their tasks. For those serving under pious foundation, their wages paid in akçe, were determined by the the number of days they worked and issued by the foundation administration.⁷² In addition to their regular salaries, they earned contracted wages for repair work and were reimbursed for their repair expenses at the end of the year. Delays or issues in their payments occasionally led some maintainers of water conduits to deliberately damage the water channels serving baths, private residences, or neighborhoods that fail to pay their dues on time, allowing them to charge substantial fees for repairs.⁷³

Starting in the nineteenth century, the increasing number of these positions, coupled with inadequate compensation, led to the further deterioration of the water distribution system. There were constant accusations that the maintainers of the water conduits were deliberately damaging waterways to extort money from the public.⁷⁴ It was in this context that the 1826 İhtisab Regulation noted that water carriers were sabotaging the water supply and oppressing the population, while overseers ignored these abuses.⁷⁵

In the late nineteenth century, the Ottoman state sought to curb the practice of some maintainers of water conduits inflating repair costs to secure

72 Abdullah Martal, “Osmanlı İmparatorluğu’nda Su Yolculuk,” *Belleten* 1988, v. 52, no 205, 1615.

73 Asaf, *Anadoluda İçilecek Sular*, 5.

74 Martal, “Osmanlı İmparatorluğu’nda Su-Yolculuk,” 1620.

75 Ergin, *Mecelle*, v.1, 341.

additional funds from the administration. As part of these efforts, they became eligible for fixed annual payments for repairs and were prohibited from requesting additional funds beyond the established amount. The position of water maintainers was often hereditary, passed down from father to son, which hindered the efficient performance of services and made it difficult to replace ineffective individuals. To address this issue, the state reassigned ineffective workers to other roles or dismissed them altogether, appointing replacements from outside their families when necessary. Given the importance of water management, the central administration issued assignment papers to maintainers of water conduits to prevent unauthorized interference in water-related matters. Maintainers of water conduits who neglected their duties or engaged in irregularities faced dismissal. Actions such as obstructing water flow or collecting unnecessary fees under the pretext of repair expenses were grounds for termination. In cases of repeated negligence or complicity in abuses, offenders could be reassigned or exiled from their duty areas. If a deceased waterworker had no son to inherit the role, another individual was appointed to fill the position.⁷⁶

Ottoman archival documents provide various cases that maintainers of water conduits contributed to the water shortage endured by the people of Istanbul by “producing” scarcity in Barnes’ terms. For instance, according to a police report from Fatih, the Darüssaade Ağası Hacı Mustafa Ağa Fountain had been flowing regularly after a thorough repair. However, the water was abruptly cut off. Upon investigation, the police discovered that the water worker responsible for the repair had intentionally halted the flow. The Zabtiye Ministry referred the case to the Directorate of Water, highlighting that the worker was demanding a monthly payment, prioritizing his personal gain over the public’s interest.⁷⁷ What flowed from the fountain was not water, but the palpable absence of it—a stark reminder of how scarcity can be manufactured for profit.

Basiretçi Ali Efendi shares similar anecdotes from earlier decades, frequently criticizing the negligence, greed, and corruption of maintainers of

76 Çelik, *Su Hukuku ve Teşkilatı*, 149-155.

77 BOA., ZB. 66-38, 3 Teşrin-i Evvel 1323 [15 October 1907].

water conduits. In several of his writings, he lamented that these workers intentionally neglected minor repairs, such as small cracks in a spout, allowing them to worsen before addressing the issue.⁷⁸ In another piece, Basiretçi Ali Efendi discussed the misconduct and abuses by both maintainers of water conduits and water carriers, which contributed to water scarcity in Istanbul. He accused them of shutting off most of the fountains and redirecting the water to public baths and gardens, from which they profited.⁷⁹ While Ali Efendi acknowledged the link between the city's ecological and climatic cycles of fluctuating rainfall and the available water supply,⁸⁰ he focused on human agency in ensuring equitable water distribution. He argued that maintainers of water conduits, motivated by self-interest and seeking to fill their own pockets [*kîse-i hamiyet*], interfered with the already uneven distribution of water in the city. As a result, in addition to topographical and climatic challenges, the personal interests of these workers further disrupted equitable water distribution in Istanbul.⁸¹ From his perspective, the city experienced water scarcity even when the dams held sufficient water.⁸² Therefore, the real issue was not the water supply itself but the maintainers of water conduits' "lack of fairness" [*noksan-ı insaf*].

§ 4.5 Corruption and Water Scarcity

In addition to the role of individual maintainers of water conduits, there were also institutional problems within the Directorate of Water. For instance, a tension arose in early 1894 between several maintainers of water conduits and officials. Three maintainers of water conduits, including the chief water worker of the Topkapı Palace, submitted a petition to the grand vizier's office regarding an investigation into Faik Efendi, the First Secretary of the Water Directorate, who was accused of corruption and embezzlement.⁸³ While prior

78 Basiretçi Ali Efendi, *İstanbul Mektupları*, 113.

79 Ibid., 151.

80 Ibid., 423.

81 Ibid., 304.

82 Ibid., 329, 423.

83 BOA., ŞD. 766-12, 4 Nisan 1309 [16 April 1893].

correspondence existed on the case, the bureaucratic language obscured the specifics of Faik Efendi's misconduct, using vague terms such as "lots of abuses [*bir hayli suistimalat*]. Here it should again be noted that in the early nineteenth century, the water ministry faced significant issues in its organization, particularly concerning the maintenance and protection of water resources. Another key problem was the conflict between the Director of Water and the maintainers of water conduits. This disagreement, driven by financial concerns, resulted in measures like salary adjustments to address the situation.⁸⁴

A commission, consisting of one member from the Ministry of Foundations and two from the Istanbul Municipality, was formed to investigate the matter. After their initial inquiry, Faik Efendi was removed from his post but was later reinstated, with the condition that he could remain in office until the investigation concluded. This decision sparked discontent among the maintainers of water conduits, as expressed in their petition to the grand vizier. In their petition, the maintainers of water conduits accused Faik Efendi of embezzling money during the repair of certain waterways in Kırkçeşme and Beyoğlu. They also criticized him for failing to maintain proper records, including the official books [*defter*] and summaries [*icmal*] of the Directorate. Additionally, they pointed out that some maintainers of water conduits were sent to carry out repairs in certain areas without official authorization [*pusula*].⁸⁵ According to archival documents, Faik Efendi was also accused of improperly distributing water worker titles in violation of regulations.⁸⁶ Typically, when a waterman passed away, his position was inherited exclusively by his male children. If no heirs were available, the service would be transferred to other individuals through an auction.⁸⁷

This latter point is particularly significant, as it suggests that some repair activities were conducted informally, without the knowledge of higher authorities. Faik Efendi, likely in collusion with other bureaucrats and

84 Çelik, *Su Hukuku ve Teşkilatı*, 95.

85 BOA., ŞD. 766-12., 4 Nisan 1309 [16 April 1893].

86 BOA., ŞD. 3007-8, The first document in this dossier does not specify a date, while the other correspondences date between 1897 and 1902.

87 Ergin, *Mecelle*, v.5., 2853-2856.

maintainers of water conduits, appeared to profit from this informal system. At the same time, this arrangement benefited people who could afford to bypass official channels to address water shortages or infrastructural problems, indicating the existence of an unofficial, makeshift solution to such issues. For instance, a report from the Ministry of Internal Affairs dated 1906 confirms this situation. It underlines that the residents of Silivri were suffering from water shortages because certain influential [*nüfuzdar*] individuals had appropriated a portion of the water that rightfully belonged to the people of Kale neighborhood.⁸⁸ Just as the flow of water can be redirected, so too can the flow of scarcity be deliberately engineered.

In their petition, the chief maintainers of water conduits argued that reinstating Faik Efendi violated established procedures and regulations [*mugayir-i usul ve nizam*]. In response to these accusations, the Istanbul Municipality defended their decision to reinstate him, claiming that the alleged corrupt practices occurred during the tenure of the previous First Secretary of the Water Directorate, Emin Efendi. In his account of the events, Mayor Rıdvan Paşa stated that during repairs on the Paşabahçe waterways, the individual who requested the repairs admitted to paying around two thousand guruş, supposedly intended for Emin Efendi. Furthermore, Emin Efendi was uncooperative, refusing to respond to summons related to the investigation. This, Rıdvan Paşa argued, justified his decision to reinstate Faik Efendi until the investigation was completed, under the assumption that the misconduct was committed by Emin Efendi, not Faik Efendi.⁸⁹ By curating his narrative in this way, Rıdvan Paşa implicitly acknowledges the existence of corruption within the Directorate. The conflict between the Municipality and Ottoman bureaucracy is notable and reflects the changing ownership of the Directorate of Water between Municipality and Ministry of Foundations between 1876/77 and 1908/09. While disagreements among various Ottoman institutions contributed to the conflicts—fueled by competition and corruption—the 1893-94 cholera pandemic further intensified the struggle for access to clean, drinkable water.

88 BOA., DH. MKT., 1125-15, 3 Teşrin-i Evvel 1322 [16 October 1906].

89 Ibid.

§ 4.6 Environing the Water: Bostans and Fountains in Competition

According to Basiretçi Ali Efendi's narrative, the maintainers of water conduits were also accused of diverting water to public baths [*hamams*] and urban gardens [*bostans*] on several occasions, often at the expense of neighborhood fountains. For instance, in February 1890, the water from a fountain near Taştekneler in Hasköy was diverted to a nearby *bostan*, leaving the local residents in a difficult situation.⁹⁰ A similar police report was penned for Çınarlı Çeşme in Neslişah neighbourhood, Edirnekapı. Accordingly, the fountain's water was redirected to the nearby *bostans*, causing water shortage for the residents of the neighbourhood. The Directorate of Water was informed about the situation, to restore water to the fountain as soon as possible.⁹¹

Yet, there were also instances in which the gardeners themselves directly intervened into the flow of water (and scarcity) in order to restore water for their gardens. In 1865, a gardener named Çolak Bahçıvan was accused of interfering with water flow to the fountains around Sarıgözel in Fatih.⁹² The gardeners' quest for water had both topographic and socio-economic drivers. As Shopov and Han point out, Istanbul's urban agriculture expanded significantly during the seventeenth century. In addition to the sixteenth-century Langa *bostans*, agricultural activities spread to the area between the Yedikule city walls and Silivrikapı. However, there were topographic differences between the Langa and Yedikule *bostans*. While the former was located near the Bayrampaşa stream in a low-lying area, the latter was situated at a higher elevation, making it difficult to access underground water sources.⁹³ Because of this difference, the gardeners were constantly searching for water to sustain

90 BOA., DH. MKT. 1698-90, 22 Kanunusani 1305 [3 February 1890].

91 BOA., ZB. 65-128, 11 Ağustos 1323 [24 August 1907].

92 BOA., MVL., 462-103, 6 Kanunusani 1280 [18 January 1865].

93 Aleksandar Shopov, "When Istanbul was a City of *Bostans*: Urban Agriculture and Agriculturists," in *A Companion to Early Modern Istanbul*, ed. Shirine Hamadeh and Çiğdem Kafescioğlu (Leiden and Boston: Brill, 2021), 279–307; Aleksandar Shopov & Ayhan Han, "Osmanlı İstanbul'unda Kent İçi Tarımsal Toprak Kullanımı ve Dönüşümleri," *Toplumsal Tarih*, no. 236 (2013): 34–38.

agricultural production, which sometimes led to redirecting water flow or even engaging in water thief. Hot and dry weather exacerbated the situation.

Gardeners' interventions in the flow of water through Istanbul's conduits brought different actors and technologies into conflict. A report from 1887, for instance, provides some clues about the methods gardeners used to divert water for their own needs. According to the report, water barriers [*sed*] were constructed along the branches of the Kağıthane River to divert water from the river to their gardens in the village of Bergos. While the documents do not specify who built these barriers, it is likely that the gardeners collaborated with maintainers of water conduits to carry out this work.⁹⁴

Following the gardeners' intervention, the water supply intended for the steam machines in Kağıthane had significantly decreased, and according to some reports, the stream nearly depleted. As a result, the machines in Kağıthane were left idle due to water shortage. Archival documents suggest that the earlier discussions about installing a machine and constructing necessary pipes in Kağıthane date back to the 1870s.⁹⁵ The goal was to carry water from the stream to the Beyoğlu, Galata, Beşiktaş and Ortaköy and nearby areas to alleviate the water scarcity [*killet-i miyâh*].⁹⁶ After Yıldız Palace was constructed in the late nineteenth century, supplying water to the palace became one of the primary functions of these machines (Figure 4.1).⁹⁷ According to Osman Nuri Ergin, the machines were installed during the reign of Sultan Abdülaziz (r. 1861-1876) with at an estimated cost of 18,000 to 20,000 *guruş*.⁹⁸

94 BOA., Y. MTV. 27-89, 10 Ağustos 1303 [22 August 1887]. For other archival materials covering correspondances on this issue also see: DH. MKT. 1442-23, 1442-44, 1443-59, 1443-80, 1443-84, 1451-42.

95 BOA., HR. MKT., 753-80, 28 Temmuz 1288 [9 August 1872].

96 BOA., MB.İ., 88-139, 9 Kanunuevvel 1297 [21 December 1881] & BOA. İ.ŞD., 63-3648, 2 Şubat 1298 [14 February 1883].

97 BOA., PLK.p. 761. Date unknown.

98 Ergin, *Mecelle*, v. 5, 2854.



Figure 4.1

The Plan of the Machine Room, Kağıthane.
SOURCE BOA., PLK.p. 761. (n.d.)

The Istanbul municipality requested the demolition of these “informal” barriers and demanded an end to the gardeners’ improper practices. They emphasized that wells were already available within the gardens and should be used instead of diverting water directly from the river. However, the villagers of Bergos pointed out that their irrigation system was in disrepair, and their wells were dry.⁹⁹ The documents hint that it was a particularly dry summer, with only 15 days’ worth of water left in the nearby dams and 3 days’ supply in the stream. Similar water scarcity was observed in the fountains of Beşiktaş, Nişantaşı and Ortaköy, which received their water supply from Terkos Company.¹⁰⁰ The situation was so severe that authorities warned even Yıldız Palace’s water supply could be at risk, given the limited water remaining in the dams and stream.¹⁰¹

99 BOA., DH. MKT. 1451-42, 15 Eylül 1303 [27 September 1887].

100 Y. MTV. 27-89, 13 Ağustos 1303 [25 August 1887].

101 Ibid.



Figure 4.2 The plan prepared by Monsieur Bertier [?] for transporting water from Kağıthane Spring Sources (upper left) to Yıldız Palace (bottom right), showing the placement of pressure pipes to carry the water from uphill. SOURCE BOA., PLK.p. 6479. Exact date unknown, circa 1900s.

Considering the complexities at play, determining how much water different urban communities would receive in this case became a difficult puzzle for the Ottoman government and their local representatives. This issue also led to divergent approaches among the Ottoman state elite. Whereas the Municipality was in favor of demolishing the barriers that diverted the water flow, Ottoman bureaucrats were more cautious, noting that the gardens were an important source of income for the people of Bergos. Leaving the gardens without water would create additional hardships. This concern arose after the people of Bergos approached their local representatives, the District Governorship of Kaza-ı Erbaa, to voice their grievances.¹⁰² Although the garden's

102 BOA., DH. MKT. 1442-44, 11 Ağustos 1303 [23 August 1887].

produce was seen as a source of income for the people of Bergos, it went unmentioned that this food also supported Istanbul's residents. Thus, the gardeners and the city's inhabitants were linked not only through the food they relied on but also through the water they struggled to share. In the end, the Ottoman authorities decided to purchase water from the Terkos Company to relieve the suffering of the poor [*fukara ahali*].¹⁰³

§ 4.7 Selling the land for Pipes: Dersaadet Water Company and Expropriation Conflicts in Feriköy

Another important milestone in the control of Istanbul's water flow was its privatization in the late nineteenth century. The establishment of subscription-based water provisioning emerged in the context of epidemics and growing concerns about water cleanliness. The large iron pipes laid by the Dersaadet Water Company beneath the areas of Feriköy and Tatavla, along with the construction of water pools and storage facilities, sparked debates over land expropriation. Some locals sought to profit from the increasing value of their land, by either attempting to sell it at inflated prices or prolonging the process by refusing to accept expropriation. In this scenario, various actors—state bodies, the municipality, the company, and the local population—invoked the language of public benefit [*menafi-i umumi*] and framed their grievances within legal discourse.

In the Ottoman Empire, foreign investment in public service concessions gained momentum in the nineteenth century, especially following trade agreements and the Crimean War. European states, notably France, Germany, and England, sought influence by securing rights to infrastructure and utilities, including railways, ports, gas, electricity, and telecommunication networks. Historian Soli Shahvar describes this period as an era of “concession

103 Ibid.

hunting,” marked by intense competition among foreign powers, particularly in populous, commercially active cities like Istanbul, Izmir, and Beirut.¹⁰⁴

In this context, the conventional literature on Istanbul’s water history views the privatization of the city’s water supply within the framework of modernization, shifting cultural habits, as well as population growth and infrastructural breakdowns. Since privatization was driven by foreign companies, it is also analyzed as a manifestation of foreign capital infiltrating local territories, often framed within nationalist narratives.¹⁰⁵ Some perspectives portray these private companies as exploitative entities that extracted and processed a valuable resource from Ottoman lands to sell back to the local population. In this view, the Ottoman state is depicted as lacking technical expertise and modern technology, while the local people are portrayed as passive recipients of imposed infrastructural solutions.

While all of the reasons cited earlier are valid, they overlook the everyday experiences of privatization. Recent scholarship makes important contributions in this respect. Offering a non-conventional perspective on water’s privatization in the Ottoman Empire, historian Deniz Karakaş argues that instances of water privatization can be observed in the construction of *katmas* even in the early modern Istanbul. *Katmas*, or “additions,” were small-scale water channels financed by private sponsors, often viziers or elite officials. These channels were connected to the larger sultanic water systems located in the northern and western outskirts of the city. By contributing a certain amount of water to the main system, the *katma*’s sponsor gained the exclusive right to use a portion of that water, typically two-thirds. Patrons of *katmalar* often appealed to the state to safeguard their water supply by taking action

104 Soli Shahvar, “Concession Hunting in the Age of Reform: British Companies and the Search for Government Guarantees; Telegraph Concessions through Ottoman Territories, 1855–1858,” *Middle Eastern Studies* 38, no. 4 (2002), 169–193; Necla Geyikdağı, *Osmanlı Devleti’nde Yabancı Sermaye* (1854–1914) (İstanbul: Hil Yayınları, 2008).

105 See for instance, Kate Fleet, “The Provision of Water to Istanbul from Terkos: Continuities and Change from Empire to Republic,” in *Middle Eastern and North African Societies in the Interwar Period*, ed. by Ebru Boyar & Kate Fleet (Leiden: Brill, 2018), 212–238.

against unauthorized water use by neighboring parties.¹⁰⁶ Karakaş's contribution, which highlights the presence of privatization in early modern Istanbul, is crucial for challenging the linear modernist interpretation of water privatization in the city.

While Karakaş's research provides a counter-narrative to the conventional timing of privatization, historian Mehmet Kentel's work sheds light on the everyday experiences of privatization. Focusing on the Dersaadet Water Company, the first subscription-based water provisioning model in the Ottoman Empire, Kentel explores how the company's establishment and its intervention in the natural environment of northern Istanbul transformed the "human and nonhuman geographies of Terkos."¹⁰⁷ He demonstrates how these interventions transformed Terkos into a new attraction for the upper classes, while local villagers faced reduced access to their water sources and increased struggles with flooding, caused by the very infrastructural changes implemented by the company.¹⁰⁸

As Kentel's research demonstrates, the privatization of water and the subscription-based water provisioning model impacted the everyday interactions locals had with each other, their land, nature, and animals. In this section, I will show how the emerging land conflicts influenced the Terkos Company's operation in Istanbul.

4.7.1 *Public Benefit (Menafi-i Umumi) in Tension with Private Property and Financial Interests*

The Terkos Company was established in the late nineteenth century to address the growing demand for clean water in Istanbul. By the mid-nineteenth century, the need for more reliable water sources in Istanbul led to the development of lake, dam, and stream systems, supplementing the existing cisterns and public fountains. In 1873, Sultan Abdulaziz granted a concession to Kamil Bey, a Foreign Affairs officer, and Engineer Terno Bey to supply water

106 Deniz Karakaş, "Water for the City: Builders, Technology, and Private Initiative," in *A Companion to Early Modern Istanbul*, ed. Shirine Hamadeh and Çiğdem Kafescioğlu (Leiden: Brill, 2021), 308–338.

107 Kentel, "Assembling 'Cosmopolitan' Pera," 44.

108 Ibid., 181.

from Terkos Lake and the surrounding streams to the Rumelian side of Istanbul, including key areas like Beyoğlu, Galata, and the Bosphorus. The concession included a 40-year privilege period (later extended to 75 years) and the creation of a Water Company, with capital divided into 75,000 shares.¹⁰⁹

By 1882, during the reign of Sultan Abdulhamid II, the company became known as the Dersaadet Joint Stock Water Company (also as Terkos Company). With increased capital and foreign partners, the company was granted a privilege to extract and distribute water from Terkos Lake. The contract mandated the company to supply water free of charge to public institutions such as hospitals, schools, and military barracks, and to construct fountains for the public, especially for the poor. As concerns grew over water quality, an amendment in 1887 ensured that Terkos water was treated to meet health standards, with additional infrastructure constructed to manage and purify the water supply. The company played a significant role in expanding access to drinking water across key areas of Istanbul during the late Ottoman period.¹¹⁰

The company's operation in Istanbul caused many conflicts regarding the availability and hygiene of the water, as well as delays and issues related to the construction of pipes and other water structures. One notable yet understudied conflict that highlights the impact of the Dersaadet Water Company's operations on everyday life was the land expropriation process. Investigating these conflicts reveals how water, as a material, was produced and managed on a daily basis, shaped by the socio-economic relations between various actors involved. Though similar conflicts have been analyzed in the literature, these studies often fall short in capturing the experiences of ordinary people. Dinçkal's article, for instance, examines the privatization of Istanbul's water supply and the resulting conflicts, particularly around selective supply, limited public access, and inadequate quality standards. He demonstrates how private companies focused on wealthier districts and resisted fulfilling contractual obligations to provide free water for public services, leading to tensions with

109 Ka'la, *XIX ve XX. Yüzyılda İstanbul Suları*, 21-25.

110 Ibid.

local authorities.¹¹¹ However, his analysis remains focused on institutional conflicts—between the companies and the Ottoman state or the municipality—while overlooking the reactions of the general public.

Dersaadet Water Company addressed Istanbul's water problems by introducing steam-powered pumps, which enabled the transportation of water to higher elevations, overcoming the limitations of the city's gravity-based systems. They also built a modern network of iron pipelines that replaced older, less efficient infrastructure, allowing for better water pressure control and distribution. Additionally, they constructed reservoirs and elevated storage tanks to store and regulate water flow, ensuring a steady supply even to elevated areas. By sourcing water from Lake Terkos, the company promised to secure a stable supply, solving many of the city's long-standing water issues. Among the water structures that the company established to supply water to Istanbul's various districts was water storage structures in Edirnekapı and Feriköy districts, and a water tower in Bomonti to store water for neighboring areas. These structures were connected to Terkos' water conveyance system through iron pipes constructed by the company.¹¹²

The significance of the Feriköy and Tatavla districts necessitated the expropriation of land in these areas for the company to sustain its operations. In the nineteenth century, expropriation became a structured tool in the Ottoman Empire's urban modernization efforts, formalized through key regulations in 1856, 1863 and 1879. The 1856 Regulation on Land and Property Acquisition for the Public Benefit [*Menâfi-i Umûmiyye İçin İştirâ Olunan Arâzi ve Emlâk Hakkında Nizâmnâme*] allowed the state to acquire private and waqf properties for projects deemed beneficial to the public, such as street expansions, with compensation determined by expert valuations.¹¹³ Historian

111 Noyan Dinçkal, "Water as a Commodity? Debates and Conflicts on the (De)regulation of Water Infrastructures in Istanbul, 1885–1937," in *Wasserinfrastrukturen und Macht von der Antike bis zur Gegenwart*, ed. Birte Förster and Martin Bauch (Berlin: De Gruyter Oldenbourg, 2015), 206–229. For insight into how ordinary people reacted to the impact of foreign companies' infrastructure investments on daily life, see Nurçin İleri, "İmtiyazlı Şirketlere Yönelik Şikâyetler: İstanbul Terkos Su ve Tramvay Şirketlerinin Millileştirilmesi," *Toplumsal Tarih Akademi*, no. 2 (2023): 25–51.

112 Yurdakul, *Aziz Şehre Leziz Su*, 35–56.

113 Ergin, *Mecelle*, v.2, 1756–1762.

Stefanos Yerasimos noted that while compensation was required, the regulation did not obligate the state to complete the proposed project, nor did it permit owners to contest the expropriation, leaving the process largely unilateral.¹¹⁴ The 1863 Streets and Buildings Regulation [*Turuk ve Ebniye Nizamnamesi*] further empowered the state by categorizing streets by width and justifying expropriations on grounds of public safety, fire prevention, and improved transportation.¹¹⁵ The 1879 Ordinance on Expropriation [*İstimlâk Kararnâmesi*] was mainly a revision of the 1856 regulation. As Işık Demirakın demonstrates in her study on the removal of cemeteries of nineteenth-century Istanbul, beautification, health and security were the main discourses behind the urban developments in Ottoman Istanbul, which often necessiated land expropriations.¹¹⁶

The expropriation process did not proceed as smoothly as outlined on paper. In some instances, the question of land ownership was unclear, raising doubts about who the rightful owner was. In such cases, the company was required to deposit the state-assessed compensation into a bank account, in case the owner later came forward to claim the land. One such instance involved the land owned by Sarraf Murad in Feriköy, a critical area for the company's operations.

Before the company began construction of the grand water reservoir in Feriköy, they negotiated with the local residents and expropriated approximately 11,500 m² of land during 1882-1883. Ownership of these lands remained with the company until the expiration of its concession agreement.¹¹⁷ However, in the late 1880s, conflicts arose as portions of the land along this route were claimed by Anita Hatun and Sarraf Murad, leading to disputes over ownership and the use of the land for the pipeline project. To

114 Stefanos Yerasimos, "Tanzimat'ın Kent Reformları Üzerine," in *Modernleşme Sürecinde Osmanlı Kentleri*, ed. Paul Dumont and François Georgeon (İstanbul: Tarih Vakfı Yurt Yayınları, 1999), 1-18.

115 Ergin, *Mecelle*, v.3, 1673-1685

116 Işık Demirakın, "Expropriation as a Modernizing Tool in the Nineteenth-Century Ottoman Empire: The Case of Cemeteries in Beyoğlu," *International Journal of Turkish Studies* 18, no. 1/2: 1-15.

117 Yurdakul, *Aziz Şehre Leziz Su*, 112-114.

avoid delays, the company requested an official appraisal [*kiymet takdiri*] by the Ottoman state and deposited 20% more than the appraised amount into the Ottoman Bank, as required by the Ordinance on Expropriation of Land. Then, the company proceeded with its plans, installing underground pipes between the water machinery located in Tatavla (now known as Kurtuluş) and the large water reservoir in Feriköy.¹¹⁸ The land in question was 3,549 *zira-i atik* (approximately 2040 m²), which was appraised 6 *guruş* for each *zira*.¹¹⁹



Figure 4.3

Plan by the Dersaadet Water Company (*Compagnie des Eaux de Constantinople*) detailing water distribution routes in Galata, Pera, Tatavla (Kurtuluş), Feriköy, Pangaltı, Şişli, and Şişhane. SOURCE BOA., PLK.p. 662, date unspecified.

118 BOA., DH. MKT. 1553-20, 28 Eylül 1304 [10 October 1888].

119 Ibid.

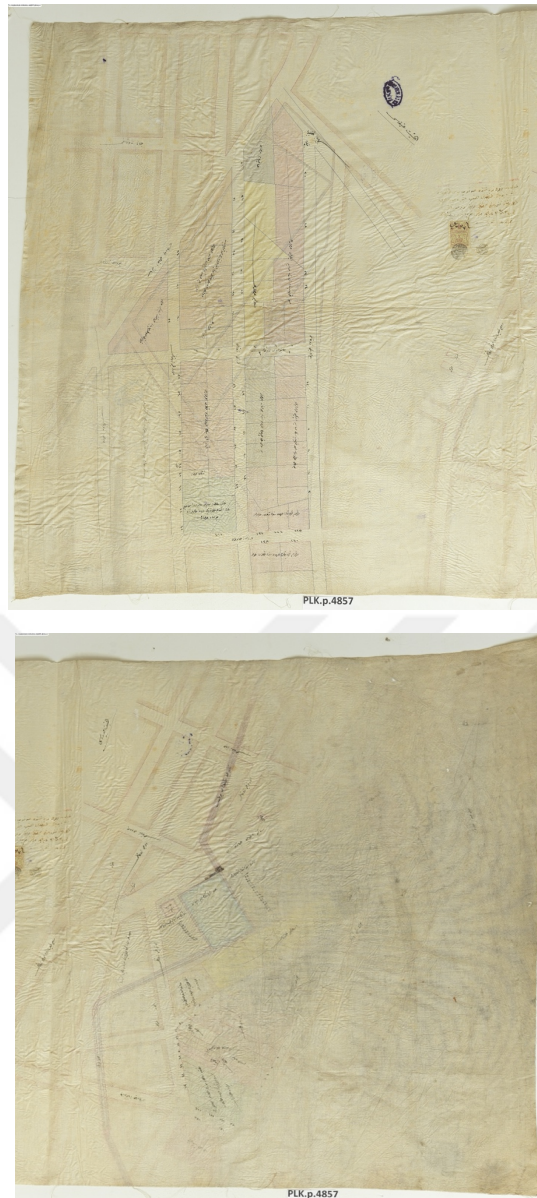


Figure 4.4

A map indicating the Water Company's waterways in Tatavla and Feriköy. The map marks privately owned land, and shows that the company began expropriating land on the outskirts of the districts. The image in the left bottom shows the location of the water reservoir and the pipes. SOURCE BOA., PLK.p. 4857, 7 Mart 1307 [18 Mart 1889]

These pipes, which promised Istanbul's residents relief from water scarcity by providing clean, easily accessible (yet expensive) water, sparked years of

legal disputes between Sarraf Murad, the company, and the Ottoman government. The initial conflict between Anita Hatun, represented by her lawyer Gregor Efendi, and Kayserili Sarraf Murad over the ownership of land was resolved in Murad's favor. Following this decision, Sarraf Murad directly challenged the legitimacy of the pipes themselves, as well as the associated notions of public benefit [*menafi-i umumi*] that justified their installation on his property, further complicating the legal battles surrounding the project. From the company's perspective, both the expropriation and the installation of the pipes on Sarraf Murad's land, without the resolution of the legal conflict over ownership, were justified as serving the public good.¹²⁰

Yet, as Sarraf Murad emphasized in his petition,¹²¹ according to the second article of the Ordinance on the Expropriation Land, for works and constructions to be carried out in the public interest, decisions must be made by the Council of State [*Şura-yı Devlet*] in Istanbul, and the approval of the Sultan [*irâde-i seniyye*] must be obtained.¹²² Hence, although the Sixth District Municipality and Istanbul Municipality (and relevant bodies within these institutions) were part of the discussion and were involved in the preparation of maps and plans, and in identifying the value of the land, they were not authorized by themselves to allow the company to expropriate any land.

Both the lower court and the courts of appeal ruled in favor of Sarraf Murad, concluding that the expropriation process and the installments of the pipes violated the regulation.¹²³ The Company argued that it had already deposited the required compensation into a bank account, as specified by the Ottoman authorities and the expropriation regulation, and believed this should have granted them the necessary permit to proceed with construction works. The Company also complained about the prolonged trial process, and the reluctance of some of the involved parties to testify in the trials.¹²⁴ They also feared that this decision would call the company's previous expropriations

120 BOA., ŞD., 790-3, 27 November 1897.

121 BOA., ŞD., 750-6., 25 Şubat 1304, [9 March 1889].

122 Ergin, *Mecelle*, v. 4, 1758-1774.

123 BOA., BEO., 1087-81518, 9 Şubat 1313 [21 February 1898].

124 BOA., ŞD., 790-3., 27 November 1897.

into question.¹²⁵ The Ministry of Interior and the Council of State, however, emphasized once again that the Company should have waited until the rightful owner of the land was identified before proceeding. The Ministry of Commerce and Public Works, on the other hand, offered a long-term perspective on the issue, suggesting that an amendment [*zeyl*] to the regulation be introduced to specify procedures for cases involving multiple claims land slated for expropriation. They believed this clarification would help prevent future financial losses for the Terkos Company.¹²⁶

Amidst this legal and bureaucratic battle, the pipes had already been installed, and how to reverse this subterranean intervention was unclear. On paper, the pipes were supposed to be removed from Sarraf Murad's land. From the company's perspective, this decision was not only halting their operations and causing financial losses but was also in conflict with their concession agreement.¹²⁷ In this context, the company was asked whether the expropriation of this particular area was truly necessary, and if so, whether the installation of the pipes was justified. The company responded affirmatively to both questions. Condoning the Company's position, the Ministry of Internal Affairs emphasized the risks associated with removing the pipes, warning that such a move could disrupt the water supply.¹²⁸ Ottoman authorities then advised the company to convince Sarraf Murad that the installation of the pipes on his land was essential.¹²⁹

However, from the course of the trial and the correspondence between the company, the Municipality, and the government over a span of ten years, it became evident that Sarraf Murad remained unconvinced. Although the situation remained unresolved, the suggested solution was to restart the expropriation process. If Sarraf Murad continued to refuse to sell his land, the Ottoman state would expropriate the property for the public benefit. Public health considerations were a key factor justifying public benefit in this case. Yet, it was interesting that this whole debate was framed without making any

125 Ibid.

126 BOA., DH. MKT. 2179-115, 7 Mart 1315 [19 March 1899].

127 BOA., ŞD., 750-56., 27 November 1897.

128 BOA., ŞD. 816-16/4, 15 Teşrin-i Sani 1319 [28 November 1903].

129 BOA., BEO., 1087-81518, 9 Şubat 1313 [21 February 1898].

reference to water scarcity in Istanbul, and its significance in terms of public health. It was elaborated more as a technical and legal matter.

The discussions surrounding the cartographic depictions of the Feriköy-Tatavla districts provide further insight into the Ottoman state's reluctance to side with the Company. From the Company's perspective, one of the main reasons for the land dispute and resulting confusion was the Sixth District Municipality's designation of the areas where the pipes were laid as streets (*sokak*). In response to this claim, Mayor Rıdvan Paşa argued that the maps in question merely indicated the location of the machinery, not the water pipes. From the municipality's viewpoint, the Company had installed the pipes wherever they wanted, and some of those installations ended up on Sarraf Murad's land.¹³⁰

Sarraf Murad's reluctance to give his land to the company, or his insistence on the removal of the pipes, might have been motivated by several factors. From the perspective of landowners, expropriations were sometimes viewed as opportunities to gain excessive financial benefits. While there is no direct evidence of Murad's motivations to seek more money for his land, his case provides valuable insights into the relationship between foreign concessions and local populations. The story of Sarraf Murad's defiance and legal battle against the company complements the stories that evaluate how the Terkos Company exploited the natural resources of local people, preventing them from accessing their own water sources, and how they intervened in the flow of water.¹³¹ As Sarraf Murad's and other land disputes in Feriköy reveal, the local people were also actors in changing the artificial flow of water through the pipes as envisioned by the Company. While the Dersaadet Water Company was initially regarded as a remedy for Istanbul's persistent water scarcity, conflicts like the land dispute with Sarraf Murad reveal that the company's operations were not as effective in addressing these issues as intended. Instead, the company's operations exposed deep-seated conflicts over property rights and public interest, indicating that the solution to scarcity was more contentious than initially expected.

130 BOA., ŞD. 816-16/1, 20 Temmuz 1321 [2 August 1905].

131 Kentel, "Assembling 'Cosmopolitan' Pera."

This moment of contentions provides us with opportunities to challenge the modernist narrative of Istanbul's water supply system. Conventional narratives often describe the evolution of Istanbul's water supply as a linear progression from a fragmented system to private concessions and eventually to a nationalized structure, implicitly adopting a teleological understanding of the infrastructure process. However, this view oversimplifies the complexities and conflicts that characterized each stage. By examining cases like the Dersaadet Water Company, with its ongoing land disputes, legal challenges, and contested public benefit claims, we can see that the development of Istanbul's water infrastructure was not a smooth or predetermined path but a process marked by friction, negotiation, and resistance. Rather than a simple movement from fragmentation to privatization to nationalization, the history of Istanbul's water supply reflects ongoing contention, negotiation, and resistance, underscoring the competing interests of private companies, local authorities, and residents in managing a critical public resource.

§ 4.8 Conclusion

This chapter has explored how water scarcity in late Ottoman Istanbul was not merely a product of environmental limitations but a socio-political construct shaped by competing interests, institutional fragmentation, and infrastructural limitations. By applying a political ecology perspective, I have aimed to deconstruct the prevailing assumption that water scarcity is a natural phenomenon caused solely by environmental factors. Instead, I revealed it as a phenomenon produced through specific historical, technological, and economic practices, showing how human actions and decisions played a central role in creating and perpetuating water shortages.

The Ottoman Empire's management of water in Istanbul illustrates the complex interplay between natural resource limitations and human intervention. While geography and climate posed inherent challenges, the city's water scarcity was also a product of socio-political dynamics. From the nineteenth-century the interventions of foreign companies like the Dersaadet Water Company as well as everyday practices of water maintainers who controlled flow and distribution, shaped water availability, often to the

detriment of lower-income communities and residents in topographically challenging areas.

The transition toward privatized, subscription-based water systems marked a pivotal shift, not only in how water was managed but also in how it was experienced by Istanbul's residents. Privatization, heralded as a modern solution, exacerbated existing inequalities and reshaped the city's ecological and social landscapes. Meanwhile, the Ottoman state's role in mediating conflicts over water access, especially through expropriation battles and regulatory oversight, underscores the enduring tension between public welfare and private profit—a theme that resonates within contemporary discourses on water governance.

Ultimately, water scarcity in late Ottoman Istanbul can be understood as a multidimensional issue, informed by topography, institutional practices, technological limitations, and the embedded socio-political power structures of the time. This chapter thus contributes to a deeper understanding of urban water scarcity by situating it within the broader narratives of modernization, imperial policy, and socio-economic inequality, challenging the notion of scarcity as a simple consequence of environmental shortage. Through this lens, we see how water scarcity was actively “produced,” reinforcing the need for a more critical, historically contextualized approach to studying environmental resources in urban settings.

Crises Beneath the Surface: Unveiling İstanbul's Sewers Through Death and Disease

The summer of 1910 marked the beginning of another cholera outbreak in the Ottoman capital, one that exposed stark disparities in public health infrastructure, urban topography and social conditions. The first cases emerged in August, concentrated in the neighborhoods of Hasköy, Kasımpaşa, and Fındıklı. Despite containment efforts, the disease spread rapidly across İstanbul, reaching new epicenters in Bakırköy, Kumkapı, Balat, Tahtakale, Samatya, and Yenibahçe by November. According to health statistics compiled by the *Şehremaneti İdare-i Sıhhiyesi* for 1910–1911, the outbreak peaked in November 1910 with 40 new cases recorded daily. Over the course of a year, cholera-related deaths in İstanbul doubled, though this rise was unevenly distributed. Neighborhoods such as Büyükdere and Hasköy experienced the most drastic increases, with fatalities climbing from 5 to 172 in Büyükdere and from 88 to 511 in Hasköy.¹

This uneven toll raises critical questions about the interplay of urban space, public health, and social inequality in late Ottoman İstanbul. Municipal health authorities identified several factors contributing to the rapid spread of cholera, including delays in diagnosing cases, inadequate contact tracing, late

1 *Şehremaneti İdare-i Sıhhiyesi, Dersaadet'in 1326 ve 1327 Senelerine Mahsus Sıhhi İstatistiki, Dersaadet: Selanik Matbaası, 1328.*

reporting to medical professionals or municipal authorities, and non-compliance with isolation protocols. However, environmental factors specific to certain neighborhoods also played a decisive role. In both Büyükdere and Hasköy, sewage contamination of well water provided fertile ground for the disease to proliferate. In Kasımpaşa, the absence of a proper sewage system left open drains that acted as breeding grounds for cholera, exacerbating the outbreak. Hence, the impact of the epidemic was far from uniform and disproportionately affected marginalized communities. In Hasköy, the Jewish population bore the brunt of the outbreak, as revealed by health statistics from the period.² While similar records for Büyükdere do not specify cholera's impact on its Greek residents, it is plausible to infer that this community, like the Jews of Hasköy, suffered disproportionately due to their precarious living conditions and limited access to clean water and sanitation.

The consecutive outbreaks of cholera during the nineteenth century made sanitizing water and sewage lines one of the many grounds that urban modernity manifested itself. Within this framework, Ottoman authorities viewed open sewers as one of the greatest threats to public health and recognized that rebuilding and sanitizing the sewage infrastructure, as well as ensuring that these hazardous flows were kept separate from the waterways, were crucial to preventing another cholera outbreak.³ Hence, while the Ottoman state sought to reorganize Istanbul with new pavements, buildings, artificial lighting, and clean water for fountains, they also grappled with how to manage bodily waste beneath their envisioned modern urban landscape. The confluence of sewage and water structures in the subterranean layers of the city was a source of concern. Whereas water was associated with health, purity, and sacredness, sewage was linked to disease, filth, and foulness. Thus, the contamination was as much symbolic as it was material.⁴ For this reason, improving the water infrastructure was inextricably linked to the expansion of the sewage lines.

Taking the abovementioned unevenness of death and disease as a vantage point, this chapter examines the relationship between urban space, hygiene, and public health in late Ottoman Istanbul from an infrastructural

2 Ibid.

3 BOA., DH. MKT., 1750-50, 31 Temmuz 1306 [12 August 1890].

4 Stalybrass & White, *The Politics and Poetics of Transgression*.

perspective. Drawing on the insights provided by infrastructural studies, the chapter explores how waterborne diseases in late nineteenth and early twentieth-century Istanbul—such as typhoid, dysentery, and cholera—impacted different social and ethno-religious groups. It seeks to uncover the connections between social inequalities, access to improved water and sewage infrastructure, and the incidence of disease and death. In doing so, the chapter also examines how both implemented and planned infrastructural interventions intersected with power relations, political and economic tensions, and existing social inequalities. Additionally, it aims to show that making infrastructures visible politicizes issues that are often viewed as “natural,” such as death and disease.

§ 5.1 An Overview of Istanbul’s Scattered and Fragmented Sewage Infrastructure:

Despite the rich literature on waterways and water structures, Istanbul’s sewerage system has received little scholarly attention. Even official historiography traces the history of the waterways back to the Roman Empire, while limiting the history of the sewerage system to the post-Republican period.⁵

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- 5 Focusing on the sewage construction process in İzmir, Ufuk Adak’s article addresses this gap in the literature. See, Ufuk Adak, “Water, Sewage and Sanitation: Infrastructure Projects and Public Health in İzmir in the Late Ottoman Empire,” *Journal of Balkan and Near Eastern Studies* 24, no. 2 (2022): 263–284. Similarly, Mohamed Gamal-Eldin examines how malaria outbreaks in colonial Egypt prompted public health interventions aimed at controlling mosquitoes and improving sanitation infrastructure. Focusing on Ismailia and Port Said, the study explores the work of colonial scientists who documented and attempted to manage cesspools, latrines, and stagnant water sources as breeding grounds for disease. Gamal-Eldin argues that these efforts highlight the complex interplay between health, environment, and urban development, underscoring the need for interdisciplinary approaches in understanding environmental and public health challenges in the colonial context. See, Mohamed Gamal-Eldin, “Cesspools, Mosquitoes and Fever: An Environmental History of Malaria Prevention in Ismailia and Port Said, 1869–1910,” in *Seeds of Power: Explorations in Ottoman Environmental History*, ed. Onur İnal and Yavuz Köse (Cambridge: White Horse Press, 2019), 184–207. Ecem Doygun’s PhD Dissertation promises to be an important contribution to the field: Ecem Doygun, *Clean Water and Sewage Systems in Türkiye (1950–1980)* (PhD. Diss, Boğaziçi University, 2025).

This asymmetry may result from the scarcity of sources, which makes constructing a coherent historical narrative difficult, as well as cultural norms around dirt and excreta that may have deterred researchers from investigating the topic.⁶ The urban regulations of the time, included clauses that attempted to organize Istanbul's underground network. The seventeenth article of the Regulation on the Streets [*Sokaklara Dair Nizamname*] (1859), for instance, specifies that pavement work must be carried out alongside infrastructure construction.⁷ The frequent occurrence of fires in Istanbul was a driving force behind these reorganization efforts. Following the 1865 Hocapaşa Fire, some measures that had been planned since the early nineteenth century were finally implemented, such as the reorganization of Istanbul's streets and the transformation of wooden buildings into stone structures [*kargir*]. Among the key initiatives undertaken by the Commission for the Improvement of Roads [*Islahat-ı Turuk Komisyonu*], which began operations after this fire, were the widening of streets in Beyazıt and the construction of pavements in the district.⁸ Within this framework, 2,660 meters of sewage infrastructure was constructed beneath the streets of Mahmudiye, Nuruosmaniye, and Kumkapı.⁹

Aside from the emphasis on the importance of infrastructure for Istanbul's urbanization in nineteenth-century ordinances, there is limited information on the city's existing sewage facilities. A notable exception to this gap in the literature is K. Mehmet Kentel's doctoral dissertation. Drawing from his analysis of the DAMOC report, Kentel estimates that approximately forty kilometers of "black channels" existed in Istanbul—twenty kilometers on the southern side of the Golden Horn, five on the northern side, and ten on the Anatolian side of the Bosphorus. However, it is unclear whether these channels were established during Byzantine or Ottoman times. The report suggests that they were originally constructed as water conduits and later repurposed

6 Ergin, *Mecelle*, v. 4, 1601.

7 Ergin, *Mecelle*, v. 4, 1787.

8 Çelik, *The Remaking of Istanbul*, 55-63.

9 Ibid., 58.

as sewage systems.¹⁰ For comparison, in the mid-nineteenth century, Paris had 143 kilometers of sewers.¹¹

In addition to these rather comprehensive overviews, we can glean some partial information from the statistical records of the 1910s. For instance, in the report they submitted to be included in Istanbul's 1912 Statistical Journal [*İhsaiyat Mecmuası*], Bakırköy district declares: "Each household has its own pit, and there are no main or other sewer channels. The sewer described in the column, indicating its dimensions and the route it follows, is an ancient [*kadim*] sewer."¹² The 397 meter long "ancient" sewer pinned in this table was starting from Zaharyadi Garden, passing through Paçesi Street, to Bostan Neighborhood. According to later statistics, there were ancient sewers measuring 3,850 meters, 5,155 meters, and 557 meters in Üsküdar, Kadıköy, and Adalar, respectively.¹³

Aside from attempting to identify the longitude of the sewer networks, Kentel also suggests a creative solution to address the aforementioned geographical gap in the literature by examining the toponymy of Istanbul to geographically pin waste areas in the city. Analyzing toponymic names such as *Çukur* (pit) and *Akarca* (stream) he identifies significant waste areas in the Kasımpaşa district that collected the excremental flows from Beyoğlu's wealthier neighborhoods.¹⁴ As I will demonstrate, another creative approach is to track the "infrastructural disruptions" and number of deaths from waterborne diseases, as they reveal the areas of Istanbul that lacked proper drainage system.

§ 5.2 How to "Modernize" the Sewages?

Though the scattered archival evidence as well as the lack of available maps and plans makes it difficult to trace the existing sewerage network of Istanbul in the nineteenth and twentieth centuries, archival sources on disrupted

10 Kentel, "Assembling 'Cosmopolitan' Pera," 201-202.

11 Reid, *Paris Sewers and Sewermen*, 26.

12 *İstanbul Beldesi İhsaiyyat Mecmuası* 1328 [1912], 139.

13 *İstanbul Beldesi İhsaiyyat Mecmuası* 1330 [1914], 210.

14 Kentel, "Assembling 'Cosmopolitan' Pera,"

infrastructures provide us with some clues regarding the conditions, locations and the experiences around Istanbul's sewers. These records reveal that these moments of architectural breakdowns were creating distress for the authorities and the inhabitants alike. In the absence of a unified and comprehensive sewer network, and with growing awareness of bacterial infections, excreta became a major threat to urban hygiene and public health.

During the nineteenth century the sewers of Istanbul were frequently opened, closed, and then re-opened and re-closed due to clogging, explosions, or the need for sanitization. Basiretçi Ali Efendi's writings, for instance, describe open sewers that not only emit foul odors but also pose dangers at night, as individuals often fell into them in the dark. While Basiretçi constantly emphasized the significance of sewage infrastructure for urban hygiene, he lamented the insufficiency of sewage systems for Istanbul households and the ongoing reliance on pits [*çukur*] as a solution. Although he viewed new constructions in Istanbul as an opportunity to expand sewage networks, these developments often failed to connect to the existing main sewage systems.¹⁵ Confirming Basiretçi's account, the Jewish inhabitants of Kuzguncuk submitted a petition in 1902, complaining about the unfinished sewer construction in their district and the closure of the Kuzgun stream, possibly with vaults. Although the 9th District Municipality had started the project, it was left incomplete, leaving open sewers that emitted foul odors and posed a threat to public health.¹⁶ Writing a couple of decades later, Cemil Topuzlu who served as the mayor of Istanbul for three non-consecutive terms between 1912 and 1920, also emphasized in this memoirs that Istanbul lacked an infrastructure system built according to scientific standards. Sewers frequently clogged, leaked or overflowed, contaminating the streets. The unfortunate residents of Istanbul in general, but those of Kasımpaşa, Tatavla and Yenibahçe in particular, were overwhelmed by the stench from open sewers.¹⁷ In many areas, sewage flowed openly into Haliç (the Golden Horn) and the sea, posing serious public health risks and worsening the city's foul odors.¹⁸ Figure 5.1 illustrates a sewer plan

15 Basiretçi Ali Efendi, *İstanbul Mektupları*, 95, 107, 163, 169, 170, 176, 188, 243, 371, 466, 704.

16 BOA., DH. MKT. 1978-53, 12 Temmuz 1318 [25 July 1903].

17 Topuzlu, *80 Yıllık Hatıralarım*, 113.

18 BOA., ŞD. 2394-31, 2 Haziran 1287 [14 June 1871].

for a *han* (caravanserai) in Karaköy, where the toilets are connected to a sewer line that appears to flow directly into the sea, likely without any filtration. On the right side of the image, beneath Karaköy Gümrüğü Street, a partially constructed sewer is marked as incomplete [*tatıl olunan lağım*]. This disconnect between the *han*'s sewer and the street sewer exemplifies the fragmented and unfinished state of Istanbul's sewage systems in the late nineteenth and early twentieth centuries—a reflection of the various constraints and challenges of the period.

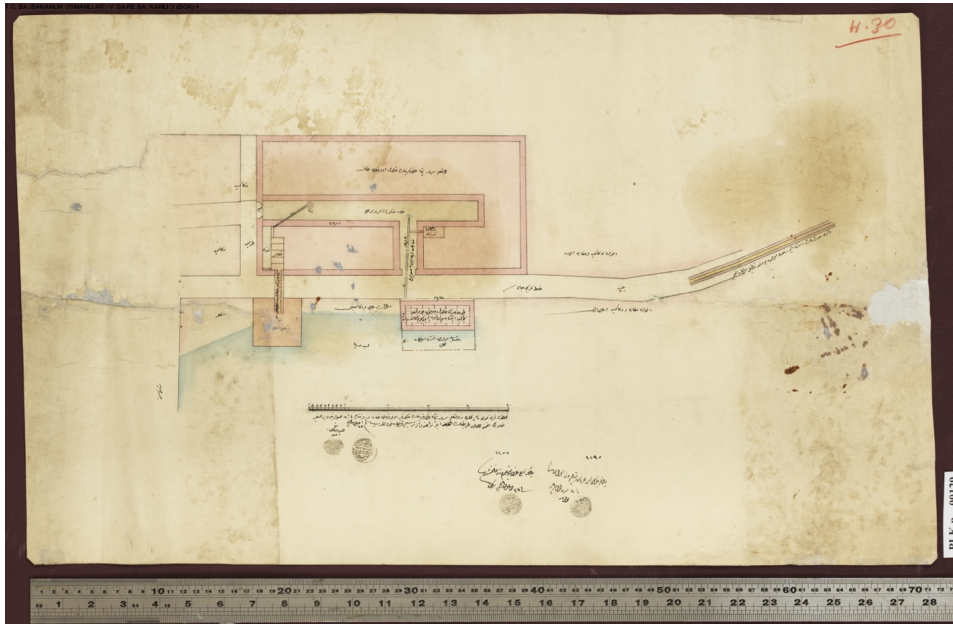


Figure 5.1 Sewer Plan of a han. SOURCE BOA., PLK.p. 129, 22 Eylül 1289 [10 October 1873].

What methods and tools were used to address these unsanitary (and sensory) challenges? Aware of their limitations, Ottoman urban reformers sought to improve Istanbul's waste disposal conditions on multiple fronts. First, they aimed to establish main sewerage systems [*esas lağım*] in key districts such as Şişli, Beşiktaş, Beyoğlu, Üsküdar, Tatavla, Arnavutköy, Aksaray, and others. As outlined above, public health concerns drove the construction of these main sewerage lines, an effort further accelerated by urbanization projects, including the construction of new buildings and pavements, as well as by the occurrence of fires. It was suggested that main sewer lines be built in tandem with new

buildings projects. In Arnavutköy, for example, construction followed major fires of the late nineteenth century. Arnavutköy experienced two fires in late nineteenth century, in 1883 and 1887. The first fire was relatively small, burning 8 houses around the pier area, while the 1887 fire was much larger, affecting over 260 buildings.¹⁹ A report submitted to the Ministry of Interior by Şehremaneti in 1890 emphasized the urgency of constructing main sewerage lines and pavements in the fire-damaged area around Büyükayazma Street in Arnavutköy, alongside the buildings already under construction. The goal was to avoid future costs by coordinating these projects. A contractor was hired for 10 thousand *guruş*, a sum allocated from the Istanbul Municipality's 1890/1891 budget.²⁰ Around the same time, in August 1892, the Ministry of Interior informed Şehremaneti that they had received a complaint from the residents of the Yerebatan neighborhood. Due to the lack of a main sewerage system, the inhabitants were digging cesspools near their houses, leading to foul odors and air contamination. They requested the construction of a new main sewerage line and the renovation of the existing side sewers.²¹

Second, Ottoman urban reformers sought to improve Istanbul's waste disposal conditions by focusing on creating new side sewers in various districts and connecting them to the main sewers or repairing broken connections. In Ortaköy's Küçükayazma neighborhood, for instance, the construction of a sewer line was considered necessary to extend from the upper end of Bahçe Sokak to the existing main sewer channel running underneath the stream. The inspection and bidding process was completed at a cost of 6,400 *guruş*.²²

Third, urban reformers sought to improve existing sewerage systems that were leaking, clogged, or prone to flooding through reconstruction and repair. Their solutions ranged from simple and inexpensive to complex and costly measures. These included covering open sewers with iron lids, installing vaults, replacing narrow old channels with larger iron pipes, coating open sewers with lime to control odor and prevent the spread of microbes, and

19 Reşad Ekrem Koçu, "Arnavutköyü Yangınları," *İstanbul Ansiklopedisi*, vol. 2 (İstanbul, 1959), 1047–48.

20 BOA., İ. ŞD. 102-6069 8 Eylül 1306 [20 September 1890].

21 BOA., DH. MKT. 1994-15, 17 Ağustos 1308 [29 August 1892].

22 BOA., İ. ŞE. 15-43, 15 Temmuz 1318 [28 July 1902].

attempting to treat waste before discharging it into the sea. For instance, in 1887, a fraction of the main sewer on Fenerkapısı Street, which passed under several buildings before reaching the sea, had deteriorated and begun to flow onto the street. Due to complaints from the neighboring residents, an excavation and replacement from the Fener Square area was requested and planned upon a Dutch auction process.²³ In the Kapan-ı Dakik neighborhood, the main sewer openly discharged into the sea. To address public health concerns, walls were built on both sides, an arched vault was constructed above, and the pavements were leveled and arranged to ensure proper maintenance.²⁴ In other cases, the flow of sewers into the sea and the streams of Istanbul required complete vaulting. According to a memorandum from the Istanbul Municipality to the Council of the State, a vaulted arch needed to be constructed over the Kebir Dere near Üsküdar's Rum Mehmed Paşa neighborhood. The stream ran close to the tanneries near Balaban Pier, extending to the back of the old wax factory.²⁵ One can only imagine the stench of this stream, not to mention the public health dangers it posed. Similar vaulting efforts took place for the Kasımpaşa Stream to address public health concerns, as Kentel shows in his dissertation.²⁶ As he aptly puts it, these vaults were not only closed the sewers but also turned the rivers into “reminiscences of a lost memory, *the names and the functions* of which were covered by concrete.”²⁷

Aside from vaulting, other methods were used to prevent the blockages of existing sewers. A 1913 blueprint provides us with some insights into these efforts. Figure 5.2 shows a sewer basket, also known as a debris-catching basket or silt trap, designed to be placed in sewer openings to catch debris, dirt, and large waste before it enters the main sewer system. Its purpose was to prevent blockages and ensure the smooth flow of wastewater, thereby reducing the frequency of maintenance needed to clear obstructions further along the stream.

23 BOA., İ. ŞD. 84-5028, 8 Şubat 1302 [20 February 1887].

24 BOA., İ. ŞE. 16-12, 28 Teşrin-i Evvel 1318 [10 November 1902].

25 BOA., İ. ŞD. 103-6176, 17 Teşrin-i Sani 1306 [9 December 1890]

26 Kentel, “Assembling ‘Cosmopolitan’ Pera,” 219-223.

27 Ibid., 223. Italics are original to the author.



Figure 5.2 Sewer Basket. SOURCE BOA., PLK.p. 5897, 20 March 1913.

Reşat Ekrem Koçu's anecdotes paint vivid picture of the dire state of open sewers flowing into the Golden Horn or the Bosphorus. He highlighted Balat as one of the dirtiest areas in Istanbul. In the late nineteenth century, all the Balat's sewage flowed through a single channel that cut through the neighborhood and emptied into the sea, producing a horrible stench. Locals tolerated the smell until the channel became so clogged that it overflowed, leading the Chief Rabbi to request a cleanup. In response, prisoners from the Tersane dungeon, often half-naked and shackled at the ankles, were sent to wade through the filth and clear the blockage—a grueling task that took several days. By 1890, the situation had become so unbearable that the authorities decided to build a pier by driving piles into the sea and filling the area. They also planned

to cover the sewer channel in Balat and redirect the waste into deeper waters, hoping to resolve the problem once and for all.²⁸

Sanitizing and reorganizing the sewers also required Ottoman experts and authorities to engage with their European counterparts and scientists regarding scientific advancements and sanitation practices. This exchange involved the transfer of technical know-how and the sharing of expertise through European specialists. Archival documents demonstrate that these interactions involved discussions on pipes, vaults, and the chemicals that were utilized for sanitization. Yet, the process often involved both conflict and cooperation—within the various bureaucratic ranks of the Ottoman state and between the Ottomans and Europeans. In 1897, for example, two Parisian entrepreneurs, Eugene Hermit and Paterson Kober, were granted a patent [*ihтира beratı*] for a method they developed to sanitize sewers before they flowed into the sea and eliminate malodors. They even made the first installment of their payments once their application was approved.²⁹ However, in the following months, the Ministry of Commerce and Public Works informed them of the cancellation of their patent, citing a conflict with Article Three of the relevant law. According to this article, inventions involving pharmaceutical substances, materials related to disease treatment, and matters concerning finance and exchange were not eligible for patent protection.

An investigation by the Military School concluded that Eugene and Paterson's "invention" involved a mixture of pharmaceutical substances, leading the Ministry of Commerce and Public Works to deem them ineligible for a patent. After this decision was approved by the Council of State, the French Embassy wrote to the Ministry of Foreign Affairs, requesting a reevaluation of the case. The Embassy considered the decision arbitrary, criticizing the Council of

28 Koçu, "Balat Lâğımları," *İstanbul Ansiklopedisi*, vol. 4 (Istanbul, 1960), 1972-1973.

29 Enacted in 1880, Ottoman patent law aimed to encourage inventions, thereby creating fertile ground for scientific and industrial developments. Although Article 3 of the law states that inventions involving pharmaceutical substances, materials related to disease treatment, and issues concerning finance and exchange would not be eligible for patents, archival evidence shows that patents were granted for medicines in the late nineteenth and early twentieth centuries. For a more detailed analysis, see Serkan Yazıcı & Sıla Şahin, "Osmanlı Devleti'nde Patent Uygulaması: Örneklerle İhtira Beratı Kanunu İncelemesi," *International Journal of History Studies*, 11 (2019): 815-825.

State's refusal to specify which substances had disqualified the invention, an ambiguity they argued was inherent in the patent law itself. While the motivations behind the patent's cancellation are unclear, it appears that the School of Medicine was involved in the discussions after the patent approval, suggesting that alternative methods for cleaning the sewerages existed. This involvement was one of the points that the French Embassy objected to. Eventually, the Ministry of Foreign Affairs and the Office of the Grand Vizier became involved, prompting the Ministry of Commerce and Public Works to reconsider their position. In December 1897, it was decided that the duo's invention for sanitizing the sewerages was deemed eligible for a patent, and their rights were reinstated.³⁰

Unfortunately, the reasons behind the Ministry of Commerce and Public Works' change of stance remain unclear, and the specifics of the "invention"—its innovations or use in the Ottoman Empire—are unknown. Nevertheless, this case stands as a key example of the exchange of expertise between Europe and the Ottoman Empire and how it was received by various layers of the bureaucratic elite. Focusing on the implementation of sanitation technology in the Ottoman Empire in the late Ottoman era, Ufuk Adak shows that the question of patent was a complicated issue, as some Ottomans "imitated" the original machines which created a legal battle between the inventor/distributor and the Ottoman officials.³¹

The demand for modern sewerage systems in Istanbul was closely linked to emerging hygiene practices embraced by the urban elite in the second half of the nineteenth century. With the establishment of a private, subscription-based water distribution system, households that could afford the fee gained access to running water, making improved sanitation more feasible and desirable. This shift in hygiene practices among the wealthier residents drove the demand for modern sewerage infrastructure, reflecting a growing divide between those who could afford such amenities and those who could not.³² Furthermore, *alla Franca* bathrooms and water closet facilities became part of the

30 BOA., BEO. 1060-79491, 14 Kanun-ı Evvel 1313 [26 December 1897].

31 Ufuk Adak, "The Sterilization and Disinfection Machines: Sanitation and Public Health in the Late Ottoman Empire," *Middle Eastern Studies* 58, no. 6 (2022): 917–930.

32 Kentel, "Assembling 'Cosmopolitan' Pera," 216.

Westernized lifestyle in Istanbul. In line with these developments, during the early 1890s, Bonkofski Paşa recommended installing iron flush tanks in public toilets as part of the city's sanitation policies.³³ As a result, flush tanks began to be installed in the toilets of public buildings, such as schools, hospitals, and mosques, as well as in Ottoman bureaucratic buildings, including the Sublime Porte.³⁴ During this time, public health inspectors reported the lack of flush toilets in public spaces such as *hans*, indicating that flush tank toilets had become a standard item on their checklist and were becoming increasingly widespread.³⁵ Access to private water distribution systems in households, along with new toilet habits, necessitated a modern waste disposal and infrastructure system. This shift put additional pressure on existing sewage networks and cesspools, highlighting the need for upgrades and expansion,³⁶ necessitating the improvement of infrastructure facilities.

A case from Kadıköy illustrates this point. In February 1909, a foreigner named M. Thoyer sent three urgent letters to the authorities about severe sewage issues affecting his Kadıköy home. In his first letter, dated February 10, he explained that blocked sea currents had led to foul odors from stagnant waste filling his apartment, preventing him from enjoying the comfort of a private indoor toilet—a luxury at the time. He warned that without swift repairs, health risks like typhoid could arise. On February 14, Thoyer sent a second letter stressing the need for immediate action and suggesting sewer pipes be connected to the quay to prevent further blockages. By his third and final letter on February 28, frustrated by the lack of response, he threatened legal action. Thoyer's letters reveal how the city's sewage system still relied heavily on the natural power of the sea to flush its pipes—a dependence that, when disrupted, turned modern comforts into unpleasant burdens.³⁷

33 BOA., BEO., 225-16827, 22 Haziran 1309 [3 July 1893].

34 BOA., DH. MKT., 158-45, 18 Teşrin-i Evvel 1309 [30 October 1893]; BOA., İ. AZN. 12-1, 17 Teşrin-i Evvel 1310 [29 October 1894]; BOA., İ. EV. 6-46, 11 Mayıs 1310 [23 May 1894].

35 BOA., Y. PRK. ŞH. 11-67, 21 Temmuz 1317 [3 August 1901].

36 Kentel, "Assembling 'Cosmopolitan' Pera," 216

37 BOA., ML. EEM., 729-4, 10 February 1909 & 14 February 1909; BOA., ML. EEM., 731-42, 25 February 1909.

New toilet habits and sanitation practices not only led to a growing demand for improved infrastructure but also spurred interest in new products like water closets, bathtubs, sinks, and other fashionable household fixtures, as well as fragrances and other sanitation items.³⁸ This shift also meant increased interaction with European entrepreneurs and scientists. As Dinçkal demonstrates, the French firm Dalmas et Cie advertised European sanitary products in Istanbul.³⁹ Similarly, Bonkofski Paşa and Serbian entrepreneur August Rotter received permission from Ottoman authorities to establish a company called *Dersaadet Hıfz-ı Sıhhat ve Melahat Anonim Şirketi* in Istanbul. The company aimed to produce sanitation and perfumery products, such as soap, fragrances, and other items considered essential for personal hygiene. Bonkofski Paşa and Monsieur Rotter promoted their products as being in line with the principles of public health, sanitation, and personal hygiene. After an investigation of a product sample, permission to establish the company was granted. The *Dersaadet Hıfz-ı Sıhhat ve Melahat* company was to be set up in a suitable location across the Bosphorus with an investment of 30,000 liras. The products would be sold not only within the Ottoman Empire but also exported to Greece, Bulgaria, and Iran.⁴⁰ Apparently, due to financial difficulties, this venture remained on paper and was never realized. In the following years of the early twentieth century, Mr. Rotter repeatedly petitioned the Ottoman state every few years to extend the deadline for the establishment of the company.⁴¹ Even though this initiative was never realized, the attempt itself was significant, serving as a clear indication of the evolving sanitation and personal hygiene habits of the time, which was an important force behind the demand for improved infrastructure.

38 Dinçkal, "Reluctant Modernization," 688.

39 Ibid.

40 BOA., ŞD. 1199-2, 26 Haziran 1309 [8 July 1893].

41 BOA., BEO. 1580-118434, 29 Teşrin-i Evvel 1316 [11 November 1900]; BOA., BEO 1852-138886 5 Mayıs 1318 [18 May 1902]; BOA., BEO 2369-177635, 30 Haziran 1320 [13 July 1904].

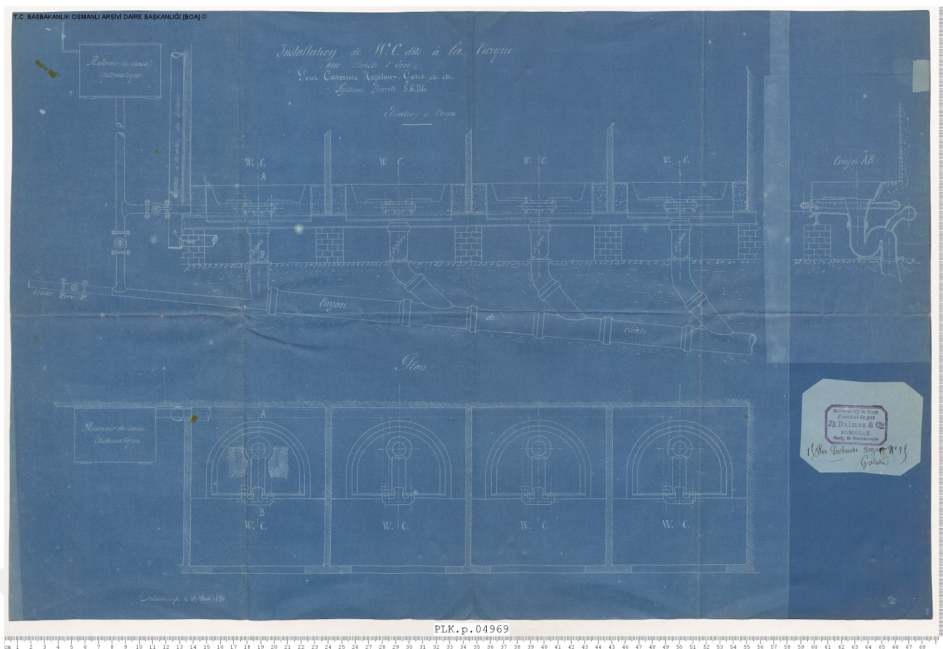


Figure 5.3

Dalmes et Cie's Sewer Plan. SOURCE BOA.,
PLK.p. 04969, 1890.

As seen in Figure 5.3., Dalmas et Cie also proposed plans to the Ottoman authorities to improve the sewage infrastructure of Istanbul. In accordance with the new hygienic habits summarized above, this 1890 blueprint depicts a structured plan for a restroom installation in Istanbul, likely intended for a public toilet. The layout shows multiple toilet units arranged in a row, connected by a system of pipes that slope downward to facilitate gravity-assisted drainage. These pipes converge into a main sewer line labeled “canal,” indicating that waste would ultimately drain into a larger city sewer or nearby body of water. An auxiliary element, labeled [*Réservoir de chasse automatique*] suggests a mechanism to control flushing, ensuring a more hygienic and consistent flow of water through the toilets. Cross-sectional views provided in the lower portion of the blueprint detail the pipe connections and flushing mechanisms, illustrating how waste from each unit flows into the main line.⁴²

The sewage system proposed by *Dalmas et Cie* was likely designed with Istanbul's unique geography in mind, leveraging the city's natural waterways

42 BOA., PLK.p. 04969, 1890.

for waste disposal. While the blueprint does not specify the exact outlet, the Bosphorus, with its currents, was likely considered a key feature in these plans. Unlike stagnant water systems or smaller rivers, the Bosphorus provided a practical means to disperse waste more effectively. However, this reliance on the city's waterways, particularly the Bosphorus, masked deeper issues in waste management. Untreated sewage flowing into natural water bodies continued to degrade water quality and endanger public health, illustrating the complex interplay between Istanbul's geography and its infrastructural modernization efforts.

§ 5.3 Tabulating Istanbul's Infrastructural Breakdowns:

How to study historical infrastructures in the absence of comprehensive historical data and lack of archeological evidence? The “infrastructural turn” in social sciences provides us with opportunities. This turn investigates the deepening scholarly focus on infrastructure as an essential yet vulnerable framework that underpins urban and social life. Instead of viewing infrastructures as static technical systems, this perspective treats them as complex assemblages—dynamic networks interwoven with social, political, and environmental factors.⁴³ Influenced by theorists like Bruno Latour, the infrastructural turn emphasizes that infrastructures are not merely background supports; they are active agents that shape and are shaped by human and non-human interactions, integrating everything from social practices to environmental phenomena. The concept further unpacks how infrastructures embody power relations and cultural values, often reinforcing socio-economic inequalities while affecting everything from daily conveniences to large-scale urban resilience.⁴⁴ These works collectively reveal how infrastructure operates beyond its functional role, shaping social imaginaries, state authority, and temporal experiences. Brian Larkin's concept of infrastructure as “promising forms” highlights how projects embody the state's promises of progress and

43 Brian Larkin, “The Politics and Poetics of Infrastructure,” *Annual Review of Anthropology* 42 (2013): 327–43

44 Nikhil Anand, Akhil Gupta, and Hannah Appel, *The Promise of Infrastructure* (Durham, NC: Duke University Press, 2018).

modernity, even when they remain incomplete or fail. Nikhil Anand Akhil Gupta and Hannah Appel extends this by introducing “infrastructural time,” emphasizing how delays and repairs create rhythms that organize social life around extractive projects, linking infrastructure not only to space but also to time. Sophie Haines adds a layer by examining the “anticipatory spaces” surrounding a planned highway in Belize, where communities project their hopes, fears, and expectations onto the project even before its materialization.⁴⁵ Together, these studies show that infrastructure is as much about political aesthetics and temporal structures as it is about concrete systems, shaping both the lived experience and the political landscape.

Stephen Graham further delves into this fragility and interdependence of modern infrastructure systems that support urban life. He uncovers that infrastructure networks—ranging from energy and water to transportation and digital communications—are deeply woven into urban existence, often taken for granted until disruption reveals their essential, precarious nature. Graham describes how these complex systems, though vital, are vulnerable to both natural disasters and human actions, which can lead to cascading failures across multiple sectors. Graham further points out that infrastructure not only supports daily urban life but also shapes social hierarchies and political landscapes, often marginalizing poorer populations who lack reliable access.⁴⁶

What infrastructural disruptions caused in the late nineteenth and twentieth century Istanbul? Death, or (in the best case scenario) disease. The often-hidden infrastructure of Istanbul — its sewage channels, water conduits, and drainage systems — was rendered visible primarily through crises of disease and death. Each outbreak of cholera, or endemic diseases of typhoid and dysentery, exposed the limits of existing sanitation systems, compelling authorities and residents alike to confront the consequences of inadequate infrastructure. Following the 1893 cholera outbreak, for instance, an extensive analysis of Istanbul’s water and sewage infrastructure was conducted by Dr. Chantemesse from the Pasteur Institute in Paris. As a result, partial repairs

45 Sarah Haines, “Imagining the Highway: Anticipating Infrastructural and Environmental Change in Belize,” *Ethnos* 83, no. 2 (2017): 392–413.

46 Stephen Graham, “Introduction: When Infrastructures Fail,” in *Disrupted Cities: When Infrastructure Fails*, ed. Stephen Graham (New York: Routledge, 2010).

were attempted in several districts of Istanbul. However, replacing the fragmented sewage system with a centralized one proved too costly, and efforts to rehabilitate the sewers remained inadequate to meet the city's needs.⁴⁷ As will be shown below, the decision to undertake these partial repairs was not arbitrary; it played a crucial role in the distribution of death and disease across Istanbul.

Recent insights of the political ecology framework enable us to address these consequences by locating disease and health's broader relationship with the environment, as well as social and political structures. Brian King's work, for instance, investigates the political ecology of disease and health by examining the political, economic, and cultural factors that shape disease vulnerability, access to healthcare, and the options available to affected populations. King argues that a political ecology of health can advance research by highlighting how power structures, environmental injustices, and socio-economic disparities—often tied to race, ethnicity, and class—expose certain groups to higher health risks. By connecting environmental justice with health, King's framework reveals how unequal exposure to harmful conditions impacts communities differently and underscores the need for equitable health policies.⁴⁸

47 Yıldırım, *İstanbul'un Sağlık Tarihi*,

48 Brian King, "Political Ecologies of Health," *Progress in Human Geography* 34, no. 1 (2010): 38–55. For a selection of works that examine the intersection of health, disease, and political ecology, focusing on how colonialism, economic policies, environmental changes, and social inequalities have historically influenced health outcomes and disease vulnerability across different regions and populations, see: Meredith Turshen, *The Political Ecology of Disease in Tanzania* (New Brunswick, NJ: Rutgers University Press, 1984); Crosby, *Ecological Imperialism*; Randall M. Packard, *White Plague, Black Labor: Tuberculosis and the Political Economy of Health and Disease in South Africa* (Berkeley: University of California Press, 1989); Arnold, *Colonizing the Body*; Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (London: Verso, 2001); Sheldon Watts, *Epidemics and History: Disease, Power, and Imperialism* (New Haven, CT: Yale University Press, 1997); John R. McNeill, *Mosquito Empires: Ecology and War in the Greater Caribbean, 1620–1914* (Cambridge: Cambridge University Press, 2003); Elizabeth Fee and Theodore M. Brown, eds., *Making Medical History: The Life and Times of Henry E. Sigerist* (Baltimore, MD: Johns Hopkins University Press, 2002).

I argue that adopting a similar approach presents valuable opportunities to study the sewage infrastructure of late Ottoman Istanbul. I propose that epidemic diseases were among the significant causes that rendered the functions and dysfunctions, existence and lack of infrastructures visible by influencing the number of patients and -in more severe cases- deaths. This was especially true in the case of water borne diseases such as cholera, typhoid and dysentery. Although much of the literature focuses on cholera due to its widespread impact and the devastation it caused, health and mortality statistics reveal that dysentery and typhoid were also recurring waterborne illnesses within Istanbul's health landscape. As Johan Mackenbach highlights in his study on the "rise and fall of disease" in Europe, dysentery, typhoid, and other intestinal infections –spread through contaminated food and water– were endemic and caused significant mortality in Europe, both during periods of famine and war as well as in times of relative normalcy.⁴⁹ Similarly, in late Ottoman Istanbul, typhoid fever and dysentery were significant public health issues, particularly affecting poorer communities. Health records prepared by the Health Administration of Istanbul Municipality [*Şehremaneti İdare-i Sıhhiyesi*] indicate that dysentery outbreaks surged in the summer due to contaminated water and increased consumption of cold drinks, while typhoid became endemic, resulting in hundreds of deaths annually. The spread of both diseases was exacerbated by inadequate sewer systems, unfiltered water channels, overcrowding, and poverty, along with limited adherence to preventive measures such as isolating the sick. Like cholera, these conditions underscored the urgent need for improved sanitation and public health infrastructure in the city.⁵⁰ Though the number of deaths due to cholera and dysentery remained smaller in scale in comparison to cholera cases, investigating the topographic distribution of these diseases still offers valuable insights.

Following the 1893 cholera outbreak, which exposed Istanbul's infrastructural deficiencies, a comprehensive survey of the city's pavement and sewage systems was undertaken in late 1894, involving the Public Health Commission and municipal districts. Each district identified the location of sewers

49 Johan P. Mackenbach, *A History of Population Health: Rise and Fall of Disease in Europe* (Leiden: Brill-Rodopi, 2020).

50 BOA., SH. 489, 1326 [1910].

requiring repair, maintenance, or closure, as well as the need for new sewer construction. The report outlined these locations and estimated the cost of addressing these issues at over 4 million *guruş*, a sum beyond the current budget of Istanbul Municipality at the time. One proposed solution was to defer these expenses to the following year's budget. The Public Health Commission also advised that repairs and cleaning of closed sewers should ideally be postponed until the complete eradication of the disease and the lifting of quarantine measures. While the proposal to delay construction was partly health-related, it also had budgetary motivations. The commission further asserted that completing these projects would satisfy the city's sanitation and improvement needs, making additional constructions unnecessary.⁵¹

Formatted as a table, the report compiles information on Istanbul's sewers requiring repair, cleaning, expansion, and new construction, divided according to municipal districts. According to the report prepared by each municipal districts, the costs of sewer repairs and new construction in the ten municipal districts of Istanbul amounted to about 1.78 million *guruş*.

Table 5.1 Cost of Closing and Cleaning Sewers, Along with New Construction of Side and Main Sewer Lines (in *guruş*)

Municipal District		Percentage
1st	96,620	5.4
2nd	0	0.0
3rd	394,000	22.1
4th	512,644.24	28.7
5th	22,000	1.2
6th	481,395	27.0
7th	151,730	8.5
8th	3,000	0.2
9th	98,211	5.5
10th	25,662	1.4
Total	1,785,262.24	100

SOURCE BOA., A.}MKT.MHM 594-12, 20 Kanun-ı Sani 1309 [1February 1894].

In addition to the 1.78 million *guruş* calculated based on reports from district municipalities, the document also covers the general costs of pavement, road, and sewer maintenance and construction, presented in a mixed format

51 BOA., A.}MKT.MHM. 594-12, 20 Kanun-ı Sani 1309 [1February 1894].

rather than under specific municipal district headings. The separation between different parts of the table is not entirely clear. While municipal reports mostly focus on sewer costs, the second part of the document includes the costs of roads, pavements, waterways, and sewers in a mixed format from all around Istanbul. Altogether, this comprehensive exploration of Istanbul's public works amounts to more than 4 million *guruş*.⁵²

The distribution of these projected costs among different municipal districts, as well as within the districts, is worth noting despite possible discrepancies in the explorations and the vagueness of the logic behind the organization of the table. For instance, of the total 1.78 million *guruş* budget calculated for ten districts, 28.7% was allocated to the 4th district, covering areas from Bebek to Beşiktaş along the Bosphorus. Out of 512,644.24 *guruş* calculated for this district, 144,352.24 *guruş* (28%) was allocated for the construction of vaulted main sewers in Bebek.

By the late eighteenth and early nineteenth centuries, as the area between Kuruçeşme and Ortaköy—traditionally home to the palaces of female palace members—grew more crowded, the female palace elite began establishing mansions between the neighborhoods of Arnavutköy and Bebek.⁵³ Starting in the late eighteenth century, Bebek became famous for its waterfront palaces and mansions belonging to the palace elite and high-ranking Ottoman bureaucrats. By the mid-nineteenth century, ferry travel to and from Bebek began, which increased settlement in the district, both along the seaside and uphill.⁵⁴ It is reasonable to assume that increased settlement also led to infrastructural challenges. The palace elite, bureaucratic cadres, and upper-class Ottoman subjects likely negotiated improved infrastructure with their local municipality or directly with the state.

Though the above records refer to projected expenditures, Ottoman archival documents confirm that some realized infrastructural spending indeed prioritized the neighborhoods inhabited by the upper classes. Meanwhile, the

52 Ibid.

53 Tülay Artan, "Arnavutköy," in *Dünden Bugüne İstanbul Ansiklopedisi*, vol. 1 (Istanbul: T.C. Kültür Bakanlığı & Tarih Vakfı, 1993), 313–16.

54 "Bebek," in *Dünden Bugüne İstanbul Ansiklopedisi*, vol. 2 (Istanbul: T.C. Kültür Bakanlığı & Tarih Vakfı, 1993), 113–16.

allocation and sufficiency of funds were ongoing points of contention between the central bureaucracy and Istanbul's mayor. In late 1894, for instance, Mayor Rıdvan Paşa complained about the financial strain caused by the cholera pandemic. While he persistently requested additional funds, the central bureaucracy demanded reports and justification for the previously allocated budget. One such document indicates that the Istanbul Municipality received 478,000 *guruş* in 1894, which proved insufficient for necessary repairs and cleaning in response to the cholera outbreak. Rıdvan Paşa's allocation of these funds is notable: approximately 123,000 *guruş* (26%) went to constructing and repairing sewers, closing open ones, and reconstructing pavements in Bebek, Nişantaşı, and Çengelköy. Of the remaining 355,000 *guruş*, 75,000 *guruş* (16%) was designated for road construction in Tarabya and Çengelköy, while 25,000 *guruş* (5%) was set aside for cleaning and construction activities in Çapa Çeşmesi. Despite these financial allocations, Şehremaneti claimed that the remaining 255,000 *guruş* would be insufficient for comprehensive infrastructure improvements, leaving many projects incomplete. Due to these financial constraints, Şehremaneti argued it could not undertake broader sanitation and sewerage improvements across Istanbul. In response, the Office of the Grand Vizier advised Şehremaneti to prioritize the most urgent districts.⁵⁵

The documents reveal further details on sewer construction in the 4th district, emphasizing the role of social status in prioritizing urban improvements. In 1900, for instance, a sewer was constructed between the homes of Undersecretary of the Private Treasury Halis Bey on Taşnerduban Street and *Münecimbaşızade* Ömer Naşid Bey on Palanga Street. Municipal personnel conducted initial assessments, estimating costs at around 1,900 *guruş*. Once construction began, it was determined that an additional connection to the main sewer line was needed, raising costs by approximately 500 *guruş*. Despite later scrutiny over discrepancies in initial estimates, contractor roles, and actual expenses, the sewer was completed. Although the documents do not clarify any direct influence from the bureaucratic resident profile, the

55 BOA., A.}MKT.MHM. 595-1, 3 Teşrin-i Sani 1310 [15 November 1894].

Y. PERK, \$31,000 (13,000/39.02%)

57 BOA A 3 MKT MHM 505 1 2 Tesrin i Sani 1210 [15 November 1804]

Şehremaneti was pragmatically referenced these prominent names to receive financial assistance or prioritized the needs of those who had a higher position in social hierarchy. In either case, it seems that having a higher status in social hierarchy was an advantage in receiving municipal services earlier. Not only the Dutch auction process, but also construction and repair were accelerated here.

Investigating the case of migrants and their access to housing and infrastructure provides a useful comparison. Correspondence between Mayor Rıdvan Paşa and the Ministry of Interior and Ministry for Imperial Religious Foundations from 1892 to 1895 reveals that migrants were living in makeshift huts under deplorable conditions. To complete these huts in accordance with the Building Regulation [*Ebniye Nizamnamesi*], the Şehremaneti awaited final approval from the Ministry for Imperial Religious Foundations. However, the 1894 earthquake worsened the situation, with inspectors reporting multiple public health hazards. Due to the absence of a sewer system, migrants relied on pits, leading to waste contamination of both the air and the historic waterways of Sarıyer. On several occasions, Rıdvan Paşa requested initial assessments to initiate sewer construction, citing public health and scientific principles, or alternatively, recommended relocating the migrants to a more suitable area. Letters from Rıdvan Paşa to the Ministry of Interior and Ministry for Imperial Religious Foundations also reveal that Sarıyer residents were dissatisfied with these conditions, having submitted multiple petitions of complaint.⁵⁸ The documents provide no information on whether the Şehremaneti ultimately received the final approval it anticipated or how the issue was ultimately resolved. However, the three-year-long correspondence itself raises significant questions about who was entitled to receive municipal services first and the Şehremaneti's role in this prioritization. As previously noted, the Şehremaneti was often criticized for favoritism and corruption, accused by both the central government and scholars of prioritizing the urban needs of bureaucratic elites. Among many mayors, Rıdvan Paşa's reputation was particularly tied to allegations of corruption and misconduct. Although he made notable efforts to improve sanitation in Istanbul and to institutionalize public

58 BOA., DH. MKT. 116-43, 26 Mart 1311 [7 April 1895].

health in the imperial capital, Rıdvan Paşa was regarded, in historian Ortaylı's words, as a "typical portrait" of the Abdülhamid II era—a reputation that ultimately led to his tragic end.⁵⁹ One of the Bedirhan family members, who was also involved in the Hamidian cavalries, requested the construction of a pavement and road between the family mansion and the main street in Şişli. When Rıdvan Paşa denied this request, Abdürrezak Bedirhan killed the mayor in 1906, ending his 15-year tenure in Istanbul. From a similar perspective, Osman Nuri remarked that Rıdvan Paşa's office brought no notable improvements in public works, focusing instead on corruption and self-promotion. Osman Nuri also highlights that during his term, Rıdvan Paşa prioritized construction projects in Beşiktaş, Yıldız, and Nişantaşı to cater to the needs of mansion and palace owners.⁶⁰ Though Osman Nuri's insights are crucial, the knowledge he produce must be critically evaluated. Throughout his extensive volume of *Mecelle*, Osman Nuri draws a contrast between the age of Tanzimat and the reign of Abdülhamid II, and associates the corruption, favoritism and misconduct with the latter.

The abovementioned case still proves that that social standing played a significant role in accelerating access to infrastructure developments. In this sense, the provision of infrastructural services was hierarchically organized, and it was not necessarily based on need or urgency. The documents also show that decisions about resource allocation were not solely the result of Şehremaneti's "corruption" or "favoritism." The Ottoman state itself reinforced spatial hierarchies and had a role in deciding who gets priority access to improved infrastructure. As the case of Sarıyer shows, it was not the Şehremaneti but the central government that created impediments to sewer construction in the district, despite the clear urgency of the situation and bottom-up demands from residents.

59 Ortaylı, *Osmanlı Mahalli İdareleri*, 168

60 Osman Nuri Ergin, *İstanbul Şehreminleri* (Istanbul: İstanbul Büyükşehir Belediyesi Kültür İşleri Daire Başkanlığı, 1996), 171–82.

§ 5.4 Rendering Infrastructures Visible Through Death and Disease

While negotiations of the elite with the Ottoman state might explain the 3rd and 4th districts' share of projected infrastructural expenditures, the high mortality rates and public health risks posed by the non-sanitary conditions of the 6th Municipality District justified its 27% allocation of the anticipated budget. Of the 274,160 *guruş* projected for the 6th district, 266,660 *guruş* (97% of its anticipated costs) was allocated for sewer repair, closure, cleaning, and construction in Kasımpaşa and its surroundings.⁶¹ The infrastructural disruptions of both Kasımpaşa and Hasköy made these districts vulnerable to the waterborne diseases. In the late Ottoman Istanbul, they were among the first spots of such public health threats. By tracking the spread of the disease in districts with limited access to sanitation, it becomes clear how these infrastructure gaps translated directly into human vulnerability and increased mortality.

In 1865, for instance, the cholera epidemic—known as the “Great Cholera” and one of the most severe outbreaks Istanbul ever faced—first appeared among the crew of a ship anchored in a shipyard near Kasımpaşa, spreading to the city through the port.⁶² Once one of Istanbul's most prosperous areas, Kasımpaşa was devastated by the fire of 1821 and, by the mid-nineteenth century, had become a neighborhood of middle-class families, tradesmen, and naval workers. Over time, Kasımpaşa declined, marked by deteriorating infrastructure and poor sanitation.⁶³ In 1865, cholera spread as workers brought the disease from the shipyard to their neighborhood, where unhygienic conditions quickly accelerated its transmission.⁶⁴

This epidemic was neither the first nor the last time Kasımpaşa played a central role in Istanbul's cholera outbreaks. From the 1830s until the fall of the empire, Kasımpaşa was among the earliest and most severely affected areas during each cholera wave, often alongside its neighboring district, Hasköy.

61 BOA., A.}MKT.MHM. 594-12, 20 Kanun-ı Sani 1309 [1February 1894].

62 *Ceride-i Emakin-i Sıhha* 7 (1 Eylül 1887): 1-7; Yıldırım, *İstanbul'un Sağlık Tarihi*, 73-93.

63 “Kasımpaşa,” *Dünden Bugüne İstanbul Ansiklopedisi* içinde (İstanbul: Türkiye Cumhuriyeti Kültür Bakanlığı & Tarih Vakfı, 1994), cilt. 4, 480-482.

64 *Ceride-i Emakin-i Sıhha* 7 (1 Eylül 1887): 1-7

Home to a large Jewish population, Hasköy also housed workers' families, bachelors, and the poor, and was infamous for open sewage and contaminated drinking water. During cholera outbreaks, polluted water from Hasköy flowed into the Golden Horn, prompting a ban on oysters and mussels harvested from the area.⁶⁵ Similar patterns emerged in subsequent cholera epidemics. The spread of the 1893 epidemic in Istanbul provides a compelling example. In August 1893, Habibe Sünbül, wife of Ahmed Efendi, a worker at the Feshane-i Amire residing in Hasköy, fell ill and died. Doctors could not agree on whether her illness was cholera, leading to postmortem laboratory examinations after her death that classified it as a gastrointestinal disorder rather than cholera.⁶⁶ Nevertheless, the disease continued to spread in the days that followed, reaching neighborhoods including Balat, Tahtakale, Kasımpaşa, Sirkeci, and Üsküdar, and eventually affecting all of Istanbul. Similar trends are evident in the statistics from the 1910 cholera epidemic. This outbreak reached Istanbul from Russia and spread across various districts beginning in the summer. Among the first affected areas were Hasköy, Kasımpaşa, and Fındıklı. The rapid spread of the disease in Istanbul was attributed to the belongings of soldiers who had completed maneuvers in late October being transported across the city in freight cars, as well as increased urban movement during the Eid al-Adha holiday at the end of November.⁶⁷

The death and health statistics provide insights into the demographic and geographic spread of waterborne diseases in Istanbul, as well as the correlation between infrastructural breakdowns and mortality rates. During the 1893-94 cholera outbreak, Rıdvan Paşa, issued detailed statistics on the disease's progression, compiled in two registers. These books document crucial information about the epidemic, including the number of infections, deaths, recoveries, and treatment methods. The first register lists individuals infected with cholera who sought treatment at district-based cholera hospitals established after the outbreak. Each entry includes the patient's name, "local identifier"

65 BOA., İ.ŞE. 4-13/3. 9 Mart 1310 [21 March 1894].

66 Yıldırım, "1893'te İstanbul'da Kolera Salgını"; Yıldırım, *İstanbul'un Sağlık Tarihi*, 73-93; Ayar, *Osmanlı Devletinde Kolera*.

67 Şehremâneti İdâre-i Sıhhiyesi, *Dersaâdet'in 1326 ve 1327 Senelerine Mahsus Sıhhî İstatistiki*, Dersaadet: Selanik Matbaası, 1328.

[*şöhret*], age, and occupation, along with the infection date and location, hospital admission date, and their condition upon admission. Patients who recovered are noted under the recovery [*şifayab*] column, while fatalities are recorded under death [*vefeyat*]. A final column provides brief details on the treatment and the patient's status. According to this register, of the 734 individuals diagnosed with cholera, 485 succumbed to the disease, while 249 recovered.⁶⁸ This is a starkly high lethality rate of 66% which may indicate several problems, such as late-stage treatment, inadequate medical facilities, or limited access to clean water and sanitation. Of the 734 patients who sought care at these municipal hospitals, 217 (29.5%) were treated in the 6th District Hospital.⁶⁹

Table 5.2 Distribution of Cholera Patients According to District Cholera Hospitals

	1 st & 2nd District	3rd Dis- trict	4th Dis- trict	5th Dis- trict	6th Dis- trict	7th Dis- trict	8th Dis- trict	9th Dis- trict	10th Dis- trict	Total
Number of Dead	216	28	29	3	152	5	7	43	2	485
Number of Recovered	83	40	20	0	65	0	6	34	1	249
Total Number of Patients	299	68	49	3	217	5	13	77	3	734

SOURCE

İ.Ü., NEK, TY No: 8986

The second register offers a comprehensive overview of the 1893-94 cholera epidemic, listing cholera patients not only from municipal hospitals but also from various Ottoman institutions, including the mental hospital, central prison, Imperial Military School, Naval Hospital, and Fire Department. These institutions are categorized under distinct headings, separate from the “inhabitants” [*ahaliden*] section. Like the first register, it provides details on each patient’s name, occupation, date of infection, and dates of recovery or death. This

68 İstanbul Üniversitesi Kütüphanesi Nadir Eserler Kütüphanesi (İ.Ü., NEK.), TY No: 8986 & 8987.

69 İ.Ü., NEK, TY No: 8986

broader documentation underscores the epidemic's reach across both public and institutional spaces in Istanbul.⁷⁰ At the conclusion of this second register, the mayor and head of the Public Health Commission Rıdvan Paşa offers an account of the cholera outbreak's entry and spread in Istanbul. According to his narrative, the disease arrived via the British ship *George Fisher*. Ignoring the conducive infrastructural conditions that facilitated cholera's spread in Istanbul, Rıdvan Paşa projected cholera as an "external" threat Istanbul's healthscape. His account also prioritizes person-to-person contact, rather than the role of urban space —particularly access to clean water—in the spread of cholera. Thus, the register provides an apolitical overview of the demographic and spatial distribution of cholera-related deaths, failing to explore why fatalities were concentrated in certain areas.⁷¹ When Rıdvan Paşa's prioritization of the elite neighborhoods in public works is taken into consideration, it is no surprise that he did not provide the sewer or water infrastructure as the source of disease and death. In this epidemic 1,537 of the total of 2,683 patients died.⁷²

Mehmet Kentel revisits the aforementioned deficiencies of Rıdvan Paşa's account, linking disrupted infrastructure, limited access to clean water, and high cholera incidence in the 6th district. Employing GIS mapping, Kentel pinpoints cholera cases of the 1893-94 outbreak across the 6th District, showing that areas with access to water sources had fewer cases, while neighborhoods near polluted streams around Beyoğlu such as Dolapdere, Tatavla and Kasımpaşa, experienced higher infection rates due to waste-contaminated waters.⁷³ His geographic mapping of the of cholera vividly demonstrates the unequal experiences of death and disease between Pera and Kasımpaşa.

Similar patterns can be deduced from the Ottoman Empire's death statistics. As Cengiz Kırılı's analysis of inspection registers from the reign of Selim III suggests, the statistical books produced by the Ottoman state, particularly

70 İ.Ü., NEK, TY No: 8987

71 Ibid.

72 İ.Ü., NEK., TY No: 8987.

73 Mehmet Kentel, "Pera'nın Atığı, Kasımpaşa'nın Salgını: On Dokuzuncu Yüzyılın İkinci Yarısında İstanbul'da Kolera Salgınları ve Çevre Adaleti," *Toplumsal Tarih Akademi* 2 (2023): 52–71.

during the reign of Mahmud II and the Tanzimat era, reflect a new understanding of governance. As he argued, the Ottoman state transformed into a “statistical state,” aiming to make its population visible through systematic data collection.⁷⁴ This shift in governmentality marked a significant change in how the state sought to manage and understand its society. This transformation was later observed in medical surveillance as well. Following the 1831 cholera epidemic, the Ottoman state published two key death registers detailing mortality in Istanbul: one covering a 4-month period in 1839 for Ottoman Muslims, and another spanning 22 months, primarily for non-Muslims. Additional Ministry of Health registers from 1896 [1312] to 1906 [1322] offer monthly or complete yearly death statistics but notably exclude cholera deaths, with no explanation for this omission. These registers, formatted in modern bookkeeping style, track deaths from both contagious and non-contagious diseases by district, with details on age, gender, and religion. Over time, categories evolved, with summary tables often included at the end. As Balsoy and Gündoğdu argue, these death statistics were a direct response to the “post-pandemic realities of the 1830s.”⁷⁵ As will be discussed in more detail in Chapter 6, keeping extensive death records and increasing obsession with death was part of Ottoman state’s necropolitical powers, which grew parallelly to the biopolitical powers.⁷⁶ These detailed statistics were also a product of the “muayene-i emvat” [examination of the deceased] procedure that became widely implemented by the end of the nineteenth century.

74 Cengiz Kırılı, “Devlet ve İstatistik: Esnaf Kefalet Defterleri Işığında III. Selim İktidarı,” in *Nizâm-ı Kadîmîden Nizâm-ı Cedîde III. Selim ve Dönemi*, ed. Seyfi Kenan (İstanbul: İSAM Yayınları, 2010), 187.

75 See, Balsoy & Gündoğdu, “Ottoman death registers,” 1; Balsoy and Gündoğdu, “Vefeyat Defterleri ve Geç Osmanlı İmparatorluğu’nda Ölüm ve Ölümün Kaydı.” In further analysis of these registers, Balsoy, Fidan, Gündoğdu, Güvenç, and Tülek examine the topographic distribution of diseases recorded in these registers using spectral clustering and GIS methods, raising important questions about discrepancies in mortality patterns: Balsoy, Fidan, Gündoğdu, Güvenç, and Tülek, “An Overview of Istanbul’s Death Registers (1838–1840).”

76 Achille Mbembe, *Necropolitics: Theory in Forms*. (Durham and London: Duke University Press, 2019), 70. For an example of Necropolitics’ application in Ottoman studies see, Nükhet Varlık, “New Methods for Governing Death in Istanbul: Early Modern Ottoman Necropolitics,” *Comparative Studies of South Asia, Africa and the Middle East* 42, No. 1 (2022): 146–162.

Thanks to these death and health registers, it is possible to track the number of deaths from water-borne diseases such as dysentery and typhoid fever in each municipal district.⁷⁷ As mentioned above, in the yearly health statistics registers, Istanbul Municipality's Health Administration acknowledged that typhoid and dysentery cases were more prevalent in summer, and, like cholera, inadequate infrastructure contributed to the spread of these diseases. As I have briefly shown in the previous chapter, the absence of typhoid and other water-borne diseases was considered the marker of drinking water quality in a given city. Health registers indicate that approximately three to four thousand people contracted typhoid each year, with five to six hundred fatalities. To support their argument, the authors of these registers also provide comparisons with several European and American cities and conclude that cities using filtered drinking water successfully reduced their typhoid-related death rates. Accordingly, the lowest death rates due to typhoid were identified in Copenhagen, Munich, Berlin, and Vienna, where filtered or spring water was used as drinking water, while the highest death rates were observed in Boston, Istanbul, and Philadelphia, where unfiltered water was obtained from rivers or, in Istanbul's case, dams. The authors also note a considerable decrease in typhoid-related deaths in Copenhagen, Munich, Berlin, and Vienna after filtration of drinking water was introduced.⁷⁸ This disparity highlights the health authorities' ability to analyze the disease's underlying causes, but also highlights their inability to improve urban conditions to eliminate these factors. Although typhoid-related deaths represented only 2-3% of annual deaths, the disease's persistence in Istanbul throughout the nineteenth and twentieth centuries, consistently causing fatalities in the capital, is notable and provide us

77 Regarding the number of typhoid and dysentery related cases observed in Istanbul, there are discrepancies between the numbers provided in health registers and death registers. Accordingly, typhoid related deaths were reported as 233,123, 338, 355 for the years of 1315, 1316, 1317 and 1318 respectively. This discrepancy may stem from counting the number of the dead and the patients in the hospitals and within the general municipal district differently. As health registers do not provide these diseases' distribution among municipal districts, my analysis here is based on the death registers number BOA, SH. 402, SH. 490, SH. 498, SH. 499 and SH. 500.

78 Şehremâneti İdâre-i Sıhhiyesi, *Dersâadet'in 1326 ve 1327 Senelerine Mahsus Sıhhi İstatistiki*, Dersaadet: Selanik Matbaası, 1328.

with opportunities to detect infrastructural deficiencies and patterns of inequality in urban health outcomes.

Table 5.3 Total Number of Deaths within the Municipal Districts, and Number of Typhoid and Dysentery Related Dates Between 1898-190

	1314 (1898)	1315 (1899)	1316 (1900)	1317 (1901)	1318 (1902)
Total Number of Deaths within the Municipal Districts	10988	10352	11102	11504	11411
Typhoid Related deaths	384	221	195	214	247
Dysentery Related Deaths	69	59	40	66	71

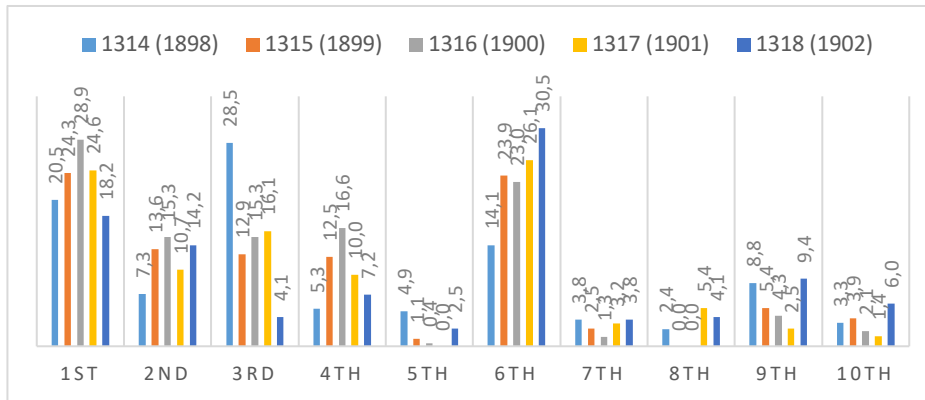
SOURCE Compiled from BOA., SH.402, SH. 490, SH. 498, SH.499, SH 500.

Table 5.4 Percentage Distribution of Total Typhoid and Dysentery Related Deaths According to Municipal Districts

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1314 (1898)	20,5	7,3	28,5	5,3	4,9	14,1	3,8	2,4	8,8	3,3
1315 (1899)	24,3	13,6	12,9	12,5	1,1	23,9	2,5	0,0	5,4	3,9
1316 (1900)	28,9	15,3	15,3	16,6	0,4	23,0	1,3	0,0	4,3	2,1
1317 (1901)	24,6	10,7	16,1	10,0	0,0	26,1	3,2	5,4	2,5	1,4
1318 (1902)	18,2	14,2	4,1	7,2	2,5	30,5	3,8	4,1	9,4	6,0

SOURCE Compiled from BOA., SH.402, SH. 490, SH. 498, SH.499, SH 500.

Table 5.5 Percentage Distribution of Total Typhoid and Dysentery Related Deaths According to Municipal Districts



SOURCE Compiled from BOA., SH.402, SH. 490, SH. 498, SH.499, SH 500.

The tables above compiled from the four death registers reveal that the 1st and the 6th Municipal Districts consistently recorded the highest percentage of typhoid and dysentery-related deaths from 1898 to 1903, significantly outpacing other districts.⁷⁹ The elevated mortality rate of the 6th district likely linked to longstanding infrastructural issues within the area, such as inadequate sewage systems and limited access to clean water. These conditions mirror those seen in cholera outbreaks, where poor sanitation and contaminated water are primary drivers of disease spread, underscoring the urgent need for public health improvements in the sixth district. In addition to the infrastructural problems, the existence of bachelor rooms provides another explanation for the concentration of typhoid and dysentery cases in the 1st district. The single men who came to Istanbul for work often lived in overcrowded *hans*, apartments, and bachelor rooms in and around the first district, creating new public health risks. Public health regulations, such as patient isolation, guest limits in *hans* and bachelor rooms, bans on irrigating orchards, and general

79 The Health Register of 1324-1325 (1908-1909) state that in 1899 and 1900, following the enactment of the law on the mandatory examination of the deceased, the Prefecture's health service was not yet sufficiently organized, which prevented the recording of all deaths. They expect the overall mortality rate for these years to be nearly a quarter lower than the actual figure. See Şehremâneti İdâre-i Sihhiyesi, *Dersaadet'in 1324 ve 1325 Senelerine Mahsus Sıhhi İstatistiki*, Dersaadet: Arşak Garoyan Matbaası, 1326.

hygiene requirements, proved insufficient to prevent typhoid outbreaks.⁸⁰ This pattern also aligns with cholera statistics: the 1st and 2nd district hospitals recorded the highest number of cholera cases (299 out of 734) during 1893-1894 outbreaks (see Table 5.2). Going back to Table 5.1. that show the projected expenditures for the improvement of sewer infrastructure, it is notable that despite the 1st district's prominence as a hotspot for water-borne diseases (including cholera, typhoid and dysentery), it received relatively limited infrastructural investment. This disparity highlights how patterns of urban inequality were reflected in public health outcomes.

The 1910-1911 cholera statistics reveal a similar topographical pattern and provides further clues regarding the infrastructural breakdowns and their impact on public health and disease. Despite the preventive measures, the disease was first observed in the capital city in the summer of 1910 and spread quickly during the winter. In 1910, a total number of 1,343 people contracted cholera, with 798 fatalities, yielding a death rate of approximately 60%. By 1911, the number of infections had doubled to 2,620, with 1,583 deaths. Although the death rate remained more or less the same, the near doubling of cases and fatalities within a year is notable.⁸¹

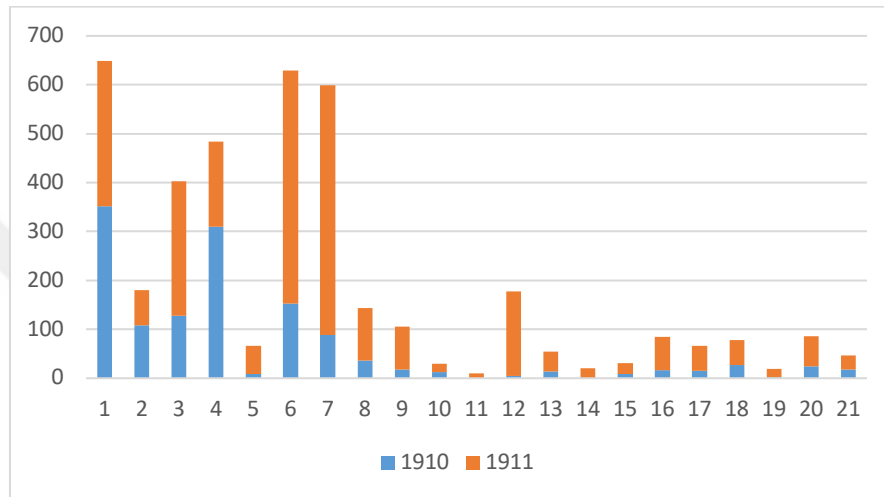
Statistics from the 1910-1911 cholera outbreak reveal a similar spatial distribution of death and disease similar to that of the 1893 outbreak, with the highest case numbers recorded in the 6th and 7th districts—now part of a new administrative division that splits Istanbul into 20 districts instead of 10. These districts include Beyoğlu, Tophane, Kabataş, Galata, Kasımpaşa, and Hasköy. Both the 6th and 7th districts show a significant increase in cholera cases from 1910 to 1911, rising from 153 to 476 and from 88 to 511, respectively. Another notable increase was observed in the 12th district, Büyükdere, where cases rose from 5 to 172. According to the Ottoman experts who authored these health records, the explanation was straightforward: these areas, particularly Kasımpaşa and Hasköy, were unsanitary, with impoverished residents and no sewage system. Hasköy had the highest case numbers, and though bacteriological analyses were negative, authorities believed the well water was

80 Ibid.

81 Şehremâneti İdâre-i Sıhhiyesi, *Dersaâdet'in 1326 ve 1327 Senelerine Mahsus Sıhhî İstatistikî* (Dersaadet: Selanik Matbaası, 1328).

contaminated by sewage. This contamination was reflected in the higher number of cases among women who used the water for household purposes. The same was true for the 12th district, where cholera deaths increased from 5 in 1910 to 172 in 1911.

Table 5.6 Number of Cholera Patients Across 20 Municipal Districts in Istanbul in 1910 & 1911



SOURCE *Dersââdet'in 1326 ve 1327 Senelerine Mahsus Sıhhi İstatistiki*

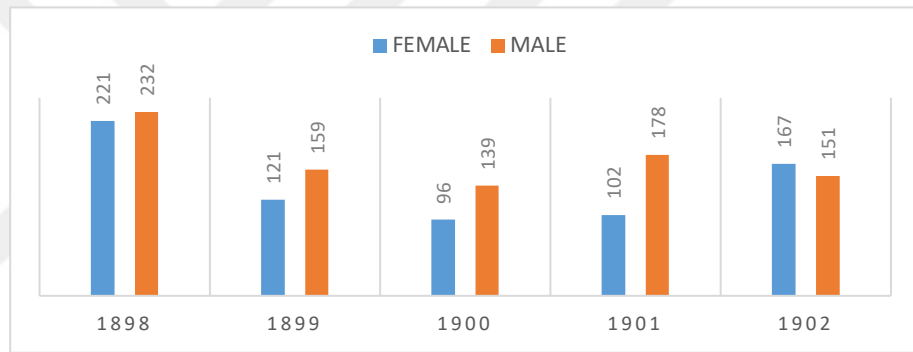
Besides these socio-economic and infrastructural factors, authorities also offered topographical and environmental explanations for the disparity in cholera cases. Districts with fewer patients were located on hills, while lower-lying areas recorded higher numbers of cases and deaths. The authorities believed that these lower areas were exposed to the “breezes” from higher locations. For instance, Hasköy and Piripaşa were situated below Okmeydanı, creating a disease epicenter at Kasımpaşa. Similarly, Fındıklı was located below Pera, while other areas with high disease rates, such as Arnavutköy, Balat, and Yenibahçe, were all in low-lying locations. The Ottoman register also noted that weather conditions, such as rain and fog, contributed to the increase in cases and deaths. This emphasis on “breezes” reflects the persistence of the “miasmatic” understanding of disease, even in the early twentieth century.

While focusing on topographical and environmental explanations, the reports limited their focus on the infrastructural shortcomings. Though carrying water to higher locations was a technological challenge for the Ottomans, these areas had the privilege of directing waste to lower areas, exacerbating sanitation problems in lower-lying districts.⁸²

5.4.1 *Demographic Distribution of Death and Disease*

Topographic discrepancies in the distribution of death and disease also correspond to gender and ethnicity. Health records show that men are more likely than women to contract waterborne diseases. This difference arises from men's greater involvement in social and economic activities.

Table 5.7 Gender Distribution of Typhoid and Dysentery Related Deaths Between 1898-1902



SOURCE Compiled from BOA., SH.402, SH. 490, SH. 498, SH.499, SH. 500.

Furthermore, bachelor rooms were heavily populated by men who came to Istanbul seeking work. As mentioned above, these bachelor rooms were seen as hotbeds of disease and filth, as well as spaces of disobedience to social order. As part of his centralization efforts, Mahmud II ordered the demolition of bachelor rooms in Istanbul, Tophane, Üsküdar, and Galata, using the plague as a pretext.⁸³ Despite these efforts to eliminate such spaces of discontent,

82 Kentel traces this unequal relationship between Pera and Kasımpaşa in his dissertation. See, "Assembling 'Cosmopolitan' Pera."

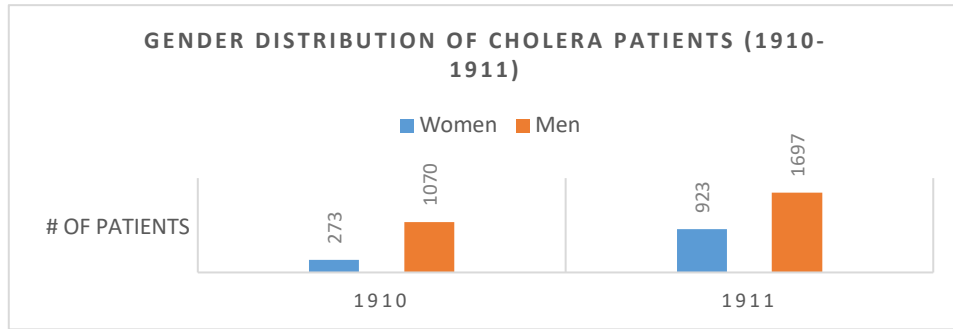
83 Çokuğraş, "Osmanlı İstanbul'unda Bekar Odaları," 29-35.

bachelor rooms remained an integral part of Ottoman Istanbul until the mid-twentieth century. For instance, the 1908-1909 health register notes a significant number of people residing in bachelor rooms, a situation that exacerbated the spread of cholera in Istanbul. The overcrowded and unsanitary conditions, along with the poor nutrition of the residents, created a breeding ground for disease. An analysis of the spatial distribution of cholera cases shows that areas with high concentrations of bachelor rooms, such as Kapan-ı Dakik and Tahtakale, also had a high incidence of cholera. Notably, in 1910, 540 cholera patients—52% of all male cases—were staying in bachelor rooms, a trend that was common during cholera pandemics in the nineteenth and early twentieth centuries.⁸⁴

During the 1910–1911 cholera pandemic, the number of male cholera cases and deaths initially surpassed those of female patients. However, within a year, the proportion of female deaths rose significantly in comparison to male deaths. In 1910, women accounted for 20% of total cases, but this figure increased to 35% in 1911. According to the Şehremaneti İdare-i Sıhhiyesi, this rise in cholera cases among women was notable and was linked to high infection rates in areas such as Büyükdere and Hasköy. Women, who spent more time at home than men, were frequently exposed to contaminated water through household tasks, putting them at greater risk. This example illustrates the intersection of infrastructural failures, gender, and ethnicity in public health outcomes.

84 Şehremâneti İdâre-i Sıhhiyesi, *Dersaâdet'in 1326 ve 1327 Senelerine Mahsus Sıhhi İstatistiki*, Dersaadet: Selanik Matbaası, 1328.

Table 5.8 Gender Distribution of Cholera Patients (1910-11)



SOURCE

Dersââdet'in 1326 ve 1327 Senelerine Mahsus Sıhhi İstatistiki

The cholera and health registers also provide valuable insights into the occupational profiles of cholera patients. For example, records from the 1910-11 cholera outbreak show that, the occupations most affected by cholera included shopkeepers, porters, farmers, laborers, and, unsurprisingly, street sweepers. The nature of these jobs often involved close contact with others, and for street sweepers, direct exposure to the bacteria itself. These data are important in showing how class can affect a person's likelihood of contracting a disease. This inequality was highlighted in the newspapers of the era. Galip Ata, for instance, argued that it was difficult to speak of *müsavvat* (equality) when it came to cholera, which he described as a "disease of the poor."⁸⁵ In doing so, Galip Ata also casts doubt on the Constitutional regime's promise of equality.

Focusing on the ethno-religious disparities in disease distribution reinforces the argument regarding the uneven spatial and gendered patterns of cholera- and typhoid-related deaths, as well as their connection to infrastructure. Unsurprisingly, both cholera- and typhoid-related deaths were more prevalent among Muslims, who made up the majority of the population, compared to other ethno-religious groups. During the 1893 epidemic, for instance, approximately 60% of patients were Muslim, 19% were Greek, 14% were Armenian, 6% were Jewish, and less than 1% were foreigners. The overall

85 Doktor Galib Ata, "Koleraya Karşı", *Şehbal*, No. 28, 1 Teşrin-i Evvel 1326 [14 October 1910]: 66-67.

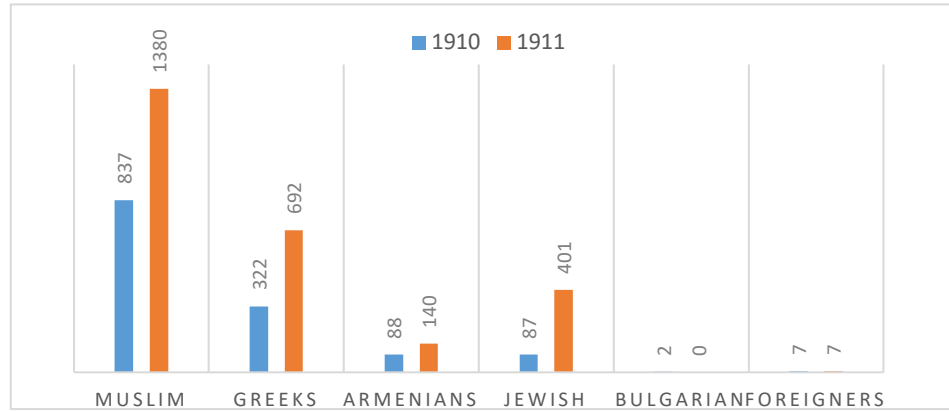
mortality rate from the disease was 57%. Armenians had the lowest death rate at 46%, while the highest death rate was among foreigners at 94%, followed by Greeks at 62%.⁸⁶

The 1910 cholera epidemic illustrated how outbreaks could disproportionately impact certain ethno-religious groups in specific districts of Istanbul, due to infrastructural disruptions and the state's or municipality's inability to address them effectively. Unlike in previous years, the Jewish community in Istanbul was affected more than other confessional groups during this epidemic. According to the health registers of 1910–1911, this increase was attributed to the high number of cases observed in Hasköy, Balat, and Ortaköy—areas with significant Jewish populations that became epicenters of the outbreak. In 1910, for example, 511 of the 2,620 patients were residing in the Hasköy district. Infrastructural inadequacies, especially issues with access to clean water and proper sewage systems, accelerated the spread of the disease in these areas. As discussed above, infrastructure investments often prioritized the needs of the Muslims when limited financial resources were allocated.

When comparing the incidence of cholera across confessional groups per thousand residents, it becomes apparent that Armenians were less affected. Providing a cultural explanation the 1910–1911 health registers emphasize that Armenians were noted for adhering carefully to general sanitary guidelines and were more likely to consult medical professionals when ill. However, it may be worth questioning whether Armenians had better access to improved infrastructure and to healthcare than other groups. It is also striking that although the local authorities acknowledged the importance of infrastructure, they continued to emphasize individual-level precautions over broader societal and political solutions.

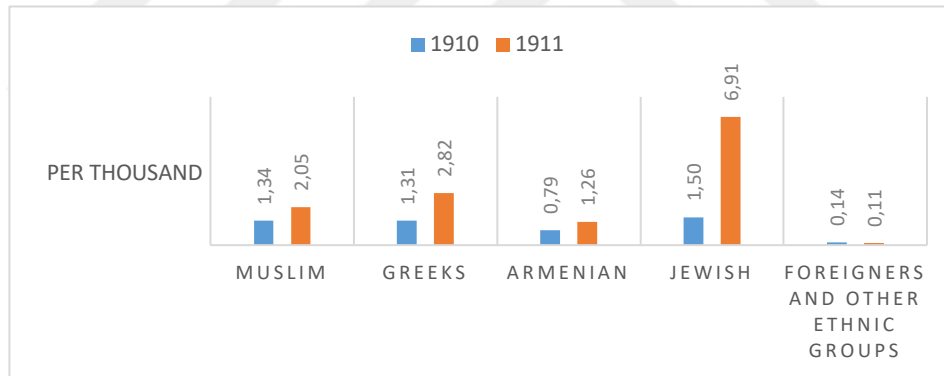
86 İ.Ü, NEK., TY No: 8987

Table 5.9 Distribution of Cholera Patients According to Religion (1910-1911)



SOURCE *Dersaâdet'in 1326 ve 1327 Senelerine Mahsus Sıhhi İstatistiki*

Table 5.10 Ratios of Cholera Patients by Ethno-Religious Groups (per thousands of the population)



SOURCE *Dersaâdet'in 1326 ve 1327 Senelerine Mahsus Sıhhi İstatistiki*

In conclusion, cholera, death, and health registers provide important data for assessing the uneven demographic and spatial distribution of death and disease. A critical evaluation of the narratives and figures in these documents highlights the significant impact of infrastructure access on these disparities.

§ 5.5 Conclusion

To conclude this chapter, the analysis here reveals that the distribution and development of Istanbul's infrastructure were not merely technical matters but were deeply intertwined with social hierarchy, economic priorities, and political power. The city's public health crises —most notably cholera, typhoid, and dysentery outbreaks— laid bare the inequalities embedded in urban planning, as marginalized communities bore the brunt of disease due to their limited access to sanitation. By foregrounding the “visibility” of infrastructure failures through mortality rates and the lived experiences of various ethno-religious and socio-economic and gender groups, this chapter highlights how sanitation practices and public health policies served to both reflect and reinforce social stratification in the Ottoman capital. It thus underscores the enduring impact of infrastructure on public health, demonstrating that effective disease prevention relies not only on technological advancements but also on equitable access and political commitment to public welfare.

Corpses as Sanitary Dangers: Necropolitics in late Ottoman İstanbul

In April 1896, approximately three years after the 1893 cholera pandemic in İstanbul, Imam Hafız Ahmed Hamdi Efendi of the Firuzağa neighborhood in Sultanahmed issued a certificate [*ilmühaber*]¹ of death following the passing of Müderris Şevki Efendi. The deceased was interred after a funeral prayer held at Ayasofya Mosque. However, within two weeks, Ahmed Hamdi Efendi found himself before the court, facing interrogation by the Council of State judge. He was accused of failing to adhere to the law, which required the approval of the municipality physicians [*etibba-ı belediyye*] for the burial of the deceased. In parallel with the legal moves of the second half of the nineteenth century, such as the issuance *Defn-i Emvat Nizamnamesi* in the late 1860s, the principle of “muayene-i emvat” appeared in several public health regulations of the late nineteenth and early twentieth centuries. It was implemented to curb the spread of contagious diseases, aiming to establish a standardized

1 *İlmühaber* is a type of document that was often used for communication among different Ottoman bureaucratic units. In this chapter, *ilmühabers* that were co-produced by the muhtars and imams of a given neighborhood upon the death of an Ottoman subject will be the foci of attention. For a detailed description of *ilmühabers* and their functions see., Mübahat S. Kütükoğlu, *Türkiye Diyanet Vakfı İslam Ansiklopedisi* (Ankara: TDV Yayınları, 2000), v. 22, 295–300.

protocol for examining the cases where the deceased suddenly lost their life or under suspicious circumstances.

When questioned about his decision not to wait for the arrival of the municipality physician to examine the corpse, Imam Ahmed Hamdi Efendi argued that Şevki Efendi had been bedridden for the past two to three years, making his death “non-suspicious.” He believed this protocol was applicable only during the cholera outbreak and was unaware of any need for consultation during “ordinary” times. He had not received any official notification regarding such a practice. The physicians involved in the case insisted on harsh measures to “set an example” and deter others from following a similar course of action.² Imam Ahmed Hamdi Efendi’s fault lay in overstepping boundaries and risking public health by making a scientific judgement without a solid foundation or expertise.

Four years after Imam Ahmed Hamdi’s court case, Imam Mustafa Nuri of Kasımpaşa’s Sahaf Muhittin neighborhood faced a similar judgment on the same grounds. Ahmed Hamdi and Mustafa Nuri are intriguing examples of subjects who opposed Ottoman necropolitics in Istanbul at the time. These cases shed light on a pressing question that officials and subjects were grappling with: How, where, when, and by whom would the deceased be buried in an era when mortality rates were on the rise and the dead bodies were considered as vectors of disease and a public health hazard? How did society perceive the state’s intervention in this “sacred” space of burial practices? What happened to those who resisted the encroachment of Ottoman necropolitics into what had traditionally been the jurisdiction of religious and community leaders?

While examining the development of extramural cemeteries in Istanbul, Nükhet Varlık highlights the correlation between this shift in managing the deceased and the Ottoman state’s efforts to govern the living. She extends Michel Foucault’s concept of biopower and embraces Achille Mbembe’s notions of necropower and necropolitics, typically employed in analyzing modern contexts such as extermination camps, racism, and colonial rule. According to Mbembe, biopolitics fails to comprehensively address the intricate

2 BOA., ŞD. 785-9. 29 Mart 1312 [10 April 1896].

relationship between sovereignty, life, and death. Reflecting on this limitation, he questions “the place given to life, death, and the human body” in politics and how they intersect with power dynamics.³ In his own words, “[the] ultimate expression of sovereignty largely resides in the power and capacity to dictate who is able to live and who must die.”⁴ Beyond merely referring to the right to take life, Mbembe’s concept of necropolitics encompasses a wide array of forms of political violence, not confined solely to the context of colonialism and racism but extending to situations where individuals are made vulnerable to mortal dangers and death.

Expanding on this framework, Varlık argues that Mbembe’s conceptual foundations provide valuable insights into the pivotal role of death in Ottoman state formation during the classical age. She demonstrates that the Ottoman state’s “biopolitical” and “necropolitical” powers grew in parallel by the sixteenth century.⁵ Her research delves into the state’s endeavors to establish spatial boundaries and effectively manage the interactions between the living and the dead within the Empire during the pre-modern era.⁶ By emphasizing the significance of space within this historical process, Varlık introduces the concept of “necroscaping” alongside “healthscaping.” The latter describes the state’s efforts to enhance the urban conditions to create a healthier, safer, and more livable environment.⁷

The above cases from the Ottoman archive are potent examples that reveal how death structures the social order. From the state’s perspective, governing the practices, rituals, and spaces of death was as crucial as governing the living, both in the pre-modern and modern times. Death and burial practices speak to life’s spatial, symbolic, and financial aspects and interact with social hierarchies and state-subject relations on many levels. To address the challenges posed by mortality during disasters, the Ottoman state implemented various measures aimed at controlling death. These were the micro and the macro measures ranging from maintaining urban hygiene to implementing new

3 Mbembe, *Necropolitics: Theory in Forms*, 70.

4 Ibid., 67.

5 Varlık, “New Methods for Governing Death in Istanbul.”

6 Ibid.

7 Ibid., 147.

forms of governance through surveillance and new legal regulations.⁸ Benefiting from the theoretical framework proposed by Varlık in her analysis of death in Istanbul during the sixteenth century, this chapter shows the workings of “necropolitics” and the emergence of “necrospaces” in the context of late Ottoman Istanbul. It also scrutinizes how the various constituents of the Ottoman society experienced these state interventions. The chapter’s contribution is three-fold. First, it contributes to studies on governmentality by offering insights into how the state dealt with the dead. Second, it advances Ottoman historiography of death. The literature on death and cemeteries in the nineteenth-century Ottoman Empire extensively references the *Defn-i Emvat Nizamnamesi* of the 1860s as the “apogee” of burial-related regulations. This chapter, however, highlights prior and succeeding efforts to govern the death in the Ottoman Empire, which were as crucial as *Defn-i Emvat* in shaping Ottoman necropolitics. The sanitary restrictions of examination of the deceased principle [*muayene-i emvat*] complemented the spatial restrictions introduced by the *Defn-i Emvat*. Lastly, this chapter provides a bottom-up approach to explore how the public reacted to these restrictions on inhumations, transforming how the corpse was understood, approached, and prepared for the “afterlife.” While doing so, the analysis here demonstrates the moment of clashes and cooperations between the emerging actors of Ottoman necropolitics, particularly reform-minded bureaucrats and doctors on the one hand, and more traditional figures involved in burial practices on the other.

§ 6.1 Historiography of Death and Inhumations in Istanbul

The subject of death is receiving increasing attention within the scope of historical and social inquiries. Studying death opens new research venues in the subfields of urban, environmental, social, and cultural histories.⁹ In the field of Ottoman studies, scholars analyzed various aspects of death, and the recently opened death registers in the Ottoman archive invite further

8 Nükhet Varlık, “Plagues, Fires and Other Catastrophes,” in *A Companion to Early Modern Istanbul* Shirine Hamadeh & Çiğdem Kafescioğlu eds. (Leiden, Boston: Brill, 2022), 434.

9 Ibid., 423.

investigations.¹⁰ The most common themes within this scope are the death of Ottoman sultans, the architecture of death, and contagious diseases. In line with the detailed descriptions available in the archival documents, the death of the sultans and the accompanying funeral ceremonies are among the prominent subject topics.¹¹ The details provided on the reason for death, the way the body was prepared for the funeral, the prayers, the participants of the funeral, and so on provide us with extensive information on death rituals and ceremonies of the elites in the Ottoman Empire, as well as the symbolic and social meaning of death in Ottoman society. Benefiting from these rich sources, for instance, Edhem Eldem provides an interesting comparison of the death of sultans Mehmed II and Mehmed Reşad V, the first and the last Ottoman sultans who were buried in Istanbul.¹²

Cemeteries as the spaces of death are another important theme of the literature. Calling Istanbul the “city of the dead,” Edhem Eldem highlights the symbolic importance of cemeteries and the dead in the Ottoman capital since the conquest. Pointing out the processes from the “discovery” of Ebâ Eyüp Ensarî’s grave by Ak Şemseddin in the mid-fifteenth century to the establishment of sultanial mausolea throughout the city, he demonstrates how the cemeteries provided the city with some sort of legitimacy.¹³

Where was the dead buried, and how was this surveilled by the state? Eldem argues that at least from the end of the fifteenth century, there was a conscious policy to locate the burial grounds outside the city walls.¹⁴ Varlık

10 See for instance: Balsoy & Gündoğdu, “Ottoman death registers (*Vefeyât Defterleri*).”

11 Although not focused on Istanbul, Sabri Ateş’s work needs mentioning here. Ateş examines the reactions to the burial of Iranian corpses in sacred Shiite sites within the Ottoman Empire and explores the implications for sovereignty, borders, trade, and hygiene. Specifically, he focuses on the role of cross-border “corpse traffic” in Ottoman-Iranian relations, particularly in the context of epidemics and border disputes. See Sabri Ateş, “Bones of Contentment: Corpse Traffic and Ottoman-Iranian Rivalry in Nineteenth-Century Iraq,” *Comparative Studies of South Asia, Africa and the Middle East* 30, no. 3 (2010): 512–532.

12 Edhem Eldem, “II. Mehmed ile V. Mehmed Reşad’ın Ölümleri ve Cenazeleri: İstanbul’da İlk ve Son Padişah Ölümleri,” *Toplumsal Tarih* 110 (2003): 56–61.

13 Edhem Eldem, *Death in Istanbul: Death and Its Rituals in Ottoman-Islamic Culture*. (Istanbul: Ottoman Bank Archives and Research Centre, 2015), 16.

14 Ibid.

ties the emergence of communal graveyards in extramural Istanbul with major plague outbreaks of the sixteenth century.¹⁵ She argues that as Istanbul's population and the number of plague victims increased in a parallel manner, this created the necessity for establishing graveyards outside of Istanbul's city walls. Emerged during the reign of Bayezid II, the first communal graveyards were organized based on confession: Muslims buried around the Edirnekapı-Yeni-kapı-Topkapı axis; Orthodoxes were reserved space between Topkapı and Sili-vrikapı and Jewish cemeteries were between Eğrikapı and Golden Horn.¹⁶ Furthermore, *Grand Champs des Mort* was located on the northern end of Pera, and *Petit Champs des Mort* was located on the hills of modern-day Tepebaşı and Kasımpaşa.¹⁷ The communal graveyards further expanded during the seventeenth century. These establishments confirm that Istanbul was surrounded by large burial grounds.¹⁸ This, however, did not mean that there were no burials in the city center. As Varlık underlines, following the conquest, Muslims were buried intra muros around the mosques, whereas the non-Muslims could be buried intra muros or elsewhere.¹⁹ Critically tracing the writings of travelers, Nicholas Vatin challenges the general belief existing in the literature that during the classical age, the deceased was buried only in the cemeteries located outside the city walls. Though Vatin acknowledges that inhumations were often practiced outside of the city walls as part of a general policy of hygiene and urbanization, this did not mean that in-city burial practices did not exist.²⁰ Inhumations in intra-mural Istanbul had existed as early as the conquest, but it was under state control. Pointing out to the class and status dimension of this process, Vatin demonstrates that in-city burials mainly were limited to the upper classes of the society who could obtain special permits from the sultan himself for the burial practice intra-mural Istanbul. Whereas the poor and ordinary people were often buried either in the cemeteries

15 Varlık, *Plague and Empire*, 271.

16 Ibid., 271-272.

17 Ibid., 272.

18 Ibid.

19 Ibid.

20 Nicholas Vatin, "Osmanlı Dönemi'nde İstanbul'da Suriçi Defin" in *Osmanlılar ve Ölüm*, ed. Gilles Veinstein ed, (İstanbul: İletişim, 2011), 189-199.

outside of the city walls, in their gardens, along roadsides, or on unused lands, sometimes without tombstones if they were unlucky.²¹ Hence, a large majority of the Muslim population was buried outside of the city walls, whereas the tombs of a privileged minority were located in *intra muros* Istanbul. Most of these graveyards were developed around public buildings such as mosques, schools, convents, libraries, baths, or fountains, and were affected by the urbanization policies of the twentieth century in some way or the other.²²

The control mechanisms on intramural inhumations began to loosen during the mid-eighteenth century.²³ The death toll from the plague epidemic of the early nineteenth century caused a further relaxation of this policy, which led to a process that Vatin calls “democratization of intramural inhumation.”²⁴ Increasing mortality of the time caused by the subsequent epidemics and pandemics must have required the people to bury their loved ones wherever place was available, often in a short time.

It was against this backdrop that The Regulation on the Burial of Dead in Dersaadet, Three Provinces and the Bosphorous [*Dersââdet ve Bilâd-ı Selâse ve Boğaziçi’nde Defn-i Emvât Hakkında Nizâm-nâme*] (hereafter *Defn-i Emvat*) was issued. This regulation provided the legal basis for managing the dead in the modern, post-pandemic world. Consisting of five articles, the regulation is quite a short one and has two main underpinnings. First, it forbade inhumation to the graveyards that now remained close to the densely populated areas of the city and inside of the gardens of churches and mosques. The regulation was to be applied in Dersaadet, Boğaziçi, and *Bilad-ı Selase* and Eyüp was given an exemption. Second, the regulation forbade using ancient monuments and mausolea except for specific members of the society, who were also provided a geographical exception for the burial practice. These include the high-ranking religious officers from Muslim and non-Muslim communities, *şeyhs* of the Sufi lodges, and commissioners of places of worship, along with their families.²⁵ In times of epidemics, however, there were instances when this

21 Ibid.

22 Eldem, *Death in Istanbul*, 20.

23 Ibid; Vatin, “İstanbul’da Suriçi Defin.”

24 Vatin, “İstanbul’da Suriçi Defin,” 200.

25 Ergin, *Mecelle*, v. 4, 2141-2142.

geographical exception enjoyed by the religious elite was not applied. For example, during the 1910 cholera outbreak, the Ministry of Imperial Religious Foundations denied the request to bury Emine Hanım, wife of Colonel Yusuf Ziya Bey, chief physician of the 4th Army, within the funerary compound [*hazire*] of the Fatih Tomb. Referring to the emerging threats posed by the plague, the Ministry claimed that it would be more appropriate to bury Emine Hanım outside of Istanbul.²⁶ This example suggests that in-city burials were rare following the promulgation of *Defn-i Emvat*. Hence, as Eldem points out, the *Defn-i Emvat* regulation shifted the burials towards the periphery of the city.²⁷

Though *Defn-i Emvat*'s text itself does not provide any information on the context that necessitated this legal move, some insights can be gleaned from the example of Emine Hanım and the broader developments of the time. Nicholas Vatin suggests that it is probable that hygiene was the utmost concern. Writing on an earlier period, Varlık also argues that regulating graveyards and burial practices was closely linked with the pressures of the epidemics.²⁸ Similarly, the 1868 regulation was issued following the outbreak of cholera in 1865/66, and the International Sanitary Conference of 1866 held in Istanbul. In this conference, Vatin notes, the burial of the deceased in the cemeteries that were located within the densely populated areas of the cities was considered as sources of putrefaction, emphasizing the necessity of relocating cemeteries outside of the city walls.²⁹ Furthermore, as discussed by Valeska Huber, this conference was marked by a strong Eurocentric bias toward "the Orient." For the Europeans, the sanitary conferences were part of their "civilizing mission" that framed the hygiene crisis outside Europe as emblematic of broader backwardness. Huber furthermore demonstrates that the International Sanitary Conferences strengthened the awareness of an interlinked world, which

26 BOA., BEO. 3834-287522, 5 Kanun-ı Evvel 1326 [18 December 1910].

27 Eldem, *Death in Istanbul*, 22.

28 Varlık, *Plague and Empire*.

29 Vatin, "İstanbul'da Suriçi Defin," 202.

paved the way for the emergence of attempts at standardization in public health practices.³⁰

The current literature on death in late Ottoman Istanbul considers *Defn-i Emvat* as one of the turning points regarding the state's desire and ability to govern the dead and the spaces of death in Istanbul. As my analysis will demonstrate, it was not only the *Defn-i Emvat* that was decisive in shaping Ottoman necropolitics. Whereas it was important in drawing the borders of the spaces of death, there were preceding and following regulations within the public health framework that were relevant in determining the actors and tools of necropolitics. This issue will be analyzed in more detail below.

§ 6.2 Necrospaces: Interventions into the Cemeteries in the Context of Urbanization and Sanitization

The nineteenth century standardization attempts in public health practices not only manifested themselves in tools for combatting contagious diseases and enforcing hygienic norms but also in urbanization schemes. The regulation of the cemetery spaces in city centers and inhumations lay at one of the intersections of urbanism and sanitary reforms. Population growth, migration from rural to urban areas, and the pressures of contagious diseases made accommodating inhumations in city centers more difficult. Aside from these structural pressures, the changing understanding of the relationship between health and the environment led to a critical reevaluation of the position of cemeteries in city centers.

As a result, starting with the late eighteenth century and throughout the nineteenth century, this issue dominated the policy agenda of European states, the Ottoman State included. For instance, Britain's Burial Acts were passed to regulate the burial grounds in the country between 1852 and 1884. Reflecting on this transformation, Peter Thorsheim analyzes the discussions around turning the burial grounds into creation and recreation areas. For mid-

30 Valeska Huber, "The Unification of the Globe by Disease? The International Sanitary Conferences on Cholera, 1851-1894*," *The Historical Journal* 49, no.2 (2006): 460-464, 470.

nineteenth-century British sanitary reformers decomposing matter, such as human bodies, was among the main reasons for urban centers' being unhealthy spaces. Though many scientists agreed on the dangers posed by the cemeteries on public health, they had diverging opinions on minimizing this hazard.

Some scientists argued that it was the use of heavy coffins and burial vaults that "interfered with the earth's ability to transform the dead bodies into harmless substances."³¹ Hence, the removal of any barrier between the earth and the dead bodies would accelerate the bodies' decomposition into the soil, which would ultimately eliminate the foul conditions with its ability to neutralize decaying matter.³² According to them, using simple, biodegradable coffins made from wicker or papier-mâché would enable this process of turning the harmful substances emerging during the decomposition process into pure elements.³³ Other scientists found this approach quite naïve. The soil of the cemeteries was the breeding ground for infectious diseases. That is why they opted for more radical solutions such as cremation.³⁴

Once it was established that it was the bacterium, not miasma, that caused the diseases, the discussions around the burial grounds also transformed. Now, returning these large spaces into recreation areas where Londoners could breathe fresh air and enjoy the green was on the agenda.³⁵ This had to do with a changing mentality regarding the relationship between the environment and human health, alongside the decreasing space for human recreation due to the pressures offered by urbanization. As Thomas Harvey establishes, referring to the case of Portland cemeteries in the United States, it was typical for cemeteries -historically seen as sacred spaces- to be viewed as "protected open spaces" during the twentieth century.³⁶ With rapid urbanization and

31 Peter Thorsheim, "The Corpse in the Garden: Burial, Health, and the Environment in Nineteenth-Century London," *Environmental History* 16, no. 1 (2011): 43.

32 Ibid.

33 Ibid., 44.

34 Ibid., 45.

35 Ibid.

36 Thomas Harvey, "Sacred Spaces, Common Places: The Cemetery in the Contemporary American City," *Geographical Review* 96, no. 2 (2006): 295-312.

population growth reducing areas for recreation, cemeteries took on new roles as urban oases, providing “breaks from the built environment.”³⁷ As Steven Rosenthal points out, European and local residents of Istanbul also enjoyed the *Petit Champ des Morts* and *Grand Champ* similarly during the mid-nineteenth century. These public spaces have “became popular places of rendez-vous for evening promenades; there *Peroîes* (natives of Pera) and Westernized Turks would parade in French fashions, just out-of-date.”³⁸ Being very close to *Grand rue de Pera*, these cemeteries “were often filled with ambulatory vendors and served as the scene of musical entertainments and puppet shows.”³⁹

Aside from repurposing the cemeteries, relocation was also on the agenda of urban reformers. For instance, in the United States, many cities moved their cemeteries from town centers to more remote locations.⁴⁰ The main cemetery of Chicago, located on the banks of the Chicago River, was moved to the city’s outskirts during the mid-nineteenth century based on fears related to small-pox. Fifty years after this relocation, another removal took place. As Dianne H. Kay put forward, as cemeteries in town centers yielded no tax revenues, the municipal authorities were against this kind of land use.⁴¹

The relocation of the cemeteries was also discussed among Ottoman reformists. By the nineteenth century, the northward urban expansion in Istanbul reached a point where the residential areas were surrounded by graveyards that were once on the outskirts of the city. Like their European and North American contemporaries, the Ottomans struggled to allocate sufficient space for the increasing number of corpses. This was coupled with the state officials’ quest to profit from land while pursuing spatial reorganization as part of their broader urban reform agenda. Thus, during the second half of the nineteenth century, the relocation of the Catholic and Protestant cemeteries in Beyoğlu was already on the agenda. Ottoman officials informed the relevant parties

37 Ibid., 310.

38 Steven Rosenthal, *The Politics of Dependency: Urban Reform in Istanbul*. (Westport & London: Greenwood Press, 1980), 16.

39 Ibid., 49.

40 Dianne H. Kay, “Cemetery Relocation: Emerging Urban Land Development Issue.” *Journal of Urban Planning and Development* 124, no.1 (1998): 1-10.

41 Ibid., 4.

that the burials in these cemeteries were no longer allowed gave them three years to relocate their ancestors' cemeteries.⁴² Relocation of the Orthodox Christian and Armenian cemeteries was also under discussion during the mid-nineteenth century. These plans received diverse reactions from the respective communities. As Masayuki Ueno demonstrates, whereas the Catholics and Protestants agreed to transform their cemeteries into a public park, Armenians strongly opposed such plans.⁴³ The public park, "millet bahçesi" was opened on *Petit Champs de Mort* in 1870.⁴⁴

Eventually, all cemeteries in Beyoğlu and Galata were closed to new burials and relocated. While the process was justified through the discourses of beautification, health, and security, alongside appeals to public benefit, Işık Demirakın argues that cemetery land offered the reformers a valuable space to be expropriated, allowing them to initiate their urban transformation projects.⁴⁵ The reception of these relocations varied. In some cases, the inhabitants welcomed them; in others, the relocations spurred resistance. Armenians of Istanbul, for instance, were able to negotiate the relocation of their cemeteries in 1872 and 1873. The local residents, as well as the religious representatives, were involved in this process with their diverse interests, and the community succeeded in retaining their cemetery land until the end of the Empire.⁴⁶

§ 6.3 Legislating Necropolitics: Tools and Actors of Inhumations

The previous section presented a short summary of how the Ottoman state managed the spatial organization of death, and their attempt to confine the burials outside the city center in line with the greater move towards centralization, modernization, sanitization, and profit-making. The current literature on death considers *Defn-i Emvat* one of the most important regulations in

42 Masayuki Ueno, "Urban Politics in the nineteenth Century Istanbul: The Case of the Armenian Cemetery in Beyoğlu," in *Human Mobility and Multiethnic Co-existence in Middle Eastern Urban Societies I*, Hidemitsu Kuroki ed. (Tokyo: ILCAA, 2015), 87.

43 Ibid.

44 Demirakın, "Expropriation as a Modernizing Tool."

45 Ibid.

46 Ueno, "The Case of Armenian Cemetery."

Ottoman necropolitics. My analysis will show that, in addition to the spatial constraints brought by *Defn-i Emvat* alongside the regulations on relocating the cemeteries, new sanitary restrictions were imposed in the context of the public health regulations. Appearing in several regulations from the mid-nineteenth to early twentieth centuries, the principle of *muayene-i emvat* shifted power away from traditional authorities towards doctors and reform-minded bureaucrats, and prioritized the earthly over the spiritual in burial practices. This shift, however, was an arduous task. In due process, several conflicts appeared between the common people and the actors of necropolitics, i.e., health and municipality officers, doctors, watchmen, *imams*, and lawmakers. Before focusing on these moments of conflicts and cooperation over the power to bury the dead, this section focuses on how the Ottoman state legislated necropolitics.

The public health regulations of the nineteenth and early twentieth centuries eventually increased state control over death and diversified the actors involved in Ottoman necropolitics. Over time, the emphasis on hygiene and public health in preventing intramural burials became more apparent, and physicians and health inspectors -working alongside and sometimes in opposition to religious authorities- became the “guardians” of these new regulations. They were held responsible for determining who was going to be buried where and how.

Ottoman archival records demonstrate that as early as the 1860s, the state attempted to impose certain hygienic limitations on inhumations to increase the sanitary conditions of the capital. According to an ordinance from February 1860, *imams* and *muhtars* were required to submit an *ilmühaber* (certificate) informing the Office of Quarantine about the death of subjects in each neighborhood. The ordinance frames this new requirement as an important step toward sustaining the purity and cleanliness of cities [*taharet ve nezâfet*] and considers it a tool for combatting the spread of the contagious diseases.⁴⁷

Implementing this ordinance in the provinces was constrained by the limits of the Quarantine Organization’s reach. For instance, letters sent by the governors of Adana and Ankara acknowledged that they received the

47 BOA., A.}MKT.UM. 397-1, 6 Şubat 1275 [18 February 1860].

ordinance. However, as there is no Quarantine branch in these regions, they informed the office of the Grand Vizier that they assigned available doctors in these towns for the examination of the bodies.⁴⁸ Though the ordinance does not clarify the steps taken after informing the Office of Quarantine or how the medical examination by the doctors took place in practice, it is significant to note that it opened up a space for the involvement of non-religious actors in the inhumation practices.

A cross-reading of the relevant archival documents shows that the *imams* and *muhtars* of the neighborhoods were asked to notify the Office of Quarantine through an *ilmühaber* following the death of an individual. In turn, the Office of Quarantine issued a *ruhsat* (permission document) for burial. The extent of the involvement of the doctors remains vague. Whereas in some cases the Office of Quarantine sent a doctor to the field, in others they just issued the *ruhsat* without any medical examination, suggesting a degree of trust between local religious figures, neighborhood officials, and medical authorities.⁴⁹ It is likely that the *imams* and *muhtars* -as prominent figures of the neighborhood- were expected to report suspicious deaths.

Ottoman archival records demonstrate that the involvement of doctors and officials in burial procedures predated the 1860 ordinance. For instance, a report written to the Office of Zabita in 1859, following the inhumation of a person in Yenibahçe without informing the doctors, highlights that the *muhtars* and *imams* were responsible for reporting the deaths to the Office of Quarantine, and burial was not to take place before the arrival of doctors working at the Quarantine office. The report highlights that this procedure was part of the Public Health Regulations, aimed at protecting the “health and security of the public.”⁵⁰ Hence, we might conclude that the 1860 ordinance

48 BOA., A.}MKT.UM. 397-87, 11 Şubat 1275 [23 February 1860] & BOA., A.}MKT.UM. 398-13, 14 Şubat 1275 [26 February 1860].

49 See, for instance, BOA., ŞD. 807-4, 13 Temmuz 1315 [25 July 1899]. In this case, İmam Mustafa Nuri Efendi claims that he had not seen any doctors who examined the dead bodies in his neighborhood (Kasımpaşa) between 1893 and 1899. While he may be exaggerating the situation, we can assume that there is some truth to his claim, and not every suspicious death was examined by the municipal doctors.

50 BOA., A.}MKT.MHM. 151-110, 28 Nisan 1275 [10 May 1859].

did not inaugurate this new burial practice, but simply formalized it, providing a legislative justification for an act that was already in place.

Defn-i Emvat's spatial restrictions, developed within the context of the sanitary crises that plagued the Ottoman capital from the turn of the century, complemented this 1860 ordinance and paved the way for future ordinances and regulations. Ottoman archival documents reveal that a similar ordinance was promulgated in 1893, in the emergent context of the cholera pandemic, which heightened the Ottoman authorities' awareness of the sanitary risks posed by urban space. This edict added another layer to Ottoman necropolitics by diversifying the actors and tools that intervened in the inhumation process and providing more details on the extent of this involvement. According to this ordinance, local authorities (the document names these as *imams*, *muhtars*, *kethüdas*, and the heads of religious communities) were already preparing detailed records on the deceased. These records documented the individual's name, the sickness for which they were treated before death, and their burial location, among other details. Upon receipt of these records, the Office of Quarantine or Department of Sanitary Matters would issue burial permission, and upon this permission the inhumation took place.

The edict succinctly summarizes the problems that were emerging in this context. In some cases, "suspicious" deaths -particularly those caused by contagious diseases- went unnoticed. In other instances, the inhumations took place without informing the authorities. To prevent misdiagnoses of death and limit the spread of contagious diseases, the ordinance mandated that municipality physicians examine the corpses and prepare medical reports. Only after this report was submitted would the Office of Quarantine or Department of Health issue the permission for burial.⁵¹ This was the solution proposed by Istanbul Municipality, a request that the Council of Ministers accepted in August 1893.⁵²

A month after the issuance of this ordinance, the *ilmühabers* co-prepared by the *imams* and *muhtars* needed to be accompanied by a medical report. While this regulation diversified the tools and actors of necropolitics, it also

51 BOA., İ. SH. 1-20, 10 Ağustos 1309 [22 August 1893].

52 Ibid.

raised religious concerns. Within the same archival folder, the Sadrazam's letter presenting this decision of the Council of Ministers to the Sultan has a side note, asking whether it is appropriate in religious terms for a dead body to be examined by doctors.⁵³ Given that the ordinance has Şeyhülislam's signature among other high-ranking bureaucrats, we might assume that it was found religiously acceptable [*şer'an caiz*] in the eyes of the highest religious authority of the Empire. As my analysis below will demonstrate, common people had difficulties navigating the balance between the requirements of religion and science in real-life scenarios.

The regulations of the early twentieth century provide more details regarding the medical examination of the bodies by the doctors. For instance, *Dersââdet Devâir-i Belediyye Hey'ât-ı Tibbiyesi'nin Vezâifine Dair Talimat* (1909-1910) clarifies that once a death is reported in a neighborhood, municipality physicians should go to that place at their earliest convenience to examine the body. Once the disease that caused the death was identified by the physicians, they would issue a certificate allowing their burial. Though the regulation does not clarify the procedures for individuals who died of contagious illness; it does outline the procedures of disinfection that would be implemented. Accordingly, if contagious diseases such as measles, typhoid, and whooping cough were identified as the cause of death, the deceased's belongings and room would be disinfected by sanitation officials.⁵⁴ Another ambiguity of this and similar regulations is related to the way post-mortem examinations were carried out. Considering the frequent complaints about limited medical personnel into consideration and the complicated logistics regarding carrying the body from home to the medical institution and then back to the home or cemetery, we might assume that most of the epidemic-related post-mortems were conducted without dissection.

In the case a sudden death is reported by neighborhood authorities through an *ilmühaber*, the regulation emphasizes the need to consult the municipality physicians again. Accordingly, the bodies of the people who died suddenly [*fücceten*] must be examined by the physicians within 24 hours of

53 Ibid., Document nr. 11.

54 Ergin, *Mecelle*, v. 4, 2141-2142.

death, and the body would be buried upon their authorization. Following Nükhet Varlık's findings, the regulation differentiates between natural and sudden deaths. As expected, Istanbulities during the fifteenth and sixteenth centuries wished for a natural and nonviolent death, instead of a sudden and unexpected one. Giving reference to treaties of the time, Varlık makes references to the "remedies" proposed by the physicians to ward off the much-feared forms of death ranging from snail bites to falling victim to the plague.⁵⁵ The abovementioned regulation, too, makes a distinction between natural and sudden death, and the latter invites mystery and fear at the same time.

In a similar vein, the *Şehremâneti Sıhhiye Müdiriyeti Vezâifine Dair Talimat* (1912-13) outlines the protocols of burials. Detailing the main responsibilities of the Directorate of Health, the regulation has a separate heading titled "examination of the deceased" [*muayene-i emvat*]. Accordingly, the regulation posits that municipality physicians were required to examine every deceased person within the neighborhood under their jurisdiction. Once the reason for death was identified and it was confirmed that the person did not die from a contagious illness [*emrâz-ı sâriyye*], the physician would issue a death certificate, which was necessary for initiating the burial process. It is difficult to imagine how the physicians could examine every deceased body in Istanbul, during the early twentieth century given the likely shortage personnel and administrative challenges. The regulation addresses this issue by specifying working hours: examinations were to take place between the morning and three hours before sunset, absent an urgency. Contagious diseases and sudden deaths were considered urgent situations, requiring the physicians to complete the examination as early as possible and ensure that the burial process followed scientific methods (*usûl-ı fenniye*).⁵⁶ As outlined in previous regulations, the document also outlines procedures for disinfecting the deceased's belongings and the household in cases of contagious diseases. Furthermore, it introduces a critical enforcement mechanism: people who did not allow the physicians to do their job would not be provided with the death certificate necessary for the burial.⁵⁷

55 Varlık, "Plagues, Fires and Other Catastrophes," 424.

56 Ergin, *Mecelle*, v. 6, 3205.

57 Ergin, *Mecelle*, v. 6, 3192.

Şehremâneti Sıhhiye Müdiriyeti Vezaifine Dair Talimat also has a separate section on preparing the body of the deceased for burial and equipping it with necessary materials before inhumation [*techîz, tekfîn ve defn*]. Three requisitions were listed: a) a large coffin, the inside of which was covered with zinc; b) a shroud that was stuck into 1/1000 of mercuric-chloride; c) sawdust to be spread to the bottom of the coffin. Accordingly, the “infected” body of the deceased would be washed with water with 1/1000 of mercuric chloride; put into the coffin, and buried in a grave of at least one and a half meters depth. The deceased would be put to the grave with a coffin, lime would be added on top of it, and once the grave was closed, the top would be covered with lime again.⁵⁸

It is important to note that these regulations describe an ideal sanitary situation that the practical realities could only approximate. The state’s necropolitical interventions in the burial practices, especially during the time of epidemics during the late nineteenth and early twentieth centuries alike, created confusion and reaction among the people, officials who were involved in the burial process, and the state. Even the spatial restrictions on the burial processes by themselves created an uneasiness among local and foreign residents of Istanbul alike. For instance, in December 1896, apparently following the death of the British ambassador, the Ministry of Foreign Affairs was informed that foreigners were not abiding by the requisitions of the public health regulations and were not allowing the physicians to examine their corpses.⁵⁹ In other cases, they were preparing the death certificate in a foreign language. Because gravediggers cannot read these certificates, inhumations without proper permits were taking place.⁶⁰ Similarly, both spatial and sanitary restrictions on burial were violated. In April 1908, the Ottoman authorities suspected that a woman named Mary Golmas, was buried in the garden of the mansion of a British subject, Mösyö Siger, living in the Bebek neighborhood across the Bosphorus. The officials assumed that Madam Golmas was an American citizen and issued a warning to the American consulate again

58 Ibid.

59 BOA., BEO. 878-65823, 24 Teşrin-i Sani 1312 [6 December 1896].

60 Ibid.

reminding the inhumation procedures and that inhumations without death certificates were forbidden. In their response to this query, the American consulate claimed that Madam Golmas was not an American subject, but they would like to share their knowledge on the issue to be helpful to the Ottoman state. Both Mary and his husband, Edward Williams, were Ottoman subjects; Edward was a converted Muslim who served as a preacher for the American church. According to their narrative, the American Embassy sold a piece of land to Mösyö Siger, and an American church used to operate here. This land was on the hills of Bebek, close to Siger's home, and while it was the church's property, many inhumations to this land had taken place. However, once Siger took over the land, the Embassy continued, he did not allow this practice to continue. Mary's husband and several other family members were resting here, too. The Embassy's letter highlights that although Mary might expect to be buried here, it was unlikely that Siger would permit this.⁶¹ Although there is no mention of *Defn-i Emvat*, the Embassy probably implies that inhumations to the yard of the church took place before the promulgation of the regulation, though they do not provide any information on the whereabouts of Mary's deceased body.

Secret inhumations to the yard/inside of the churches were not rare. From a report written in November 1901, we learn that the body of the Beykoz Italian church's main priest was secretly buried in the yard of the French church in Büyükdere. According to a conveyance, after the crowd of the funeral ceremony in Büyükdere was dispersed, the doors of the church were closed, and the priest was buried on the ground floor of the church. Upon this conveyance, an investigation took place, and it came out that the ground floor was organized as a vault, and twelve years earlier, another priest was secretly buried here without a death certificate again. The report ends by reminding *Defn-i Emvat*'s article that the burials were forbidden to the yards of churches, synagogues, and mosques alike.⁶²

The legislative measures outlined above not only imposed sanitary and spatial restrictions but also impacted the religious and cultural rituals

61 BOA., BEO. 3276-245651, 10 Nisan 1324 [23 April 1908]

62 BOA., DH. MKT. 2558-77, 24 Teşrin-i evvel 1317 [6 November 1901]

associated with preparing the body for burial and the afterlife. The process of ablution and equipping the body as well as performing the funeral prayer were now not only a religious practice but also a matter of sanitation. The complexities involved in carrying out these rituals offer intriguing insights into the interplay between religion and science. This issue will be analyzed in more detail below.

§ 6.4 Revisiting the Science vs. Religion Binarism

How can we explain the reluctance towards autopsies and post-mortem examinations? One simple explanation would be the powerful role of Islam in Ottoman society and its reverberations on medical education. As several scholars have shown, there is no clear statement in the Qur'an that bans the practice of autopsies or post-mortem examinations.⁶³ Considering dissections and autopsies as important components of medical and legal reforms which were the main pillars of Egyptian modernity, Fahmy's influential book, *In Quest of Justice*, calls for a more nuanced analysis. After reviewing critical works on the myths of dissection, Fahmy proposes that resistance towards dissection was not because of religious taboos or dogmas. Instead, in Islam and Christianity, among many reasons for the abstinence towards dissection, there was inviolability of the human body, the dignity and honor attached to it. Furthermore, it was a messy and painstaking endeavor, not to mention the lack of cooling technologies that might needed during the process. Fahmy furthermore agrees with earlier accounts that there are not any hadiths that approve or disapprove of dissection and strengthens his argument by referring to fatwas from the early twentieth century, which consider post-mortem examination as a component of public good while identifying the cause of death.⁶⁴ Fahmy's critical discussion of dissection contributes to the studies that

63 See, Esin Kahya, "Bizde Disseksiyon Nasıl ve Ne Zaman Başladı?" *Belleten* XLIII/172 (1979): 739-759; Ahmet Yüksel, "Osmanlılarda Otopsi," *Belleten* 77 no. 280 (2013): 877, Yüksel Çelik, "XIX. Yüzyılda Osmanlı'da Anatomi Eğitimi ve Kadavra Temininde Yaşanan Sorunlar," *Tarih Dergisi* 48 (2008): 47-63.

64 Khaled Fahmy, *In Quest of Justice: Islamic Law and Forensic Medicine in Modern Egypt* (Berkeley: University of California Press, 2018), 62-67.

reevaluate the binarism around European enlightenment vs. Islamic fanaticism, and religion vs. science. The recent scholarship has already started to revisit these dichotomies. For instance, based on an analysis of Ahmed Midhat's works, Alper Yalçinkaya's analysis revisits the "conflict thesis" and provides important insights on how Ottoman intellectuals embraced a relatively flexible understanding of Islam that could go along well with the scientific developments of the time. According to Yalçinkaya, this openness was used as a tool to draw a contrast between Islam and Christianity, to show that the former was more harmonious with science than the latter.⁶⁵

We can make several guesses regarding why the religious officers were evading the *Defn-i Emvat* regulation and the principles of *muayene-i emvat*. In the first place, the state intervention in religious matters, especially to the burial of their loved ones or colleagues, was not only against their religious worldview, but it was also reducing their power over the dead. The moment of the dead and the body's preparation for the "afterlife" is a sacred moment in Islam, Christianity, and Judaism. The spatial and sanitary restrictions imposed by the state, the multiplicity of actors, and the uncertainty embedded in this process were, in a way, spoiling this moment. As shown in the case of Imam Hafız Ahmed Hamdi Efendi which was brought at the beginning of this chapter, the religious officers were reluctant to open up this "sacred" space to new actors and norms.

This conflict was also quite clear in a report penned to the Office of Shaykal-Islam in the summer of 1911, during the cholera outbreak, by Imam Ahmed Hıfzı, Müderris Hüseyin Avni and Müftü Osman İrfan. This religious clique proposes that because of the cholera outbreak, the physicians prevent the taking place of the core Islamic rituals of the inhumation process, namely funeral prayer, ghusl, and enshrouding [*techiz ve tekfin*]. They went a step further and even claimed that the bodies of the dead cholera patients were burnt down using lime.⁶⁶ From their point of view, it was simply against the judgments of Islam [*ahkam-ı şer'iyye*]. The use of lime was a common disinfection practice in the Ottoman Empire during the time of plague and cholera pandemics.

65 Alper Yalçinkaya, "Science as an ally of religion: a Muslim appropriation of 'the conflict thesis'," *BJHS* 44, no. 2 (2011): 161–181.

66 BOA., DH. İD. 50-17, 18 Temmuz 1327 [31 July 1911].

Among other chemicals such as quinine and sulfate, lime was especially used in toilets on the walls of the buildings, and was put on the belongings of the people who contracted the disease. It was used in the graveyards in case the reason for death was a contagious disease as well. In cases where other modern disinfection practices such as disinfection machines and pulverization were not available, the Ottoman authorities opted to burn down the belongings of the sick people as well. Burning the body after the death, however, was not a common practice and it was probably a hearsay. This document provides some clues regarding how the religious authorities positioned the Ottoman doctors and sanitation practices against Islam and how the underlined “contradictions” galvanized societal reactions against the doctors and disinfection. They remind that doctors should limit themselves to scientific measures and stay away from religious rituals. Nuran Yıldırım demonstrates this point well in her article that focuses on the common reaction against quarantine measures and the role religious figures played in this process in Amasya during the mid-nineteenth century. In this case, Dr. Paldi was murdered by the local people who were provoked by the local religious officials. The crowd was gathered following the Friday prayer. It was not only Dr. Paldi’s being a non-Muslim that was creating discomfort among the local people. In addition, the procedures considered to conflict with Sharia such as Muslim women’s post-mortem examinations and the use of lime during the inhumation were difficult to acquiesce with.⁶⁷ It is, however, important to locate this discomfort in its socio-economic context in order not to remain within the shallow religion vs. science binarism. As Yıldırım points out, there was a significant drought around Amasya in this period⁶⁸ which was an important component of the people’s resentment against state policies, i.e., quarantine measures in this case.

In other instances, the *imams* themselves were hesitant in carrying out the necessary religious rituals in the context of cholera. For instance, when customs officer Mehmed Ağa passed away in Yeniköy after contracting cholera during the 1893 epidemic, the question of how and where he would be buried

67 Nuran Yıldırım, “Osmanlı Coğrafyasında Karantina Uygulamasına İsyanlar: ‘Karantina İste-mezükl!’” *Toplumsal Tarih* 150 (2016): 18-27.

68 Ibid.

and who would perform the religious rituals became a contention. Due to a lack of available space in Yeniköy Cemetery, Mehmed Ağa's body had to be carried to İstinye Mosque with a boat and waited there for a while for the *gasil* prior to its transfer to İstinye Cemetery. According to the report, the *imams* were reluctant to wash the body because of the fear of contracting the disease. When the body was finally abluted, the state was concerned about how to treat the people who contacted it, as they also had the risk of contracting cholera.⁶⁹ Summarizing a journal submitted to Yıldız Palace, another document highlights that two corpses waited for the arrival of municipality officials. The bodies were neither permitted to be abluted, nor to be swathed in while waiting for the arrival of officials from the Municipality. Instead of creating a binarism between science and religion, the officer who penned this document ties this delay to the miscommunication between different bureaucratic units of the Empire. He emphasizes that they were losing too much time in reporting such incidences and waiting for an answer from the relevant parties, the bodies waited in the meanwhile and posed sanitary hazards.⁷⁰

A letter written by the Bucharest Embassy to the Ministry of Foreign Affairs in October 1893 reveals similar complexities in the context of Ottoman subjects living abroad. The Ottoman officers at the Bucharest embassy notified the state that the Office of Health in Bucharest did not allow the *gasil* process of Ottoman subjects who died of cholera. The Embassy asks whether it is *caiz* to bury cholera-infected dead bodies -like the martyrs who lost their lives during wars- without ablution. In his response to this query, Sheyk-al-Islam Cemaleddin clearly states that the comparison between war martyrs and cholera-infected-deaths was not proper and ablution was a must in this case from a “*şer’i*” point of view.⁷¹ Rather than being an enmity between science/medicine and religion, these abovementioned examples were more of a reflection of the practical challenges of the field, which were difficult to line up with the religious rituals. The comparison established between war and the cholera pandemic is significant in this respect. The query was whether the pandemic

69 BOA., A.}MKT.MHM. 594-20, 22 Mart 1315 [3 April 1893].

70 BOA., Y..PRK.BŞK. 33-97, 2 Teşrin-i Sani 1309 [14 November 1893].

71 BOA., HR.TH. 133-73, 25 Eylül 1309 [6 October 1893].

was a “state of exception” as war, during which specific requirements could be suspended.

Insufficient personnel of the Ottoman sanitary administration and delays in examining the deceased bodies contributed to the cultural and religious reservations of the common people and empowered the opponents vis-à-vis the Ottoman necropolitics. As mentioned above, it was not only the ordinary people who feared “sudden” deaths [*fücceten vefat*]. From the perspective of the Ottoman state, sudden deaths were also scary. On paper, the state charged the physicians to identify the reason for death. However, there was confusion about whether it was the responsibility of the Ministry of Health, Municipality, or the Zabita Department’s physicians to undertake this primary physical examination. For instance, when a seaman named Pandeli was found dead in a boat near a fish market. The poor man’s body was examined by a physician, and his reason for death was identified as a heat stroke.⁷² Only after this examination, the necessary certificate for his burial was issued, according to the report written by the Head of Dersaadet Dock, Dilaver.⁷³

Unfortunately, the Ottoman authorities were not lucky to close each case this fast. The physical examination of the dead bodies did not work smoothly in the face of economic challenges, constant wars, and limited personnel. For instance, according to a complaint penned to the Ministry of Interior, and Health, and Municipality of Istanbul in June 1892, a dead body in Beykoz had waited for three days, and another one in Mirgün [today’s Emirgan] for two days long for the arrival of the municipality physicians. The complaint galvanized the religious and scientific discourses at the same time -rather than opposing them- and states that it is both against the norms of public health and Islam⁷⁴ for a deceased body to remain unburied for this long, and necessary measures should be taken to prevent similar incidents from taking place.⁷⁵ Though the report does not refer to the climatic conditions, it should be noted that it was penned in early summer, which makes the situation even more

72 “[b]aşına nüzul isabet ederek.”

73 BOA., Y.PRK.ASK. 105-67, 25 Haziran 1311 [7 July 1895]

74 “[ş]erran caiz ve kaide-i hıfz-ı sılhata muvafık olmadığından.”

75 BOA., BEO. 23-1688/2, 10 Haziran 1308 [22 June 1892] & BOA., DH. MKT. 1969-13, 22 Haziran 1308 [4 July 1892]

inconvenient. For instance, another report penned in August 1892 states that the body of Tarafyan Ezin Efendi was not buried because of the delays in medical procedures started to stink and created unpleasant conditions.⁷⁶

Correspondences between the Municipality, the Ministry of Interior, and the Ministry of Health regarding the case in Mirgün provide us with some clues regarding the reasons for delays in the examination of the dead bodies and the issuing of the death certificates. In the first place, the archival documents show that there was confusion regarding the division of labor between different institutions. In a letter written to the Office of the Grand Vizier, the Ministry of Health proposes that the responsibility to examine the bodies in cases of sudden deaths belongs to the *zabıta* physicians, not to that of the ministry, and only after this examination the office of the ministry of health issues necessary authorization for burial. From the perspective of Mayor Rıdvan Paşa, this kind of division of labor causes delays in the examination of the dead bodies, and in this specific incidence, the primary fault belonged to the Department of Zabıta at Galatasaray. According to his version of the “story,” the delays in examining the dead body of 72-year-old Helvacızade Ahmed Efendi, and similar incidents, were stemming from the Municipality’s exclusion from this process. To prove his case, Rıdvan Paşa provides details on the steps taken by the family to expedite the process. The family’s solution was including Helvacızade Ahmed’s son-in-law into the process, Mehmed Arif bin Yusuf, who was an assistant physician and adjutant major at the School of War. Once he examined his father-in-law’s body and identified the cause of death as the collapse of the lungs, the family kept trying to secure a physician from the office of Zaptıye at Galatasaray to authorize the report prepared by Arif so that they could receive the necessary permission from the Ottoman authorities to burry their beloved one. Rıdvan acknowledges that the Ministry of Health had already sent health inspectors to identify the causes of similar delays in the field to remove any obstacles before the preparation of death certificates and examination of the dead bodies. However, as the inspectors report to the *Cemiyet-i Tıbbiye-i Mülkiye* instead of the Municipality, the bureaucratic process takes longer than it should be. The mayor thinks that in case the

76 BOA., DH. MKT. 1984-44, 20 Temmuz 1308 [1 August 1892]

inspectors and the physicians of *Cemiyet-i Tibbiye-i Mülkiye* were employed by the Municipality, the process could have worked much faster.⁷⁷ Though Rıdvan Paşa's identification of the root of the problem is probably correct, his move also aims to increase the Municipality's power vis-à-vis the central government.

As a follow-up to this case, the discussion on whose responsibility it was to undertake the primary physical examination in case of sudden deaths continued in the correspondence between Ministry of Interior and the Ministry of Public Security. Accordingly, the Ministry of Interior proposes that given the fact that physicians and employees of the Department of Health work overloaded, it is not possible for them to deal with the cases of sudden deaths. Hence, from the perspective of the Ministry of Interior, the physicians of *Zab-tiye Nezareti* should examine the bodies when there were no pandemics, and then the Ministry of Health might issue the necessary permission documents for the inhumation process. In times of epidemics, it should be the responsibility of Ministry of Health officials to establish a committee that would deal with such cases.⁷⁸ Looking at the 1893 ordinance summarized above, we can conclude that Rıdvan Paşa's efforts finally bear its fruits, and this responsibility was eventually given to the municipality doctors.⁷⁹

§ 6.5 Actors of Necropolitics in Conflict and Cooperation: Imams, Doctors and the State-as-Arbitrator

Before delving into the details of the cases of İmam Hafız Ahmed Hamdi Efendi and İmam Mustafa Nuri Efendi, comprehending the role of local imams in Ottoman society and the transformations this role had witnessed is crucial. The role of *imams* was organized in accordance with the neighborhood organization of Ottoman cities. Most of the Muslim neighborhoods were developed around a *masjid* or a mosque that was located at the center, and each *masjid* had at least one *imam* and a *muezzin*. Until the age of Tanzimat,

77 BOA., BEO. 23-1688/3&6, 11 Haziran 1308 [23 June 1892] & 29 Haziran 1308 [11 July 1892].

78 BOA., DH. MKT. 1988-114, 4 Ağustos 1308 [16 August 1892].

79 BOA., İ. SH. 1-20, 10 Ağustos 1309 [22 August 1893].

the *imams* were among the primary representatives of the Ottoman state in the neighborhoods, and their role was not limited to religious affairs. Assisting the *kadis* in their operations, *imams* were responsible for maintaining order and security in the neighborhoods they were working in and were expected to know the members of their community well. Among their administrative duties were the preparation of residence and identity certificates reporting cases of birth, death, and marriage to the central authority. They also contributed to the delivery of municipal services by paying attention to overall hygiene and cleaning the neighborhoods. Not surprisingly, *imams* were tasked with preserving the moral order as well, surveying the spaces to see if alcohol was consumed or illicit sex was taking place. They were also gazing at whether the people's clothes were as per the regulations, especially the women.⁸⁰ *Imams* were, then, among the primary actors of the “moralizing gaze” of the communities operating at the neighborhood level, which aimed to prevent “moral irregularities.”⁸¹ The significance of *imams*’ position in Ottoman administration declined in the age of Tanzimat, following the emergence of *muhtar* as a new administrative position at the local level. Each neighborhood was assigned two *muhtars*, (*evvel* and *sani*) who were tasked to facilitate the provisioning of modern urban and administrative services.⁸² During the age of Tanzimat, *imams* continued to participate in the preparation of the population records, and the reporting of deaths by preparing *ilmühabers*. As the narrative below will demonstrate, it was not only the *muhtars* that undermined the powerful position of *imams* in Ottoman society, but new actors of the modern state, from municipality officials to court officers and doctors. I do not propose that these actors work in constant contradiction to each other. Albeit the multiplication of actors involved in the state’s modernization attempts throughout the nineteenth and twentieth centuries decreased the imam’s powerful position, they were still important actors of the Ottoman neighborhoods. In some cases, they mobilized their power against the state, whereas in others they co-opted

80 Kemal Beydilli, *Osmanlı’da İmamlar ve Bir İmamın Günlüğü*, İstanbul: Yitik Hazine Yayınları (2013): 15-19

81 Avner Wishnitzer, *As Night Falls: Eighteenth-Century Ottoman Cities after Dark*, Cambridge: Cambridge University Press (2021): 56.

82 Beydilli, *Osmanlı’da İmamlar ve Bir İmamın Günlüğü*, 21-22.

with Ottoman doctors and sanitary personnel. It was in this context that Imam Hafız Ahmed Hamdi Efendi and İmam Mustafa Nuri Efendi got into trouble. After providing a summary of their trials and pointing out the similarities and differences in the trial process, this part will inquire what these two cases offer in understanding the workings of Ottoman necropolitics in practice.

As mentioned earlier in this chapter, Imam Hafız Ahmed Efendi prepared Müderris Şevki's death certificate in April 1896, and Şevki was buried without undergoing any medical examination or notifying the Department of Quarantine. When questioned by the judge about why he did not inform the medical authorities, the Imam presented a dual defense. First, he emphasized that Şevki had been bedridden for the past two to three years and had received treatment from doctors, implying that they were already aware of his condition. From his perspective, Şevki's death was not "sudden" but rather expected. Secondly, he argued that he believed the requirement to inform doctors was only applicable during times of epidemics.⁸³

The archival documents present conflicting accounts regarding the sequence of events involving the issuance of *ilmühabers*, medical examinations conducted by doctors, and the acquisition of authorization for burial. In some instances, the doctors conducted examinations before the *ilmühaber* was prepared. However, in this particular case, the *imam* faced judgment for not attaching a medical report to his *ilmühaber* and proceeding with the burial of Müderris Şevki without obtaining authorization from the Department of Quarantine/Health. In a way, the expectation was for the *imam* and the doctor to collaborate before seeking authorization for burial.

Notably, in a context where the influence of *imams* was diminishing, Imam Hafız Ahmed Efendi's proactive approach was met with disapproval from the Ottoman authorities: "It is not the duty of the imam to determine or decide the cause of death. According to regulations, the *imam* must obtain a medical report from a doctor and await approval from the Department of Health before proceeding with burial arrangements," says Şehremaneti's report that evaluates the Imam's defense before the court. Şehremaneti officials argued that the *imam* should face a severe punishment to serve as an example for

83 BOA., ŞD. 785-9., 29 Mart 1312 [10 April 1896].

those who did not adhere to the public health and sanitation regulations, i.e., Ottoman necropolitics in this case. Imam's act was basically at odds with the established protocols [*mugayir-i usul*].⁸⁴

However, why the Ottoman state felt this level of resentment in this case requires further explanation. Imam Hafız Ahmed Efendi was probably neither the first nor the last actor who did not comply with the requirements of *Defn-i Emvat* and *muayene-i emvat*. Here, we not only witness the selective implementation of the law against some actors but also see the gap between the legal principles imposed by the sanitary reformers and their actual implementation. Surely, several other *imams* initiated the inhumation process without getting proper authorization. As the examination of the case of Imam Mustafa Nuri will prove, every opponent of Ottoman necropolitics was not treated like Imam Hafız Ahmed Efendi.⁸⁵ The archival documents reveal that this particular incident appeared in the newspapers as well, which might be one reason why the Municipality and some state actors requested harsh measures to discourage similar incidents from taking place.

In July 1896, The Lower Court of the Council of State sent Imam Hafız Ahmed Efendi a subpoena, and the case was held on July 16th, 1896. The hearing at the lower court provides more detail on the inhumation process of Müderris Şevki Efendi than *imam's* first interrogation by Şehremaneti. In contrast to his first statement given at the Municipality, Imam Ahmed Efendi claims that he prepared an *ilmühaber* and gave it to the watchmen for him to deliver it to the 1st Circle Municipality so that a doctor could come and examine the deceased. I find it likely that Imam Ahmed Efendi hired a lawyer at this point, and upon this legal assistance, he was able to add new details to his petition, which could help him to exculpate. According to these new details, the watchmen had waited at the Municipality building for 2-3 hours because

84 BOA., ŞD. 785-9/5, 13 Haziran 1312 [25 June 1896].

85 Cengiz Kırılı makes a similar connection. Focusing on the implementation of Ottoman Criminal Law, Kırılı points out the gap between the law and its actual implementation and how the law was instrumentalized in political rivalries between the reform minded bureaucrats and their opponents. See, Cengiz Kırılı, "Yolsuzluğun İcadı: 1840 Ceza Kanunu, İktidar ve Bürokrasi," *Tarih ve Toplum* 4 (2006): 45-119.

there were no available doctors at the time being. Based on this delay, Imam Ahmed Hafız Efendi decided that it was inconvenient for the body to wait unburied for this long. From Ahmed Hafız Efendi's defense, following the religious procedures, *teçhiz*, *tekfin* and *gasil* which were completed without any interruptions, the body was carried to the Ayasofya Mosque and it was only at this time that the watchmen and the doctor had arrived. Following his arrival, the doctor took some notes in French on the *ilmühaber* that the imam had prepared and asked the watchmen to deliver this document to the Office of Health. Here, the emphasis on French might imply the "outsider" and "foreign" status of the doctor in the process of burial and Islam, though the doctor was an Ottoman subject.

Based on which article of the law Imam was judged? He was accused of not abiding by Article 102 of the 1858 Ottoman Criminal Law, located in the fifth chapter titled "On Those Who Abuse the Power and Position of the Civil Service and Those Who Do Not Fulfill Their Official Duties." According to this article, the state officials who do not fulfill their duties assigned by their superiors without a compelling reason would be punished with a fee equal to a month of salary, and in case the officials keep not abiding by the directions of their superiors they would be punished with the dismissal from their post.⁸⁶ As the Ottoman archival records reveal, this specific article was galvanized in many court cases to punish state officials and civil bureaucrats from several ranks based on charges ranging from corruption to malpractice.⁸⁷ As Cengiz Kırılı's analysis of the trials of three high-ranking bureaucrats on the charges of corruption in the aftermath of the promulgation of Tanzimat reveals, this sort of hearings not only aimed at punishing the individual per se but aimed to eliminate (and criminalize) some of the most well-known powerful

86 "Maiyyet memuru, mafevkinde bulunan âmiri tarafından vazife-i memuriyetine ait olan tenbihatı infaz ve icrada bila-sebeb-i sahih terâhî ve kusur eder ise, bir aylık maaşı miktarı cezay-ı nakdî alınır. Ve eğer zabitanın tenbihatını adem-i itaatle icra etmez ise, memuriyetinden tard ile tedip olunur. Ve bu tehir ve tatil ve adem-i itaat keyfiyetleri devlet ve memleketçe bir mazarratı mücîp olur ise, o makule mazarrata sebep olanlar haklarında mürettep olan ceza dahi başkaca icra kılınır." *Düstur*, v.1, 559.

87 For a detailed analysis of the trials of Ottoman bureaucrats during the late nineteenth century see, Harun Çoban, "Osmanlı Devleti Sivil Bürokrasisinde Suç ve Ceza (1892–1900)," (PhD Diss., Sakarya University, 2020).

opponents of the Tanzimat reforms.⁸⁸ In this context, the Ottoman state located *the imam* as a potential -if not actual- opponent to its sanitary reforms, and utilized the language of the law to suppress a possible threat, and Hafız Ahmed Efendi was laid off from his post for a period of six months.⁸⁹

In his analysis of these trials, Kırılı also demonstrates how the convicts used the same language of law and reform to uncharge themselves from the accusations.⁹⁰ In a similar pattern, the language of the law and sanitary reform were embraced by Imam Hafız Ahmed Efendi in his letter of objection dating July 18th, 1896. He proposed that he fulfilled his duty by calling upon the death of Müderris Şevki, hence he had not committed any crime against the law. His defense on this basis implies that it was not him who was acting against Article 102 of the Criminal Law, but the doctor who had not arrived in time to examine the body. Imam Hafız Ahmed Efendi carried the decision of the Lower Court to the Court of Appeal, and his case was held in December 1896. From the documentation of this hearing, we learn that he participated in the case with his legal proxy, Mehmed Ali Efendi, who helped him to tailor his narrative of the event in such a way that he could vindicate himself, whereas pointing out to the “failure”s of other actors in complying with the requisitions of the state’s new sanitary regime. Thus, his latest petition presented to the court of appeal not only includes more tragic details about the *imam*’s private life but also diverts attention from the *imam* himself to other people who were involved in the inhumation process. Accordingly, the petition refers to Imam Efendi’s wife being seriously sick in bed for months and praises him for fulfilling his duties even under these circumstances. Although it was not mentioned in Imam Efendi’s interrogation by Şehremaneti in the first place, his sick wife was the primary reason that he could not wait for the doctor’s arrival and his rush to return home. Secondly, the petition proposes that he has no responsibility in the inhumation of Müderris Şevki upon his funeral prayer at Ayasofya Camii. Here, we learn that the students of Müderris Şevki at Ayasofya took responsibility and initiated the *techiz*, *tekfin* and *gasil* processes, without the knowledge of the *imam* himself. At this point, the doctor arrived

88 Kırılı, “Yolsuzluğun İcadı”

89 BOA., ŞD. 785-9/10-12, 4 Temmuz 1312 [16 July 1896].

90 Kırılı, “Yolsuzluğun İcadı.”

at the household of Müderris Şevki and learned that the deceased was carried to the mosque without physical examination. Third, the petition blames the doctor on the same ground that the *imam* himself was charged, proposing that he acted against Article 102 of the Criminal Law. Accordingly, despite having enough time to go to the Ayasofya Mosque to examine the body, the doctor opted to ragingly “scribble down something in French on the death certificate.” Fourth, the imam’s legal proxy Mehmed Ali Efendi, proposes that the court’s decision to suspend imam’s from all of his duties was unlawful. Accordingly, whereas the so-called malpractice pertaining to the issuance of the death certificate without proper authorization from the Department of Health, İmam Efendi was dismissed from each and every role of a practicing imam, including oratory. Mehmed Ali characterizes this decision as corrupt [*yolsuz*]. While the law constructs and defines crime and corruption of its subjects, the subject reverses this normative discourse and questions the corruption and injustices of the state which were caused by the implementation of the very same law. Mehmed Ali Efendi’s last strategy to “save” Imam Hafız Ahmed is questioning the legal ground through which the *imam* is accused. As this article refers to the existence of “superiors” in the “crime,” Mehmed Ali posits that there was neither a superior nor an order that his client acted against in this specific case.⁹¹ The defense strategy that Mehmed Ali established seems successful as the Court of Appeal overturned the Lower Court’s decision that charged the *imam*. It is interesting to note that other significant actors of the “moralizing gaze” - coffeeshop owner Şeker Ağa, ragman (*eskici*) Emin Ağa and neighborhood watchmen Osman Ağa (it was likely that he was the watchmen who carried the ilmühaber to the 1st District Municipality)- testified in favor of Imam Hafız Ahmed Efendi, and their testimonials were mentioned in the justified decision of the Court of Appeal.

Imam Hafız Ahmed Efendi’s case provides significant details, giving hints on the workings of Ottoman necropolitics in the context of urban sanitation efforts. First and foremost, as shown in previous chapters, the dissociation between several bureaucratic and administrative ranks of the Ottoman state, the actors of necropolitics, is evident in this instant as well. In addition to the

91 BOA., ŞD. 785-9/21-26, 9 Kanun-ı Evvel 1312 [21 December 1896].

confusions among Zabtiye, Sihhiye, and Şehremaneti officials regarding who would be authorized to conduct the physical examinations of the dead, there were also confusions on how to treat the discrepancies -or dissension- that emerged during the process. The diverging attitudes of the Municipality, the Council of State, and the Court of Appeal towards how to handle the *Imam's* "defiance" proves this. Şehremaneti's initial insistence on setting an example by punishing the *imam* was not appraised well among other actors. Though whether this reluctance has a religious basis or not remains unclear from the documents, both the trial, as well as the imam's legal proxy treat the *imam* more like a state official, rather than a religious figure. Hence, instead of establishing a binary opposition between science and religion, the actors of necropolitics treat the *imam* and his duties as an essential constituent of sanitizing the moment and afterward of death. As noted above, *imams* and *muhtars* of the neighborhoods were expected to act in cooperation with municipality officials while guarding the hygiene of their spaces. For instance, the *imam* and *muhtar* of Şahsultan neighborhood in Eyüb submitted a petition detailing the non-sanitary conditions in their environment and requested a solution from the authorities.⁹² It is a significant indication that the traditional actors also embraced the language of sanitary reform, and they were not essential opponents.

Four years after İmam Hafız Ahmed Efendi's case was closed, Imam Mustafa Nuri was judged on similar grounds. Following the death of seven-year-old Ali on a May evening, Imam Mustafa Nuri prepared an *ilmuhaber* and asked the watchmen to deliver it to the 6th District Municipality. According to Nuri's statement during his interrogation, the watchmen lost the *ilmühaber* on his way to the municipality building, and Nuri had to prepare a second document that the watchmen was -finally- be able to submit. From the documents, we understand that this second *ilmühaber* that was delivered to the municipality building was not prepared within the 24 hours prior to the death. Due to the delay in due process, they claim, they did not want to wait any longer for the arrival of the municipality physician -as it was also a hot day and the deceased's body could decompose- and buried the body. When the

92 BOA., DH. MKT. 1990-84, 4 Ağustos 1308 [16 August 1892].

municipality physician Ahmed Receb Efendi arrived at the scene, he came to the realization that the kid was already buried without medical examination, and it was in this context that he pressed charges against the *imam*, and his case was handled at the Council of State's Lower Court. How Imam Hafız Ahmed Efendi's and Mustafa Nuri Efendi's cases progressed demonstrate significant parallels and divergences in understanding the reverberations of Ottoman necropolitics on everyday life and Ottoman society.

During his first interrogation, Imam Mustafa Nuri Efendi establishes his justification on three fronts. To begin with, he claims that within the duration of his six-year duty at the neighborhood, he has not witnessed any municipality doctors that arrive at the neighborhood in cases of death and to examine the bodies of the deceased, and he proposes that the *ahali* [inhabitants] of the neighborhood can confirm this. During the later phases of his trial, Mustafa Nuri would take a step back and would revise his statement that only in one or two cases the municipality doctors came to the neighborhood and examine the bodies. This claim would infuriate Ahmed Receb Efendi, who responded to this by saying that Mustafa Nuri was using "lies" to save himself.⁹³ Because Mustafa Nuri was the *imam* in one of the neighborhoods of Kasımpaşa, a district that posed many challenges to the Ottoman state's attempts to create a sanitary capital, this claim that all the deceased were buried without a medical examination points out the gaps in Ottoman necropolitics even we take the margin of exaggeration by the actors of both ends taken for granted. As emphasized throughout this chapter, Ottoman doctors could not examine each and everybody prior to inhumation. However, it was also unlikely that only one or two bodies were examined between 1894-1900 by the doctors of the 6th District, given the lead that Kasımpaşa took during the 1893 cholera epidemic. Mustafa Nuri's claim is also interesting in demonstrating the enmity between the doctors and *imams* while practicing the burial.

Secondly, similar to the death of Müdderris Şevki, Ali's being sick for the past couple of years was emphasized by the *imam*. Although this trial does not make any mention of "sudden death," the defense of Mustafa Nuri highlights that the kid has been suffering from a "childhood disease," [*çocukluk hastalığı*].

93 BOA., ŞD. 807-4/4, 2 Haziran 1315 [8 July 1899].

Although the content of “childhood disease” is not clarified further, Imam Mustafa Nuri referred to the reason of death as “the malady of eclampsia” [*havale illeti*], which was not detailed either. Apparently, Ali’s death was no surprise to the *imam* or *ahali*, and they saw no harm in initiating the burial procedure without waiting for the arrival of Ahmed Receb.⁹⁴ In contrast to his colleague Hafız Ahmed, Mustafa Nuri does not mention the existence or absence of the risk of a contagious disease in his neglect of duty, and points out the deficiencies of Ottoman necropolitics via blaming the doctors themselves. The memories of the catastrophe of the 1893 cholera epidemic were probably more vivid in Hafız Ahmed’s case, which had a constitutive impact on his discourse as well. This was not the case for Mustafa Nuri. Hence, we might stipulate that the depth that the Ottoman necropolitics intervened into the society, and cultural and religious practices were not uniform throughout the years. On the contrary, it was contingent upon the severity of the sanitary challenges that were at play at that particular moment in history.

Thirdly, in both cases, there is an involvement of an “insider” doctor -i.e., outside of the administrative body of the Municipality but inside the neighborhood community- who was not primarily charged with the examination of bodies prior to burial. Whereas in Imam Hafız Ahmed’s case, it was the son-in-law of the deceased Müderris Şevki, it was *Kol Ağası Doktor* Ahmed Bey in Mustafa Nuri’s case. Upon the statement of Mustafa Nuri at the first hearing, the court found it necessary to involve the *Kolağası Doktor* Ahmed Bey and the Municipality doctor Ahmed Receb in the process and they were invited to the second hearing. From the report of this hearing, we learn in more detail that *Kolağası* Ahmed was also residing in the neighborhood, hence part of the *ahali*, and was treating Ali’s sickness for the past years. Although it was not mentioned in the initial investigation, it appears that *Kolağası Doktor* Ahmed Bey prepared a report detailing the reason of death for Ali the other day following his death. Regarding the reason why the report was not prepared within the 24 hours after the death and submitted to the Municipality (as a complementary reason to the watchmen’s loss of the first *ilmuhaber*), it is explained that in the evening that Ali passed away, *Kolağası Doktor* Ahmed Bey

94 BOA., ŞD. 807-4/4, 2 Haziran 1315 [8 July 1899].

was on night duty and that is why he was not able to prepare the report within the identified time limit. Whereas there was no mention of a medical examination of Ali's body by Kolağası Ahmed Bey in Mustafa Nuri's initial interrogation, the statement at the Council of State's lower court reveals that Kolağası Ahmed Bey somehow identified the reason for death as scrofula [*daülhanazir*].⁹⁵ Historically known as the "king's evil," scrofula is "the tuberculosis of the neck and is the most common extrapulmonary tuberculosis."⁹⁶ The physical symptoms of the disease include "fever, unusual rigors, frequent night sweats"⁹⁷ in addition to the subacute or chronic conditions of weight loss or failure to thrive, swelling on the one side of the neck is a common finding.⁹⁸ As interesting as the reason for Ali's death's transformation from eclampsia to scrofula from the initial interrogation to the hearing at the court is this sickness' being labeled as "non-contagious,"⁹⁹ which was the most critical factor that saved Mustafa Nuri from being charged. As well known, tuberculosis is a highly contagious disease. Sanitation is crucial in preventing the emergence and dissemination of the disease. None of the sanitary measures identified by the Ottoman state and the Municipality were taken in this case. In both Imam Hafız Ahmed Efendi's and Imam Mustafa Nuri's case, the cooperation between the *imams* and these "insider" doctors is striking and enables us to overcome the binarism that was assumed to exist between science and religion.

95 BOA., ŞD. 807-4/20, 15 Mayıs 1316 [17 May 1900].

96 Jenish Bhandari and Pawan K. Thada, "Scrofula," accessed through the National Library of Medicine website, <https://www.ncbi.nlm.nih.gov/books/NBK557700/>. Accessed on September 8th, 2023. For a detailed description of the symptoms of scrofula and how it was treated see: Mahmut Tokaç, "İlk Dönem (XIV-XV yüzyıllar) Türkçe Tıp Yazmalarında Cilt Hastalıkları ve Tedavileri," (PhD Dissertation, İstanbul University, 2000), 133-146. For an interesting historical analysis of this disease, see: March Bloch, *The Royal Touch: Sacred Monarchy and Scrofula in England and France*, trans. J. E. Anderson (Princeton: Princeton University Press, 1973). In this study, Bloch examines the belief that monarchs in England and France possessed a divine power to heal scrofula, through the act of touch. He offers an archeology of this ritual, linking it to the broader concepts of sacred kingship and the relationship between the king and the people.

97 Bhandari & Thada, "Scrofula."

98 Ibid.

99 "[i]llet-i mezkurenin sari bir illet olmadığına anlaşıldığına."

Looking at the documents more than a hundred years later, we cannot judge who owns the truth. Reading the documents all at once, however, we might assume that Ahmed Receb Efendi's step to press charges against the *imam* was unexpected. We might speculate that the neighborhood people as a collective, including the Ottoman state officials such as the watchmen and the Kolağası Doktor Ahmed Bey, curated an exit strategy for the *imam* by providing him with an explanation both for the delay in delivering the report to the Municipality as well as the body's being buried without the identification of the reason of death. This raises one final question: why did the Council of State's Lower Court buy this curated narrative of Mustafa Nuri, which was backed by the testimonials of Doktor Kolağası Ahmed Bey and the watchmen? In contradiction to Imam Hafız Ahmed Efendi's trial, the prosecutor of Imam Mustafa Nuri's case refers to the article Article 254 of the Criminal Law, which was categorized under the subheading of "Regarding the Penalties for Wrongdoers Who Act Contrary to General Quarantine and Sanitation and Police Affairs" [*Umur-u Tahaffuziye Ve Tanzifiye Ve Zabıtaya Muhalif Hareket Eden Ashab-ı Kabayihin Cezaları Beyanındadır*]. In contrast to Ahmed Efendi, Mustafa Nuri was not judged based on misconduct of his official duty, but rather not complying with the sanitary measures of the Ottoman state. Article 254 mainly outlines the general conduct as regards urban infrastructure and hygiene and includes clauses such as not throwing garbage on the streets, providing illumination during the night around open pits that were dug for the purposes of sewer and waterway construction, and not repairing buildings without permission of government officials.¹⁰⁰ The penalty identified for the

100 "Hancı ve lokantacılar dan geceleri fener yakması kendisine canib-i zaptiyeden tenbih olunduğu halde ihmal eden ve sühûlet-i mürur ve ubûr-u nâsa dokunacak şeyleri bila zaruret yollara vaz' ve terk eyleyen ve bu misillû şeyler hasbel-icap sokak ve meydanlara vaz' olunduğu veyahut memerr-i nâs olan mahallerde su yolu ve lağım kazılıp da geceleri açık kaldığı halde gelip geçenlere bir güne sakatlık olmamak için yığılmış eşya ve kazılmış mahal üzerine bir kandil ve fener vaz' etmeyen kimseler ve tarîk nizamâtma ve müşrif-i harap olan ebniyeyi tamir ya hedm etmek üzere taraf-ı hükümetten sâdır olan tenbihata mugayir hare ket ve sokağa süprüntü ve sair taaffünatı mûcip şeyler ilkâ eyleyenler ve kayıtsızlık ile bir kimsenin üzerine sürpüntü veya pislik dökenler ve su kutuyla yoldan geçenlere zarar verebilecek şeyleri sokağa atanlar ve gerek nizâmât-ı mülkiyeye ve gerek idare-i belediye tarafından

mentioned wrongdoings is between one to five *akçe*. When compared with Article 102 of the same law which includes possibilities such as being discharged from duty in addition to the penalty fee, Article 254 and the penalty it embodied seem much lighter. The Council of State, it seems, did not want to prolong the trial process this time and referred to this article of the Criminal Law instead of number 102. Hence, Mustafa Nuri's act was evaluated as a simple wrongdoing rather than an act of corruption. Not surprisingly, Mustafa Nuri was acquitted following the second hearing held on May 28th, 1900, because the reason for Ali's death was not contagious, which was indeed not the case. Although they were simple and not entirely convincing, the justifications provided for the inhumation without medical examination were approved by the Council of State.

§ 6.6 Conclusion:

The analysis presented in this chapter sheds light on the multifaceted ways in which the Ottoman state approached the governance of death and burial practices, especially during times of epidemics and public health crises. Through the lens of necropolitics, it becomes evident that the state's interventions extended beyond simple sanitary measures to encompass broader socio-political, spatial, and cultural transformations. The imposition of regulations, such as *Defn-i Emvat* and the principle of *muayene-i emvat*, not only aimed at mitigating the risks posed by contagious diseases but also served as a tool for asserting control over urban spaces and redefining the relationships between the living and the dead.

This study also highlights the tension between traditional religious actors, like imams, and reform-minded bureaucrats and medical professionals. These conflicts reveal the complexity of implementing modern public health policies in a society deeply rooted in religious traditions and communal practices. By examining cases such as those of Imam Hafız Ahmed Efendi and Imam

neşrolunan nizâmâta tevîk-i hareket etmeyenler, bir beyaz beşlikten beş beyaz beşliğe kadar cezay-ı nakdî ahziyle mücâzat olunur.” See Akgündüz, *Mukayeseli İslam ve Osmanlı Hukuku Külliyyatı*, 875.

Mustafa Nuri, this chapter illustrates how ordinary people and local figures navigated, resisted, or accommodated these state-imposed changes.

Moreover, the Ottoman necropolitics of the late 19th century can be seen as a reflection of broader global trends, where urbanization, public health concerns, and scientific advancements intersected with state-building efforts. The Ottoman experience underscores how the management of death became a critical component of modern governance, influencing not only the spatial organization of cities but also the cultural and social dynamics of communities.

In conclusion, this chapter contributes to the growing body of literature on the history of death, hygiene, and governance by bridging the theoretical insights of necropolitics with the practical realities of late Ottoman Istanbul. It underscores the enduring relevance of understanding how states interact with the most intimate and sacred aspects of human life—death and its rituals—while navigating the challenges of modernization, public health, and cultural preservation. By doing so, it invites further exploration of how similar dynamics unfolded in other contexts and time periods, offering a comparative perspective on the politics of death and urban transformation.



Conclusion

Late Ottoman Istanbul's transformation was driven by crises of food, water, sewage, and death. This dissertation reveals how public hygiene efforts navigated these challenges, shaping the city's environment and the lives of its residents. It shows that the journey from dirt to cleanliness, disease to health, chaos to order, was neither linear nor complete. Throughout the dissertation, I traced the arc of Istanbul's evolving public hygiene efforts, uncovering how the Ottoman state, its reformers, and Istanbul's inhabitants negotiated the fraught terrain of environmental and bodily management.

At the heart of these transformations lies the principle articulated by Mary Douglas: "Dirt is matter out of place." Whether it was the contaminated waters, disrupted sewages, the unsanitary marketplaces, or the contested deceased bodies, Ottoman Istanbul's attempts to regulate its urban environment were deeply intertwined with the cultural, political, and social dynamics of the time. The Ottoman Empire's efforts to institutionalize public health reflected both its aspirations for control and the limits of its capacity. From the establishment of quarantine councils to the medicalization of death, these interventions reveal a state attempting to regulate every facet of urban life. Yet, as the petitions of the tax-farmers from Kartal and Çatalca or the defiant imams of Sultanahmed and Kasımpaşa remind us, these efforts were deeply contested. The tensions between reformers and traditional actors, the ambitions of centralized governance, and the lived realities of Istanbul's residents illuminate the fractured and uneven nature of change.

By examining Istanbul's transformation through the interconnected systems of food, water, sewage, and death, this study underscores the deeply material and symbolic stakes of public hygiene. The very infrastructures meant to sustain life—water pipes, food markets, and sewer systems—became sites of conflict, negotiation, and adaptation. In their failures and successes, they laid bare the inequities of urban life, stratified by class, gender, and geography. Moreover, the geographic and topographic features of Istanbul—with its hills, waterways, and dense urban layout—played a pivotal role in shaping the city's sanitation challenges and the responses to them. Public health measures often had to contend with the natural constraints of the environment, such as the contamination of water sources or the management of waste in densely populated areas. These dynamics underline the ways geography both constrained and facilitated the Ottoman state's efforts to regulate urban life.

Ultimately, the transformation of late Ottoman Istanbul serves as both a cautionary tale and a case study in resilience. The city's challenges—rooted in its topography, demography, and governance—are mirrored in today's global struggles with urbanization, public health, and environmental sustainability. Istanbul's waterways, markets, and cemeteries remind us that the work of ordering matter—of defining what is dirt and what is pure—is never complete. Instead, it is a perpetual process, negotiated in the spaces where human and non-human, tradition and reform, life and death converge.

Looking forward, this dissertation opens new paths for research. Comparative studies of public hygiene across the Ottoman Empire could reveal significant regional parallels and/or variations in how urban reforms were implemented and received. While this study has focused on Istanbul as a microcosm of late Ottoman modernization, similar investigations into other cities, such as Izmir, Aleppo, or Salonica, could uncover diverse approaches to urban hygiene, shaped by local political, cultural, and environmental contexts. Such comparisons would not only broaden our understanding of Ottoman urban governance but also shed light on the interplay between centralized state policies and localized practices, contributing to the studies on Ottoman urban environmental history.

In addition, further exploration of the experiences of marginalized groups—such as women, refugees, and ethno-religious minorities—could provide richer insights into the social dynamics of reform and resistance. These groups often bore the brunt of public health interventions or were excluded from their benefits, revealing how reforms intersected with issues of class, gender, and power. By foregrounding their voices and agency, future studies could deepen our understanding of how public health initiatives both challenged and reinforced existing social hierarchies.

Though I have attempted to shed some light on the experiences of Ottoman people, there were inherent limitations to this study. While the analysis of medical manuscripts and reform texts provided valuable insights, these sources often present an idealized or elite-centric perspective that does not fully capture the lived experiences of ordinary Ottoman individuals. Specifically, the ways in which changing notions of dirt and hygiene influenced the daily routines, practices, and perceptions of cleanliness among common people remain underexplored. This gap highlights the challenges of accessing direct evidence from marginalized voices and the everyday realities of Ottoman society, which are often absent or underrepresented in historical records. Further research employing alternative sources, such as personal diaries, or material culture, could provide a more nuanced understanding of these aspects.

Moreover, while this dissertation has focused on urban environments, it is equally important to investigate public health and hygiene in rural Ottoman environmental settings. The countryside, home to the majority of the empire's population, experienced its own set of challenges, including access to clean water, sanitation, and medical care. Studies of rural hygiene could illuminate how these issues intersected with agricultural practices, population displacement, and rural poverty. For example, the role of waterborne diseases in agrarian communities or the health implications of seasonal migration by agricultural laborers remains an underexplored area of research. Understanding these dynamics could provide a fuller picture of how public health policies were applied—or neglected—in non-urban settings and how rural populations navigated these challenges.

Ultimately, this study underscores the enduring relevance of environmental and urban history in understanding how cities and rural spaces, both past and present, are shaped by the complex interplay of human and non-human forces. The questions raised by this dissertation—about the relationships between public health, governance, and the environment—remain pressing in contemporary contexts, from urban planning in rapidly growing cities to the ecological impacts of rural development. By expanding the scope of inquiry to include both urban and rural dimensions, future research can build on the foundations laid here to construct a more comprehensive history of public hygiene in the late Ottoman Empire and beyond.



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