The Final Flow:
Istanbul’s Fountains in Nineteenth-Century European Narratives

by

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A thesis submitted in conformity with the requirements for the degree of Master of Arts
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Abstract

This thesis explores how developments in hydraulic technology and mentalities in Europe and the Ottoman Empire affected European depictions of Istanbul’s water system, particularly the fountain. This study advances our understanding of how the fountain came to be recognized by the late nineteenth century primarily for its artistic merit, and decontextualized from its role in the greater water network of the city. By comparing and analysing early nineteenth-century travelogues and news articles on fountains and water-systems to those from later on in the century, within the greater context of water history, we can uncover how these narratives were driven not only by “orientalizing” tendencies, but also a new, more hygienic focused “hydromentality.” This contextualization of European narratives lies less in asserting their reliability as testimony to the changes in Istanbul’s water system, but rather how their writings were a reflection of the changing attitudes and predilections of Europeans.
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1 Introduction

1.1 Introduction and Purpose of Research

“Among the objects which attract attention, as one moves through the streets, are the public fountains scattered over the city. They are found everywhere, and are often remarkable for their architectural beauty.”\(^1\) Alexander Van Millingen, a professor at Roberts College, wrote in his 1895 travel log about Istanbul’s water infrastructure and, in particular, the city’s fountains. Interestingly, by the time he wrote his account in 1895, most of the city had, either in place or in active development, the infrastructure of privatized piped water. For Millingen, this modern technology was unbefitting his image of the Orient, and disrupted the romanticized narrative he wished to create. The fountain, on the other hand, was the perfect piece of oriental architecture that, as he says, “took one far back in the ways of the world.”\(^2\)

Millingen was not alone among European travellers and observers of the Ottoman Empire to comment upon Istanbul’s fountains and water systems. In fact, the fountain was a constant figure in European representations of the Islamic world, and the Ottoman Empire in particular. Yet the image of the Ottoman fountain in European discourse did not remain static, and while certain themes were unchanging, as cities in the West came to be molded by discourses of sanitation, privatization, and industrialization, the fountain acquired additional connotations that reflected a new dichotomy between “east” and “west,” traditional and modern. As Edhem Eldem writes, this dichotomy is imagined in the context of cultural “success/failure” and by retrospectively projecting this distinction to the past, the discourse of modern versus traditional becomes formalized.\(^3\) The public fountain, once an emblem of Ottoman difference, and often a model for Europe, acquired throughout the nineteenth century the symbolic charges of picturesque decay, technological insufficiency, and resistance to modernity.

These changes in the discourse did not arrive spontaneously, but were in fact actively promoted by and intertwined with the growing influence of European capital in the Ottoman

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\(^3\) Edhem Eldem, “Istanbul: from Imperial to Peripheralized Capital,” in *The Ottoman City: Between East and West, Aleppo, Izmir and Istanbul*, ed. Edhem Eldem et al. (Cambridge: Cambridge University Press, 1999), 201.
Empire. The gradual obsolescence of the Ottoman fountain as a water delivery system worked to benefit certain local actors and foreign corporations, which both promoted, invested in, and profited from the construction of a more “modern” network of privatized water mains within Ottoman cities. Moreover the rise of the sanitary movement provided bio-political — a term coined by Foucault to describe state involvement in the management of biological characteristics of populations — justification for the replacement of the public fountain. At a time when the cities of the West were being significantly redesigned to maximize public health and industrial productivity, in the process of which creating what Mathew Gandy calls the “bacteriological city,” Istanbul’s Ottoman urban infrastructure and form presented a challenge for European and Europeanized social reformers. Sanitary notions of cleanliness, contagiousness, and water quality necessitated a complete overhaul of Istanbul’s water system. As these attitudes became entrenched, a new kind of “hydromentality” — a term introduced by Hellberg with reference to Foucault’s conception of governmentality, and which refers to “the mentalities, rationalities, and techniques through which water users, as well as water use, are governed” — developed among Istanbul’s westernizing classes, one in which Ottoman approaches to urban water, including public baths and fountains, came to be seen as not only insufficient but unsanitary.

Nevertheless, this narrative is complicated by the high value attached to the fountain by European observers in terms of its picturesque and orientalist quality. Even as their infrastructural merit was brought into question, the fountain as sites of touristic importance, where the traveller can encounter the “authentic Turkish city” remained undiminished. For example, Edmondo de Amicis, who travels to Istanbul in 1896, elevates the fountain of Ahmet III to a position of prominence among all the sites of the city, writing that the fountain “old and faded as it is, it still holds the first place among all the smaller marvels of Constantinople; and it is besides a thing so entirely Turkish, that it fixes itself forever in the memory among the crowd of objects that rise before the eye of the mind, at the name of Stamboul.”

6 Edmondo de Amicis, Constantinople (New York: Merrill and Baker, 1896), 172.
fountain presented an obstacle for the Europeans living in the city as well as for global capital, it was an essential aspect of the image of the Oriental city. Indeed, the preservation of the fountain acted not only as a site of tourism, but could directly be pointed to as an emblem of the “backwardness” and “antiquated” position the oriental city was relegated to.

However, Ottoman actors of the nineteenth century, including sultans such as Abdulhamid II (r. 1876-1909), were neither absent nor passive subjects in this discourse. As the fountain continued to be associated with the Ottoman Empire, it became intertwined with notions of nationalism and resistance to colonialism. This was further manifested through the rejection of the fountain in former Ottoman territories, such as Belgrade and Athens, in favour of privatized water delivery systems. On the other hand, in the Ottoman Empire, in Istanbul as well as provincial centers such as Beirut and Damascus, the Ottoman state continued to sponsor fountain construction as well as incorporate signs and signifiers of modernity into their designs. Fountains of the Hamidian era at once proclaimed the continuation of Ottoman sovereignty, the strength and adaptability of the state, and the government’s commitment to the health and prosperity of the populace. Thus, the Ottoman fountain became not only a site of contestation between modernity and tradition, but also an arena for national self-definition.

1.2 Literature Review

So far in this introduction, I have attempted to describe the complex narrative surrounding the discourse of the fountain, particularly in the nineteenth century. In this study I plan to further explore the role of the Ottoman fountain in the European discourse, particularly as examined in travel narratives and newspapers aimed towards a European or Europeanized audience. This discourse must be understood in the context of not only the water history of Istanbul, but as well as the influence of contemporaneous discourses such as the sanitary movement, colonialism and expansion of global capitalism, industrialization, and nationalism. In understanding this discourse, I will be relying upon the work of several previous scholars. In general, much of the work written on the subject of Ottoman fountains remains to be translated into English. Nevertheless in recent decades a number of important works have been published, particularly from the perspectives of art and architecture. Notables among these works include Shirine Hamadeh’s publications, including her book The City’s Pleasures (2007) and several articles on the topic. Hamadeh’s work on the subject of fountains focuses on the eighteenth century, and the
rising role and prominence of the fountain as a new architectural type of the *Meydan Çeşmesi*. Her work has been crucial in bringing attention to the fountain in the context of material history, where the fountain itself acts as a source of information on a less documented era.

Although there have been several catalogues and surveys done on Ottoman fountains in Turkish, no comprehensive source had been translated into English until *Fountains in Ottoman Istanbul* by Nuran Kara Pilehvarian, Nur Urfalık, and Lütfi Yazıcıoğlu (2000). This modern survey includes photographs, descriptions, and technical illustrations of Istanbul’s fountains, from the earliest surviving ones dating to the fifteenth century, up until the end of the Empire. This catalogue provides a great deal of information on remaining fountains from an architectural perspective.

Besides approaching fountains from an art and architectural perspective, much has been written on them from a technical and engineering standpoint. As the inheritor of Roman and Byzantine water supply networks, Istanbul is the subject of many articles and books written on aqueducts, cisterns, and indeed water delivery methods such as fountains. However, scholarship focusing on the Ottoman period specifically is much more limited. Haydar Kazgan attempts to fill this gap in scholarship with his book *Istanbul’da Suyun Tarihi* (2009) which provides a brief overview of the transformations of Istanbul’s water systems, particularly in the late Ottoman Empire. He also provides much needed detailed information on the involvement of foreign companies.

A particularly notable book on this subject is *Istanbul und Das Wasser* by Noyan Dinçkal (2004), which details the technical transformations of the late-nineteenth and early-twentieth century water system in Istanbul, and also provides a social history of water usage in the city. His unique interdisciplinary perspective paves the way for this paper, in questioning how water transformations are influenced or influence changes in society as a whole.

Finally, in understanding Istanbul’s water systems, several theoretical works, albeit more contemporary in their case studies, can provide an interesting perspective on water network transformations during the Ottoman Empire. Karen Bakker has written several works (2012, 2013) on the subject of water systems in post-colonial or developing cities that incorporates Foucaultian notions of governmentality and bio-politics, and builds on Hellberg’s theory of
hydromentality, which is the “mentalities, rationalities and techniques through which water users, as well as water use, are governed.” Her work on the role of water as a material source of modernization and an essential element to the process of state formation provides insight into a globally emergent system of organization that can be applied to the case of Istanbul particularly from the late nineteenth century onwards. Even closer to this topic, Maria Kaika's works on water modernization and privatization, particularly that of Athens as detailed in her book *City of Flows* (2005) provides not only a useful counterpoint to developments in Istanbul, but also a further case study in socio-political role of water in a post Ottoman society.

1.3 *Methodology and Primary Sources*

The primary sources used and analyzed in this paper generally fall under two categories: travelogues, including tourist guidebooks, and articles that appear in periodicals authored by Europeans and Levantines. Many of the newspapers, journals, and gazettes of the nineteenth century can be found digitally at SALT Research online archive, including the primary ones used for this paper, *La Turquie*, *Levant Herald*, and *Gazette Medical D’Orient*. Newspapers published in Europe, such as *The Times*, were mostly collected from the Gale NewsVault. Travelogues, guidebooks, and other miscellaneous types of primary sources such as book reviews were collected through the Gale Eighteenth/Nineteenth Century Collections Online, or through the Internet Archive, a non-profit group collaborating with libraries across the world to create a digital collection of primary and secondary sources. Although this paper cannot offer an exhaustive catalogue of all European writings related to Constantinople’s water-system and fountains, it is the hope that with several primary sources, in both English and French (the main languages of European travel narratives, as well as the main working languages of the Levantine press), a general impression can be gathered of a greater trend and narrative of the Ottoman fountain in the nineteenth century.

While much of the methodology of this paper is in line with the typical historical method of textual analysis of primary sources with contextualization by secondary sources, this paper in particular will be referencing the rich theoretical framework provided by Said’s *Orientalism*, and Foucault’s understanding of “governmentality” and “bio-politics” as described in his 1974 lecture series at the Collège de France, entitled “Society Must Be Defended.” This theoretical
basis will be utilized to interpret the historical processes which shaped both Europe and the
Ottoman Empire in the nineteenth century.
2 Water History of Istanbul and the Emergence of Fountains

2.1 Roman and Byzantine Contributions

The urban form of Istanbul since its conception as an imperial capital under Constantine I (324-337) has always remained inextricably linked to resolving the location’s issues of water supply. The city’s society and culture, likewise, have been shaped and molded by its long history of public water — within a European context, it remained relatively unique in continuing and expanding its inherited Roman public water system in the context of a large urban metropole. Among cities in the Eastern Roman and later Islamic world, it likewise represented the largest scale example of an “aqueduct and dam-based [urban] typology,” in contrast to river, spring, oasis or qanat-based urban forms. In order to understand the evolution of fountain culture in the late Ottoman Empire, and how these fountains were represented in European discourse, it is first valuable to briefly look at the longer history of water distribution in the city, dating back to its foundation — not only for greater context, but also because European observers themselves often made reference to the city’s Roman and Byzantine water systems, either to emphasize their continuity in the Ottoman system, or, more regularly, to highlight the initial genius of their Greco-Roman “forebears.” Despite the nearly fifteen hundred years of Byzantine and Ottoman modifications to the system, in the European imagination, the Ottoman fountains — like the hamam and other picturesque elements of urban water, such as the saka water carriers — represented a “living” connection to the glories of the classical past, one that could not be found in the newly industrializing cities of Europe and North America. Indeed, many articles on the subject of Istanbul’s water written during the nineteenth century, even those that dealt with technical and engineering remedies for the city’s water issues, frequently contained long reference to the history of the city’s Roman and Byzantine water systems, despite many of these systems having long been deprecated in favour of newer Ottoman waterworks. As in other cities with great classical heritage — for example, in Athens, as detailed by Maria Kaika (2005) — the connection between public water and classical civilization held great sway over the European

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imagination, and this connection had practical effects on European attempts at the modernization of these cities’ public infrastructure.⁸

Even before its refurbishment and reconstruction as the imperial capital of Constantinople, as a city of the Roman Empire, Byzantium benefited from Roman investment in public water infrastructure, and existed within a particular Roman hydromentality. The earliest public water system for the city was constructed during the reign of Hadrian (117-138), consisting of an aqueduct which brought water from an unknown source to the west of the city, towards the area now known as Sultanahmet.⁹ This aqueduct was apparently sufficient until the city’s expansion under Constantine I — though the city was reconstructed under Septimus Severus (193-211), we have no evidence of a new aqueduct system until the fourth century. In general, nineteenth-century European writers began their discussions of Istanbul’s water system with Constantine; at times, in fact, attributing the entire pre-Byzantine water system to the emperor’s “genius” (for example, in “Sur les Eaux Potables et la Disette a Constantinople,” [1863]).¹⁰ Indeed, it is true that the city’s water supply system was massively expanded during his reign. With the aqueduct of Hadrian insufficient to supply the city’s growing population, construction was begun on a second major aqueduct, by far the longest of all the Roman-era water supply systems in Istanbul.¹¹ Drawing water from the Strandzha mountain watershed on the Turkish-Bulgarian border, the aqueduct of Constantine spanned over 242 kilometers, beginning about 6 kilometers east of modern Vize, and terminating in the Edirnekapı area of Istanbul.¹²

Very little remains of the waterworks from this period, and in order to gain a fuller picture of how the need for public water was addressed by the Romans, we can look towards other cities which served as the model for infrastructure of the new capital, including the city of Rome itself. In the famous corpus of Roman architectural knowledge, De Architectura, Vitruvius described the distribution system of public water, once it had arrived within the city limits via the

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¹⁰ Pardo, “Sur les Eaux Potables et la Disette a Constantinople,” Gazette Medicale d’Orient, April 1, 1863, 158.
¹¹ Pilehvarian, Urfaloğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 16.
aqueduct system. Water was collected into a single large reservoir, which itself was connected into a chamber consisting of three separate tanks. This served as a means of regulating the distribution of water: water from the central tank was conveyed towards public fountains and decorative pools, while water from the side tanks were allocated either towards the public baths or allocated for private use. These distribution centers were located on hilltops, in order to utilize gravity power in aiding the flow of water. The importance of the public fountain system, and the priority placed on maintaining a regular flow of water towards it, is evidenced by the centrality of its respective water tank. No examples remain of Roman-era fountains in Istanbul, however, we know that structures known as *nymphaeums* were a common and prominent source of urban water. Heavily decorated with statues, textual inscriptions and columns of marble, porphyry or bronze, *nymphaeums*, like later Ottoman fountains, served both a useful function as public infrastructure, and also as monumental decorative architecture. Fountains could serve as state propaganda as well; in Rome, as in other cities of the Empire, fountains were placed in public squares and built to commemorate historic events, such as military victories. The Roman fountain existed in a complex relationship with private interests; fountains could be sponsored by wealthy individuals, as a display of generosity, but other members of the wealthy classes bribed officials to divert fountain water towards their own homes, or else simply stole the water surreptitiously.

While much work on the Roman culture of water has focused on the public bath, the fountain was a public space of commensurate importance to the urban fabric. In certain cities, such as Amman, *nymphaeums* even served both functions; at once, as a site of public water distribution, but also as a social center containing recreational and hygienic spaces including “pools, steam baths, and massage facilities.” Jerusalem offers another example of a city in the eastern part of the Empire which underwent significant reconstruction, particularly in regards to its water systems. Following the demolition and refounding of the city by Hadrian after the

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14 Ibid., 13.
16 Pilehvarian, Urfaloğlu and Yazıcıoğlu, *Fountains in Ottoman Istanbul*, 15.
18 Ibid., 6.
Second Jewish Revolt in 132, the city’s previous water infrastructure, dating back to the Middle Bronze Age, was completely overhauled.\textsuperscript{20} Much like the Ottomans would do many centuries later, the Romans not only incorporated the existing water networks of the city, but added additional features such as siphons, tunnels, bridges, and extra reservoirs. As the population expanded, more elaborate water supply systems, including aqueducts and cisterns, were built. Upon a non-Roman foundation, the Romans were able to impose their own water culture on to the city’s environment and its inhabitants.

Similarly, though Byzantium was not in its initial form a “Roman” city, following the public works projects of Hadrian, and the much more extensive changes under Constantine, it would be modelled on the imperial capital, and, eventually, even exceed the capital in the extensiveness of its water networks and its public water culture.\textsuperscript{21} As the city fulfilled, and later even surpassed, its planned size, further water infrastructure projects were commissioned. In 373, under Valens (328-378), the third major Roman aqueduct was constructed to supply Constantinople using the waters from Kağîthane. This aqueduct system, which survives in part today as the Bozdoğan Kemer in Fatih, was later expanded during the reign of Justinian (527-565) in order to supply the Achilleus Baths and the newly constructed Yerebatan (Basilica) Cistern, and finally renovated under Constantine V (720-740).\textsuperscript{22} The source at Kağîthane proved to be less than robust, and after a drought in 382 Valens’ successor, Theodosius I (379-395), constructed the final aqueduct system of the Roman period, which conveyed water from the region of Belgrad Forest.\textsuperscript{23} His grandson, Theodosius II (401-450), as part of a general program of urban revitalization in Constantinople (which included the foundation of the University of Constantinople, and the construction of the Theodosian Walls) renovated and extended the Hadrian-era aqueduct.\textsuperscript{24} These four aqueduct systems, with some modifications (including, particularly, the aforementioned grand cisterns built under Justinian), would prove sufficient for the rest of the millennium; excepting “minor additions” and “repairs” under the reigns of

\begin{thebibliography}{99}
\bibitem{pilehvarian2016fountains} Pilehvarian, Urfalıoğlu and Yazıcıoğlu, \textit{Fountains in Ottoman Istanbul}, 16.
\bibitem{ozkaldi2016evaluation} Ozkaldi, Akbas and Çelik, “Evaluation of Historical Water Works in Turkey from Hydraulic Engineering Point of View,” 68.
\bibitem{pilehvarian2016fountains} Pilehvarian, Urfalıoğlu and Yazıcıoğlu, \textit{Fountains in Ottoman Istanbul}, 16.
\end{thebibliography}
Constantine V Copronymus (741-775), Romanus III Argyrus (1028-1034) and Manuel I Comnenus (1143-1180), the water system constructed in the first century of Constantinople’s ascent to imperial status would remain relatively unchanged until the collapse of the system in tenth century, at which time the Byzantines were forced to use more stopgap methods to maintain their water supply.25

The grand scale of the Roman era waterworks naturally reflected a Roman sense of security, and the belief that the strength of the Imperial state would be able to guarantee the system’s defense against outside attack. This was first tested by Avar raids in the seventh century, which caused substantial damage to the Valens aqueduct; it would take over a century for the Valens aqueduct to function again, following the repairs of Constantine V. Multiple earthquakes, as well as successive sieges by the Arabs, Bulgars and Rus’, wreaked havoc with the Roman-era water system, and as such by the twelfth century the Byzantines were no longer able to maintain any aqueducts to the city other than the first Hadrian-era water system, with its relatively close source.26 Instead, the Byzantines began to rely upon rainwater cisterns as a primary source for drinking water; this was aided by the gradual decline of the city’s population. The destruction caused by the Fourth Crusade finally ended the city’s usage of the Roman-era aqueducts; following the recapture of the city by the Byzantines, the old water network had become “virtually unusable.”27 From then on, until the Ottoman conquest, the city relied entirely upon rainwater and local creeks for its water supply. We cannot speak of a fountain culture in the Constantinople of this period; though there is little solid evidence, with the aqueduct system completely defunct and the drastic fall in the urban population after the removal of the Latin Empire, it stands to reason that the re-introduction of the fountain by the Ottomans took place in a city that, for decades if not centuries, had no operational fountains and had thus lost this essential aspect of its urban culture.

2.1.1 European Narratives of Roman/Byzantine Contributions

Beginning with the Renaissance and continuing throughout the Enlightenment period, the heritage of Roman civilization had come to be incorporated into the construction of Western

25 Ibid.
27 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 17.
European identity. This self-identification with ancient Rome became even more prominent in the latter half of the eighteenth century, when Roman ideals of republicanism, constitutionalism, and civic nationalism came to the fore among European and North American intellectuals, along with a general trend towards the neo-classical in art, architecture, and literature. These intellectual currents came to be represented in practice by the revolutionary movements in the United States and France, which explicitly utilized Roman iconography in the constructions of their new states. Ancient Rome, as the ideological “ancestor” of these modern nation-states, came to be associated with all the qualities of civilization, and Roman prowess in war, politics, the arts and the sciences were applauded both for their own merit, and as the antecedent of the achievements of Western Europe, which, building on the Roman foundation, had for the first time in history exceeded classical knowledge.

The eventual collapse of Roman society, however, represented an ideological issue for neo-classical thinkers: the unravelling of the Roman Empire needed to be framed in a way that maintained Roman cultural superiority and did not diminish their worthiness as cultural role models. The somewhat artificial distinction between the Roman and Byzantine Empires, which gained popularity during this period, thus served a useful function in delineating earlier Roman greatness from later “decadence” and weakness. For many Enlightenment thinkers — Edward Gibbon, most notably — locating the turning point of Roman decline at the full-scale adoption of state Christianity also served a useful anti-clerical purpose. The association of the Byzantine Empire and Byzantine culture with decadence, decay, stagnation, cruelty, “Oriental” despotism, and “eastern ways” inflected almost all discourse about the later Roman state, and discussions of Constantinople’s water system were hardly free of such stereotypes. The denigration of Byzantine achievements was widespread among European intellectuals well into the twentieth century; as one typical commentator remarked in 1903, “If ever there was an empire in which the people could be said to be thoroughly torpid, it was the Byzantine Empire. If ever there was a style of architecture in which that torpor was typified, it was the Byzantine style.”

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European observers of Istanbul’s water systems reflected and even promulgated such attitudes. These writers often ascribed the spark of genius to the Roman-era systems, yet when Byzantine systems were mentioned at all, it was to highlight the insufficiency of water supply in the city, and the lack of technological progress during the Byzantine epoch. The “stagnation” of the water supply network, and its eventual collapse, was only partly blamed upon the destruction wrought by foreign invaders (including that caused by Western Europeans, during the Fourth Crusade). Even more to blame, however, was the supposed decadent and uninventive nature of the Byzantines themselves. As written in an article in La Turquie, along with “successive wars and invasions,” it was “the Byzantine period of decadence” that caused the abandonment of the “magnificent works” of the Romans.³⁰ Others remarked upon the Byzantine failure to continue the daring engineering projects of Constantine: as written in the Gazette Medicale d’Orient, the “promises” of the city’s founder were left unfulfilled, as throughout their rule the Byzantines failed, whether through inaction or inability, to solve the city’s issues of water insufficiency.³¹ The author of the article uses the Secret History of Procopius as the source for this claim, neglecting to mention its notorious unreliability and exaggeratedly critical tone of the Byzantine state.

More commonly, the entire water history of the city from the Roman era to the nineteenth century was simply left undescribed, implying that the Byzantines (and, indeed, the Ottomans) were merely the inheritors of Roman ingenuity and the beneficiaries of their foresight. As an example, we may look at Loammi Baldwin, Jr.’s 1835 report on the world’s urban water systems, intended to provide models for the construction of a public water system in the city of Boston. Baldwin comments upon the modern engineering and technological developments in public water in cities as diverse as London, Manchester, Paris and Rome. However, his section on Constantinople solely references the Roman-era waterworks, even to the point of ascribing later Ottoman additions to the system (such as the kırkçeşme aqueduct system and the su terazisi) to the Romans.³² The effect of this omission is to reinforce notions of Roman-European cultural superiority and to ignore “oriental” technical achievements; this omission is particularly striking,

³² Loammi Baldwin, Report on Introducing Pure Water into the City of Boston (Boston, Hilliard, Gray and Co.: 1835), 12.
as even his discussion of Rome itself focuses primarily upon the city’s modern water supply system.33

The denigration, or even omission, of the later Roman and Byzantine water system of the city served a further function, in highlighting the necessity for European water companies to “renovate” or otherwise modernize the Roman system. It was as if the European companies were simply starting where the Romans left off, or indeed would have gone, if not for a thousand years of Byzantine-Islamic stagnation. As we will read later, in contemporaneous Athens, a somewhat similar campaign to capitalize on the prestige of the city’s classical heritage was conducted by water modernization advocates. This dynamic was particularly amplified in the case of Ottoman and other “oriental” cities of Greco-Roman heritage, in which the disparity between classical grandeur and present decrepitude was a major motif of the Orientalist aesthetic, and deliberately invoked and propounded by travel narratives and popular literature. The depiction of Istanbul’s water infrastructure in such works, including the depiction of fountains, cannot be looked at without reference to the European image of the classical and Byzantine past; for even though the Ottomans had to construct much of Istanbul’s water networks anew after 1453, for many European observers, it was as though they would simply remain faithful, if deficient, followers of Constantine’s vision.

2.2 Early and Classical Ottoman Contributions to the Water System

Despite its depopulation at the time of conquest, Istanbul could hardly be called a blank slate — in fact, existing urban-spatial features and materials informed much of the rehabilitation of the city. The project of renovating the city, which had underwent significant infrastructural decay during previous decades, constituted a significant investment, both materially and ideologically, for the Ottoman state. The conquest of Constantinople, in the words of Robert Ousterhout, constituted a defining “chronological break” or “turning point” in Ottoman self-definition, in which the Ottomans came to see themselves not simply as the conquerors of Byzantium, but rather as the continuation and restoration of an imperial line stretching back to through Rome to Ancient Troy.34

33 Baldwin, Report on Introducing Pure Water into the City of Boston, 11.
Yet even from their beginning in the late thirteenth century, the Ottomans had incorporated, often wholesale, elements of Byzantine political, societal, and aesthetic norms. This eclecticism is understandable during the Ottomans’ early period — as a new state lacking a unique iconography or a specific artistic culture, the incorporation of the motifs of neighbouring societies offered the Ottomans a way of placing their rule within a greater historical context. Perhaps for this reason, early Ottoman monuments reflect diverse influences, including Byzantine, Italian, Timurid and Seljuk architectural styles. Yet the continuous incorporation, translation, adoption of Byzantine style into the new Ottoman aesthetic, even after the Ottoman state had coalesced into a major political entity, implies a greater ideological commitment to eclecticism than mere convenience. Instead, as Gülru Necipoğlu has argued, the Ottomans possessed an “aesthetic of fusion,” or an “intentional hybridity,” in which they forged a distinctive Ottoman identity through the visible, self-aware incorporation of otherwise “foreign” forms. This practice existed not only in art, but across most Ottoman cultural practices, including language, costume, customs and administration. Both Ousterhout and Necipoğlu argue that this process speaks to a language of integration and continuity between the Ottoman Turkish rulers and the largely Christian population of the Empire. This was particularly the case in the physical form of “Kostantiniyye-Istanbul,” which in its very name expressed this hybridity.

Nevertheless, the use of Byzantine spolia is sometimes interpreted as the manifestation of “the language of power,” the purpose of which is to assert dominance. For example, Berin Gür in her article on the transformations of the Hippodrome/At Meydan, reasons that the Ottomans when restoring, extending and converting the existing Byzantine urban-spatial features did so with a particular Islamic-Ottoman identity that reproduced the city as the material embodiment of the social-political power struggle involved in conquering and establishing a new city. Istanbul acts as an urban palimpsest where “each layer of the city is constructed upon the ruins of

36 Necipoğlu, 267.
37 Ibid., 265.
the previous one,” and in which the continuum of the space “archives” the memory of the physical-social-political past, while at the same time underscoring the Ottoman conquest.38

Both theories offer a way of contextualizing the Ottoman approach to Istanbul’s water system. When Mehmed II (1451-1481) conquered Constantinople, restoring the city’s water network was an immediate priority for his administration, towards the greater aim of repopulating and remodelling the new capital of the Empire. While it would have been possible for Mehmed’s administration to simply rebuild the Byzantine lines, instead, it was decided that new lines should also be constructed, utilizing sources closer to the city and thereby easier to maintain. Upon establishing Ottoman authority in the city, Mehmed II ordered the repair of the inner urban water lines, as well as the complete renovation of the Theodosian aqueduct into the Kırkçeşme water system. He then ordered the construction of four additional water lines — the Fatih, the Turunçlu, the Şadirvan, and the Mahmutpaşa — to supply the city, and established an imperial water department to oversee the production and maintenance of these new constructions.39 The Ottoman systems, while incorporating some Roman and Byzantine infrastructure already in place, also introduced new technologies into the system, possibly derived from Ottoman contact with Arabic and Persian methods of water distribution. Water was collected from springs and dammed rivers in the forests outside of the city — in particular, Belgrad — and conducted, via conduits, to water tanks called maslak. Somewhat similar to the Roman water tanks discussed previously, the Ottoman maslaks differed in their place within the system, and their greater versatility. A maslak could serve as a filtration chamber — in this case, called either a tersip or çökertme — in which water was passed through a series of filtered tanks to remove sediments, gravel and rubbish.40 A maslak could also serve as a distribution chamber, known as a maksem, from which water would be piped towards different areas and users within the city. Discharge from the maksem could be varied by altering the width of the nozzles exiting from the tank; standard sizes existed, from the common liyle (also a generic term for water pipe, and a unit of measurement), to the kamiş, masura, çuvaldiž, and hilal.41 The usage of standard nozzle sizes allowed for a greater degree of state control over water availability and,

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39 Pilehvarian, Urfalioğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 19.
40 Ibid., 21.
41 Ibid.
consequently, usage; in contrast to the Roman tanks, which allocated water on the basis of tank size, the Ottoman pipe system was far easier to measure and to alter to fit different circumstances. A maksem could be located above-ground, in which case they were designed as a series of domed or vaulted buildings, or they could be built underground: examples of the former include those of Taksim, Eyüp and Harbiye, while an example of the latter can be found at Haciosman. The construction of these stations along the water lines formed the nexus of small settlements, which is demonstrated by the names of these areas today. Though these areas would not be fully developed until centuries later, Istanbul is notable in Europe in that parts of its urban development followed the path set by its public water system.

Another Ottoman innovation to the water system, one which would later fascinate European observers, was the su terazisi (see Fig. 1). Somewhat similar to a water tower in function, a su terazisi consisted of a pyramidal tower containing an arched pipe, which served to both maintain water pressure and regulate water velocity within the conduit system. Su terazisi represented a uniquely Ottoman solution to the problem of supplying water in the hilly environs of Istanbul, and one that would not be superseded until the development of powered hydraulic machinery in the nineteenth century. The exact origins of the technology are unknown: European intellectuals of the nineteenth century ascribed them to either the Byzantines or the Ottomans themselves. Moreover, some of the European travellers were also confused about their exact function; Charles Frankland (1829) after incorrectly describing the function of the su terazisi, comments, “But I own I am at a loss to discover the utility of such contrivances, for the water will of necessity rise to the level of its own source, and not much higher, without the interference of hydraulic machinery.”

Along with renovating and expanding the Roman-Byzantine water network, Mehmed II also reintroduced the public fountain to the city. The reintroduction of the fountain, in a rather similar manner to the reintroduction of the hamam, served a dual purpose: it satisfied an obvious civic need, in terms of water supply, recreation and public hygiene, but it also served to reclaim the classical heritage of the city. While it is unlikely any fountains or public baths remained operational in the years leading up to the conquest, the city nevertheless existed with the memory

42 Charles Colville Frankland, Travels to and from Constantinople in the Years 1827 and 1828 vol. 1 (London: Henry Colburn, 1829), 130-131.
of these sites, which existed as ruins throughout the urban landscape. The restoration of the city’s running water supply and public bath system may have helped to underscore the Ottomans claim to be the direct continuers of classical civilization. Unfortunately, we have no surviving examples in Istanbul of a fountain from the early period of Ottoman rule; the earliest remaining one within the old city proper, the Davutpaşa fountain, dates to 1495 (although at the Rumelihisar fortress, a small fountain still exists as part of the fortifications dating back to the conquest of the city). Though few such fountains remain, from Evliya Çelebi we are told that under Mehmed II’s reign over 200 fountains were constructed, and that 70 more were built under his son and successor, Bayezid II (1481-1512). Concurrent with the development of the fountains as a means of distribution was the enlargement with the civil authority meant to oversee it. The water department functioned as a guild-like esnaf organization, including under its purview the water system’s administrators, maintenance workers (suyolcu), surveyors and watchmen, as well as other support staff such as carpenters and manufacturers of lökün (a kind of olive-oil based sealant, used for water pipes). Saka, the term used for itinerant water-carriers, also fell under the water department’s authority, and a range of rules and regulations soon developed around their occupation. While an extension of sultanic authority, the water department nevertheless coexisted with other overseers of water distribution, including most importantly vakf and mosque kulliye organizations.

The relationship between Ottoman water distribution and the mosque — or, even, Islamic practice in general — is complex. In the historiography of Ottoman water, the influence of Islamic practice is often heavily emphasized. Certainly, the necessity of clean water for ritual ablution remained constant throughout the Islamic world, and as such acted as a driver for the construction of reliable urban water supply systems. But is there a specifically Islamic hydromentality? And can the water system of Ottoman Istanbul be said to be particularly Islamic in nature? Calogero Montalbano, writing about the hydraulic architecture in the Islamic world, argues that wide “environmental, climatic, and morphologic” variety of geographies in the Islamic world make it impossible to “to outline a particular kind of dimensional, figurative, or

43 Ibid., 31.
44 Ibid., 21.
architectural continuity in the relationship between water and Islamic culture.” Instead, he argues that it is more useful to look at how urban shape and culture-specific practices interacted with Islam in each particular instance than to try and find a general Islamic hydromentality. While regarding Istanbul as a “aqueduct and dam-based typology” relatively unique in the Islamic world — similar in form only to much smaller cities in Yemen and Southern Arabia — the centrality of the mosque and vakf foundations in the construction of the urban water system does, in his eyes, showcase the importance of Islamic practice in organizing the city’s water supply, and the mosque in general for Ottoman urban space.

Indeed, the initial fountains built in Istanbul during the early years after the conquest were often attached to the mosque külliye (complex). The külliye was not necessarily a purely religious site; in fact, until the middle of the sixteenth century, the külliye was the main public gathering point within the city, and the center of daily life. Including kitchens, clinics, schools and public markets, the mosque külliye was as much a space of “secular” activity as religious — nevertheless, the location necessarily meant the “Islamification” of public space, in the sense that these centers of social life existed with the support of religious power. The public fountains in the külliye also existed as Islamic spaces; as Shrine Hamadeh writes, “as inconspicuous appendages to the mosque complex, fountains were considered as charitable foundations that ‘dispensed water for the sake of God.’” Similarly, such fountains also displayed their Islamic patronage through their design: in contrast to the Roman-Byzantine nymphaeum, Ottoman fountains lacked all figurative decoration, and initially all decoration save for Qu’ranic calligraphy and inscriptions highlighting the piety of the fountain’s patron. The fountain ayna taşı was constructed of plain stone or brick, and the tap was located in a simply, classically arched niche.

A mosque külliye could also contain a sebil — a kind of kiosk where fresh water was distributed to passers-by, as well as fruit juices and şerbet. Sebils consisted, at their most basic level, of a cistern containing clean water, and a small enclosed space for the attendants to

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47 Ibid., 695.
48 Ibid., 713.
50 Pilehvarian, Urfaloğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 25.
distribute water to the public. To draw in as many people as possible, a sebil would be located in crowded area with high pedestrian traffic.\textsuperscript{51} While the size, shape and location of the sebil would change greatly in later centuries, initially, they were located primarily at the main entrance gate to mosque complexes, or at prominent street corners, and served both an infrastructural and aesthetic function. Like külliye fountains, sebil served a charitable function and were supported by religious foundations. While sebil were not part of the initial conception of the Ottoman water system in Istanbul, they existed as early as 1496 and grew to be a prominent element of the Ottoman architectural vocabulary.\textsuperscript{52}

Yet though the mosque külliye is obviously an outwardly Islamic site, is this enough to claim that the Ottoman water system and its fountains was primarily Islamic in character? In fact, as Gülhan Benli has argued, in many ways the külliye simply absorbed the civic functions of the Roman and Byzantine forum. Indeed, “major Ottoman külliyes in İstanbul were located on the main road axis of the city and corresponded to the preceding Roman and Byzantine era forums.”\textsuperscript{53} As Byzantine water-works also were designed to lead towards the city’s forums, the incorporation of fountains into the mosque külliye may simply have been a useful measure to make use of existing infrastructure. Others have questioned the usefulness of trying to tie Ottoman urban planning to Islam at all, arguing that it creates a conception of an “Islamic city” that is, by necessity, too general and too dependent upon comparison to Weber’s notions of the “Western city” or “classical city.”\textsuperscript{54} Arguing against the historiographical notion that the “Islamic city” is “solely the product of religion,” and that cities in the Islamic world are defined by a “fixed physical pattern,” Zeynep Çelik contends (referencing Lila Abu-Lughod and Abraham Marcus) that this approach is reductive and ignores other factors that shape urban life, including the “technology of production” and the city’s particular “system of social organization.”\textsuperscript{55} As Marcus argued, “Islam did not impose “a total way of life,” as widely claimed, but instead, “many rules, attitudes, and practices [in cities of the Islamic world] were results of economics,

\begin{itemize}
\item Pilehvarian, Urfalıoğlu and Yazıcıoğlu, \textit{Fountains in Ottoman Istanbul}, 27.
\item Benli, “The Use of Courtyards,” 804.
\item Zeynep Çelik, “New Approaches to the ‘Non-Western’ City,”375.
\end{itemize}
social relations, and administrative exigencies.” While some historians have attempted to attach
the public bath and public water as elements of “the Islamic city” — William Marçais, for
example, considered the public bath, as well as the mosque and the bazaar, as the three essential
elements of the “Islamic city” — doing so in the case of Istanbul ignores the already extant
presence of the bath and public water in the pre-Islamic city, as well as the “hybrid” nature of
Ottoman architectural production. The Ottomans may have built hamams near mosque
complexes as part of aiding in Islamic ritual ablution, but it is equally likely that they did so to
utilize existing infrastructure, and to materialize their claim to be the successors of Roman
civilization.

Similarly, the construction of namazgah — fountains in more rural areas, which included
prayer terraces for the usage of travellers and caravans — would seem to be an obvious example
of Islamic hydromentality. These fountains served a dual purpose, aiding both in ritual ablutions,
and providing a source of drinking water for travellers and their animals. While very few original
namazgah survive — those in which the prayer area was constructed on top of the water tank,
forming an integrated structure are particularly rare — we are aware of what they looked like
from engravings and descriptions by European travellers (see Fig. 2). While the namazgah does
represent a site where water usage and Islamic practice are highly intertwined, we cannot say that
the concept itself was foreign to the environs of Istanbul. Ayazma, or sacred springs, existed
within Byzantine culture and particularly within the regions surrounding Constantinople. These
“holy waters” were utilized both for Orthodox Christian practice and as stops for travellers, and
were believed to have medicinal and apotropaic qualities. The construction of namazgah, while
representing a clearly Islamic activity, nevertheless can also be read through the lens of Ottoman
“hybridity,” incorporating Byzantine and Constantinopolitan customs into their own practice.

We can thus say that the Ottoman fountains of the first decades after the conquest of
Istanbul, as Istanbul’s water system in general, possessed a range of physical and ideological
functions. While an infrastructural necessity for encouraging population growth in the new

56 Çelik, “New Approaches to the ‘Non-Western’ City,” 376.
58 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 27.
59 Benli, “The Use of Courtyards,” 816.
capital, fountains also served to reinforce the Islamic character of the conquered city, as well as highlight the Ottoman’s legitimacy as the inheritors of classical civilization, and their continuation and preservation of Byzantine urban society. These dual ideological functions reached their apogee during the “golden age” of Ottoman civilization, under the reign of Suleiman I (r. 1520-1566), with the waterworks constructed under the direction of the famous Mimar Sinan (c. 1490-1588). While most famous for his later mosques, including Süleymaniye mosque in Istanbul and Selimiye mosque in Edirne, Sinan began his career as a civil engineer, working on numerous infrastructural projects including roads, bridges and aqueducts.

The repopulation of Istanbul by the middle of the sixteenth century had been phenomenally successful; despite regular occurrences of plague, by the reign of Suleiman I, the population of Istanbul was at least over half a million and the city had become one of the largest in the world, and had expanded to fill much of the urban area that had been abandoned during the Byzantine era. This increase in population resulted in a correspondingly acute water shortage. To alleviate this shortage, the Sultan appointed Mimar Sinan, who had previously worked on the aqueduct system for Edirne during his apprenticeship period in the late 1530s, to organize the expansion of the city’s water supply network. Beginning in the 1553, Sinan worked with the head of the city’s water authority, Hasan Ağa, to once again renovate the Theodosian water system that conveyed water from Belgrad Forest to the city centre. This project represented a large-scale investment of labour and resources, possibly the largest since the Roman era. The project involved the construction of several dams and reservoirs, which collected spring water and streams from the forests to the north of the city. These waters were carried to the city by a conduit system consisting of more than thirty aqueducts, including four massive ones — the Uzun, Eğri, Mağlova and Güzelce aqueducts. These aqueducts themselves fed into multiple maslak, which in turn fed up to 590 separate fountains. Sinan’s renovations of the Theodosian

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60 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, *Fountains in Ottoman Istanbul*, 35.
62 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, *Fountains in Ottoman Istanbul*, 35.
64 Ibid.
system, now known as the *Kırkçeşme* (Forty Fountains) water system, are in large part still operational, and his aqueducts remain in good condition today.

It is under Sinan that the “classical” Ottoman style reached its fullest expression, and fortunately an “artist’s statement” of sorts exists in the form of his autobiography, allowing us great insight into the artistic discourses of the period. Sinan’s architecture reflected its patronage by a strong and expansionist royal power, and as such his buildings, beyond their technological achievements and functional purpose, represent the glory and power of the Ottoman state. Yet his buildings, in their conception, reflect the Ottoman fixation on “hybridity” — in his memoirs, he regularly compares his buildings to those of the Byzantines and Western Europe, remarking how he improved on certain features of both styles, and solved engineering problems they could not. This competitive discourse, as described by Gulru Necipoğlu, represents a “codification” of the Ottoman classical style, and is the central feature of the architecture from Sinan’s age. Ottoman fountains in Istanbul during the time of Suleiman similarly reflected this discourse — functionally, they remained quite similar to earlier designs, however, in terms of decoration they now included stylized floral motifs in common with other buildings of the period — “cypresses, palmettes, tulips, and carnations,” along with rosettes in the corners above the niched archway containing the tap. This re-introduction of figural motifs represented an interaction with the stylistic vocabulary of the classical period, yet also reflected a conscious attempt at forming a broader “modern” architectural style, one that would spread throughout the Islamic world as Sinan’s apprentices acquired important commissions from other Islamic rulers, particularly in Mughal India.

The later sixteenth and seventeenth centuries marked an evolution of the Ottoman style, as well as a gradual decline in Istanbul’s prominence, as the imperial court became increasingly stationed in Edirne. Besides the construction of the Topuz dam and reservoir in Belgrad Forest, no major waterworks were begun in Istanbul during this century — partially due to the

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67 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, *Fountains in Ottoman Istanbul*, 35.
69 Ibid.
70 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, *Fountains in Ottoman Istanbul*, 35.
sufficiency of the Kırkçeşme system, but also due to successive crises which affected the Ottoman state, including the last Ottoman-Safavid conflict from 1623-1639, the Cretan War of 1645-1669 (which included a humiliating blockade of Istanbul by the Venetian fleet) and Great Turkish War of 1683-1699, which resulted in Ottoman defeat. Perhaps as a result of this instability, there was a lack of architectural experimentation within the city. Fountains during the seventeenth century generally resembled those of the sixteenth century in shape — a notable difference is the increase in the usage of more expensive materials, including marble, in their construction. Marble, lending itself better to carving intricate floral motifs than stone, became a common facing material of Istanbul’s fountains, and testifies to the increasing extravagance of both public and privately sponsored fountains. However, despite the increasing ornateness of the urban fountain, the city of Istanbul was heavily affected by the Empire’s broader economic and political challenges, as well as the relocation of the imperial court and attendant bureaucracy to Edirne. Following the blockades of the Cretan War and the resultant climate of insecurity in Istanbul, from the 1650s onwards, Istanbul began to experience significant urban decay: vast tracts of buildings collapsed into ruins or became severely dilapidated, and the large areas of the city decayed into slums. In particular, the upkeep of imperial buildings and gardens was severely neglected after the court’s move to Edirne; the sorry state of imperial buildings remained such an embarrassment that as late as 1718, repairs had to be hastily done in the gardens near the Venetian and Austrian ambassadors’ residences, in order to avoid a diplomatic scandal. Furthermore, the poverty of urban climate was “exacerbated by epidemics, natural catastrophes and soaring food prices” in the late seventeenth century. All of these factors contributed to civil unrest. Following a large scale revolt of Istanbul’s citizens (supported by the disaffected Janissary corps) in 1703, the last of the Edirne sultans, Mustafa II (r. 1695-1703), was deposed and the imperial court was relocated to Istanbul under the Janissary’s chosen successor, Ahmed III (r. 1703-1730). Under Ahmed III, Istanbul would enter into a renewed period of cultural importance, and the subsequent artistic flowering would in later discourse come to be termed “the Tulip Era.”

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72 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 50-51.
73 Hamadeh, The City’s Pleasures, 63.
74 Ibid., 25.
2.3 *The Tulip Era and Water Networks in the Eighteenth Century and Beyond*

The transfer of the Sultan’s court back to Istanbul in 1703, after many years in Edirne, for our purposes marks the beginning of the Tulip Era, contrary to canonical understanding — for the effects of this change of residence were far greater upon the urban fabric of Istanbul than those of the military defeat of 1718, which traditionally marks the start of this period. Almost immediately, a “radical urban transformation of the city” occurred, involving “building, repairing and restoring,” and the introduction a new “architectural vocabulary.” The city expanded, for the first time, all along the shores of the Bosphorus and Golden Horn, and there was a vast expansion of “public space,” including gardens and fountains. The cult of urban leisure was celebrated in poetry and miniature illustration, and the architecture of leisure became highly visible and dominant throughout the city — the kiosks, pavilions and summer residences in particular. Shirine Hamadeh, whose book *The City’s Pleasures* is a key work in the contemporary revisionist approach to the eighteenth century, sees these transformations as a kind of *décloisonnement*, an “opening-up” of the architecture of Istanbul. Patronage of buildings was no longer restricted to the royal court; instead, wealthy merchants, pashas, and other members of the upper bourgeoisie also began to commission grandiose buildings. Furthermore, there was an opening up of style — rather than the rigid imperial canon of Suleiman’s time, patrons were much more receptive to forms from outside — particularly those of baroque Europe. A combination of these factors led to a growing emphasis on artistic novelty and visual spectacle as the goals of architectural design. The end result of this *décloisonnement* was a new aesthetic sensibility that came to redefine Istanbul, turning the built environment into a perpetual source of sensory pleasures. Activity became exteriorized, and the proliferation of public spaces allowed a growing number of middle-class Ottomans to be seen picnicking and walking along the promenades, among the scenery of such new and diversified architecture.

In the Tulip Era, the “most emblematic feature of the urban landscape of eighteenth-century Istanbul was the public fountain.” No longer content with the simple *çeşme*, large

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77 Ibid., 32.
79 Ibid., 52.
freestanding sebils were built, each sporting multiple taps. A special type of sebil, the meydan çeşmesi, was an innovation of the Tulip Era (see Fig. 3). A conspicuously large, centrally placed, cubical structure with large projecting eaves and a pyramidal or domed roof, the meydan çeşmesi represented the “most innovative and dramatic formal evolution of the Ottoman fountain.”

In addition to this new architectural type, the number of fountains also increased sharply: while 77 fountains had been built in Istanbul during the sixteenth century, and 130 in the seventeenth century, in the eighteenth century over 365 were built. Though the population of Istanbul did increase during this period, the sheer amount of new fountains built completely exceeded demand — indeed, during the eighteenth century the number of other new water-dependent buildings, such as hamams, actually declined. Many of these fountains were on a massively larger scale, with no expense spared in their decoration: they were intricately detailed in carvings depicting nature, gardens, and flowers, and inscribed with unique verses by commissioned poets.

In many cases, it was the fountain that increased the popularity of the park. Fountains encouraged people to congregate even in unpopular areas: Armenian city chronicler Incicyan describes town of Beykoz on the Anatolian side of the Bosphorus, and remarks that it was only when the fountain of Ishak Aga was finished in 1746 did that town turn into a summer-time recreational spot: “with the building of the cheerful fountain of Ishak Aga, the shore of Beykoz was brought to life.” The fountain, where people could gather in the shade, cool off, and enjoy the sound of rushing water, made the location worthwhile. Meydan fountains, in particular, became emblematic of public outdoor life, and played a considerable role in revitalizing public spaces. Fountains were the central gathering points: European observers saw how “the women assemble on one side of the fountain, and the men on the other, under the trees.” By acting as such focal points, public fountains were a key factor in the regeneration of public economic and social life after the intense urban decay of the late-seventeenth century.

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80 Hamadeh, The City’s Pleasures, 105.
81 Ibid.,
83 Ibid., 142.
84 Ibid.,
The culture of leisure, as described, was not merely a diversion for the elite; despite the
caricatured depiction of the Tulip Era as one of aristocratic frivolity and decadence, in fact the
cult of recreation was a popular phenomenon, one participated in by all classes. Both men and
women, Muslims and non-Muslims, within certain restrictions, actively partook in the new ethos.
Suraiya Faroqhi argues that cultural production is something that both the elites and commoners
participate in and produce/contribute to.\textsuperscript{85} The leisure aesthetic of the eighteenth century was not
solely a matter of the lower classes imitating the elite taste for luxury — instead, it was often the
emerging middle classes who cultivated, supported and enjoyed the new style. For a class
obsessed with establishing its status and respectability, the patronage of poetry, architecture and
the arts in general represented, as it does today, an attractive method of gaining prestige. Setting
trends, establishing a cultivated persona, and, above all, being known — these were the goals of
the nouveau riche, and the construction of a fountain, as a relatively cheap yet highly visible
structure, was a perfect way to achieve all of these at once. Merchants and mid-ranking officials
(including those of the bureaucratic, military and religious classes) were among the first to
sponsor the construction of ornate \textit{sebils} and \textit{çeşmes}: the titles that appear on foundation
documents show that these sponsors came from broad social and professional spectrum.\textsuperscript{86} In fact,
the earliest surviving \textit{meydan çeşme} in Istanbul was built in Salacak, Üsküdar in 1682 by
Silahdar Mustafa Aga, a bureaucrat.\textsuperscript{87} After the 1703 return of the court, the popularity of
building fountains skyrocketed — before Ahmed III built the first imperial \textit{meydan çeşme} in
1729, almost thirty others had been built by various members of the upper to middle classes,
from viziers to navy officials.\textsuperscript{88} Patronage was not solely the realm of men; wealthy women were
among the primary patrons of fountains, and during the Tulip Era the percentage of fountains
sponsored by women rose from 10\% to over 27\%.\textsuperscript{89} The popularity of sponsoring fountains, and
the need to outdo previous examples, helped to drive the increasing ornateness and
decorativeness of eighteenth-century fountains; to satiate the desire for ever more extravagant
forms, the architecture of fountains began to incorporate more and more foreign influences,
particularly those of the French style dominant throughout Europe. Perhaps then, the changing

\textsuperscript{85} Suraiya Faroqhi, \textit{Subjects of the Sultan: Culture and Daily Life in the Ottoman Empire}, (London: I.B. Tauris,
2005): 273
\textsuperscript{86} Hamadeh, “Splash and Spectacle,” 138.
\textsuperscript{87} Ibid.
\textsuperscript{88} Ibid., 139
\textsuperscript{89} Hamadeh, \textit{The City’s Pleasures}, 99.
architecture of the fountain, also tells us about the shifting class structure of Istanbul at the time, and marks the beginning, long before the Tanzimat or other “top-down” reforms, of an increasing hunger for “European” styles among the bureaucracy and other middle/upper classes.

Although the proliferation of fountains and the propagation of leisure culture had occurred without any direct state intervention or control, it was not long before the state began to take an interest in these developments. The first Sultanic interpretation of the meydan çeşmesi was the massive fountain of Ahmed III, built in 1729 outside of the Bab-ı Humayun of Topkapı Palace. Consisting of four sebils and multiple çeşmes, and ornately decorated in inscribed verse, the fountain was highly talked about, particularly for its novelty. Poets, travellers, and writers all described its masterful construction and craftsmanship; court poet Sayyid Vehbi went as far as comparing it to a river of paradise. The imperial fountain indeed became popular, and was soon followed by others, such as the one at Tophane built by Mahmud I. These fountains were perhaps the most magnificent, and became the center of the most popular public squares. The imperial meydan çeşmesi, like the privately-funded fountains, had a revitalizing impact on the neighbourhoods in which they were situated. A good example would be the area of Tophane: eighteenth-century depictions make no mention of any public space, and deplore the lack of fountains for a town of such size. In contrast, eighteenth-century observers noted the bustling public square, facing a large marble fountain, and bordered by busy coffee houses. On certain days, the square was used as a marketplace; on others, as a place for recreation and public entertainment. Contemporary poets named the fountain as the source of this gentrification.

A large-scale urban revolt of the lower and middle classes in 1730, led by the Albanian bathhouse and coffeehouse operator Patrona Halil, led to the end of the Tulip Era and the deposition of Ahmed III. Rising income inequality, along with the burden of heavy taxation upon the people instigated civil unrest. Though this taxation was primarily allocated to fund the multiple (1722-1727 and 1730-1736) wars against Persia during this period, the conspicuous consumption of the upper classes fueled strong feelings of resentment among the populace. Starting as a small riot among the janissaries, the insurrection soon swelled to encompass thousands of discontented citizens. Rampaging through the streets, the mob attacked edifices of

91 Ibid.
imperial authority, including the royal gardens at Sa’dabad. The gardens were destroyed, Ibrahim Pasha was killed, and Ahmed III was deposed in favour of his nephew Mahmud I (r. 1730-1754). Though the revolt soon burned itself out, and the Imperial state reasserted itself under Mahmud I, the Tulip Era had come to a conclusion.

The end of the leisure culture of this period did not, however, mark any changes in the importance of the Ottoman fountain. While the construction of meydan çeşmesi decreased, fountains nevertheless continued to be constructed throughout the rest of the eighteenth century. Indeed, new architectural forms were developed — beginning in 1737, with the Haci Beşir Aga Fountain in the courtyard of Kocamustafapaşa Mosque, “column fountains” came to be constructed, modelled after the monumental victory columns of the classical period and their European Baroque facsimiles. Column fountains utilized the improvements in water flow and pressure made possible by the construction of the Bahçeköy Aqueduct by Mahmud I, begun in 1731, which increased the volume of water flowing through the Belgrad Forest aqueduct system. As such, they had no need of the bulky water tanks that necessitated the squatness of the meydan çeşmesi, but instead could rise much higher and thinner (see Fig. 4), providing “Istanbul with an equivalent of the monumental statues which adorned European cities” and taking over the role of the meydan çeşmesi in the urban landscape.

Fountains also began to take more and more artistic inspiration from decorative trends in Europe: the fountain next to the sebil of Nuruosmaniye Mosque, constructed by Mahmud I’s successor Osman III (r. 1754-1757), showcases extensive Baroque and Rococo influence, including a “neoclassical façade incorporating columns and pilasters.” Nuruosmaniye Mosque, with its circular courtyard inspired by, among other sources, St. Peter’s Basilica, represents a turning point in the evolution of the Ottoman style, and is counted as one of the first great works of the Ottoman Baroque. These European influences would continue to grow in prominence by the start of the nineteenth century, as Ottoman public buildings increasingly came to be built by Christian — in particular, Armenian, Greek, and Levantine — architects.

92 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 29.
93 Ibid.
94 Ibid., 68.
95 Onay and Ugurlu, “A Public Meeting Point,” 40.
The nineteenth century marked a period of massive change within the Ottoman Empire. Successive military defeats, including those of the Russo-Turkish War of 1787-92 (during which the Russian general Suvorov reached within a few days of Istanbul), the Austro-Turkish War of 1787-91, and the Napoleonic invasions of Egypt and Syria (1798-1801), led the Ottoman palace and bureaucracy to launch an active campaign of Westernization, beginning with the army. The *Nizam-ı Cedid* reforms, begun by Selim III (r. 1789-1807) involved an overhaul of the Empire’s legal, economic, educational and defense systems. While these reforms were interrupted by the assassination of Selim III by Janissary forces disaffected by his modernization campaigns, his eventual successor, Mahmud II (r. 1808-1839), was able to consolidate imperial power and broaden the scope of the Westernization process, particularly by finally disbanding the Janissary orders in 1826. The modernization efforts of Mahmud II culminated in the 1839 *Gülhane Hatt-ı Şerif*, which marked the start of the *Tanzimat* period of intensive reform and reorganization. The political and social effects of the *Tanzimat* are too numerous to mention here, but where the water networks of Istanbul are concerned, the *Tanzimat* brought a host of organizational and institutional changes and marked a major turning point. Istanbul had previously been governed by multiple layers of often competing institutions, without clear delineations of authority. Beginning with Selim III, there was an attempt to coordinate and combine these authorities into an official bureaucratic civil service.⁹⁶ A Council of Public Works was also created to supervise and organize construction.⁹⁷ In 1837, the responsibility for oversight over Istanbul’s waterworks was transferred from the *suyolçular* guild to the newly established Ministry of Royal Pious Foundations (*Evkaf-ı Humayun Nezareti*), which in 1838 became part of the Council of Ministers (*Meclis-ı Hass-ı Vukela*).⁹⁸ It also became possible in 1837 for individuals to buy access to a private supply of water from the public mains — this measure was intended in part to recoup the costs of waterworks construction, and to allow individual users to invest in the maintenance of the system.⁹⁹ The transfer of authority from local waterway *esnaf* and *evkaf* towards a more centralized state apparatus marked a major shift in the relationship between water and government in Istanbul; while major construction projects had often involved royal or state

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⁹⁷ Ibid.
⁹⁹ Haydar Kazgan, *İstanbul’da Suyun Tarihi: İstanbul’un Su Sorununun Tarihsel Kökenleri ve Osmanlı’da Yabancı Su Şirketleri*, (İstanbul: İletişim, 1999), 17.
patronage, responsibility for the daily maintenance and distribution of this water had not been a matter of state involvement.

In accordance with the renewed focus of the Ottoman state on Istanbul’s water system, the first decades of the nineteenth century were marked by an intensified program of aqueduct and fountain building. Numerous new waterways were constructed during this early period of reform, largely to fulfill the water needs of new administrative and military districts. The Selimiye waterway was constructed in 1802 to supply the newly built Nizam-i Cedid barracks in Harem, and in the same year the Mihrisah water system was built to supply the population of Üsküdar. By 1839, the Taksim waterway and distribution network, which had been successively added to and developed since the time of Mehmed II, reached its final form, supplying the growing suburbs of the European side, including Galata, Pera, Tophane and Beşiktaş. The construction of these waterways was accompanied by the construction of several new fountains. Fountains of the early nineteenth century continued the increasing adoption of European decorative motifs, including employing several motifs borrowed from contemporary neo-classical — and in particular, Napoleonic Empire style — architecture. Mukarnas and other “Islamic” decorations were replaced by classical capitals, and, as Pilehvarian writes, “the influence of [French] imperial style was manifested in wreaths and garlands, torches, and military motifs such as arrows, swords, cannons and rifles, baroque and rococo flowers, foliage, rosettes and oval medallions, drapes and tassels, and gilding on white marble facade.” In particular, the “sunburst” design — often accompanied by the imperial tughra — became an essential motif for Ottoman public structures, particularly those built under Mahmud II. The “Mahmud II sun” represented the first “logo” of the Ottoman state, in the sense that it served as an easily identifiable sign of an imperial or public building, and served to stand in for the modernization project as a whole. The sunburst design also served as a symbol for the “enlightening” mission of the Ottoman reformers. This symbolism is even more evident in the column fountain located near the türbe of Mahmud II, which incorporates several sunburst

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100 Pilehvarian, Urfahioğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 132.
101 Ibid.
102 Ibid.
designs and, uniquely, a column finial in the shape of a globe — both common symbols of the French Enlightenment.  

Fountains of the early nineteenth century, while utilizing a wide variety of decorative motifs, made few structural innovations — in general, they abandoned the complex structural forms of the eighteenth century in favour of simpler designs. Possibly, this was due to a gradual shift in the employment of architects by the Ottoman state; whereas previously architects were selected from the imperial-military bureaucracy, by the nineteenth century, imperial architecture had become a field dominated by a select group of, generally Armenian, families. Commissions were held within families and passed down from father to son, and while useful in producing a unified Ottoman style, this practice may have stifled architectural innovation. The creation of the Directorate of Imperial Buildings in 1831 also served to standardize imperial style; the famous Balyan family, as well as other non-Muslim architectural dynasties, soon acquired prominent positions in this department, as well as its eventual successor, the Building Council in the Ministry of Public Works. These architects, who looked to Europe for inspiration and, in many cases, trained in European academies, served as a conduit for the latest European decorative motifs — yet, in the case of the Balyans, at least, this dependency was tempered by a desire to forge a uniquely Ottoman syncretism.

This Ottoman openness to Europe was, of course not limited to architecture; Europeans themselves began to travel to the Ottoman Empire in greater numbers. Tariffs on European goods were in large part reduced, imports from Europe multiplied, and British and French companies rapidly expanded their operations within the port cities of the Empire — Izmir, Thessaloniki, Beirut and Istanbul in particular. In Istanbul, the number of resident foreigners greatly increased — in Galata and Pera, the traditional heart of Istanbul’s Levantine community, European expatriates soon constituted a significant portion of the population. This increase in

103 Ibid.
106 Haydar Kazgan, İstanbul’da Suyun Tarihi, 26.
the European population also entailed a corresponding increase in the number of Europeans writing about their experiences of Istanbul for audiences back home.

Some of the best sources we have on the condition of Istanbul during this period are travel accounts and albums from Europeans in the late eighteenth/early nineteenth centuries. Although such sources are unquestionably influenced by the traveller’s bias, they are also “replete in detailed descriptions” and “offer depictions of, and personal reflections on the social and recreational habits of the period.” Moreover such perspectives provide an interesting insight into how the Europeans perceived not only Turks and the Ottoman Empire, but also how they themselves, and their cultural milieu, compared and contrasted to that of the Turks. It is particularly noteworthy that the European descriptions of fountains of the Tulip Period contained passages of both praise and “othering,” that is, an exoticizing that did not necessarily intone the inferiority of the “Orient.” For example, Ms. Julia Pardoe, who travelled to Constantinople in 1835, often comments on the striking qualities and beauties of fountains, even dedicating several chapters to them, such as the chapter “Fountain in Galata” and “Fountain of the Asian Sweet Waters”. From her focus on fountains, we can infer that to the average European reader, they were an oddity not often encountered, and represents a foreign curiosity about fountains, and fountain culture. Other works of the same period provide a similar narrative, but as we will see in the next chapter, as European technological advancements in water systems improved, the fountain not only continued to be exotic and foreign, but also became an emblem of inferiority and Ottoman backwardness, its appearance gradually separated from its technological ingenuity.

3 European History and Narratives of Water Networks

3.1 European Water History

The history of urban public water in Europe, following the collapse of the Western Roman Empire, tracked a very different course from that of the Byzantine and Islamic worlds. In contrast to Eastern cities such as Alexandria, Antioch and Constantinople, cities in the West rapidly deteriorated in population following the successive invasions and collapse in global trade that occurred during late antiquity. The most notorious example of this de-urbanization is, of course, the city of Rome, which dropped from over one million inhabitants at the height of the Empire to a mere 50,000 by the sixth century; a notable cause of this drastic fall in urban population was the destruction of the city’s aqueduct system during the Gothic War, which forced the city to rely once more solely upon malaria-ridden water from the river Tiber. Obviously, under such circumstances, the extensive fountain culture that had existed during the Roman period could not survive in post-Roman Europe, outside of a few spa towns with abundant natural spring waters. In the rest of Europe, cities were forced to return to wells, rainwater cisterns, and river water for their water supply needs; compared to the complex hydraulic infrastructure of the Roman era, Europeans relied upon a simpler means of urban water distribution: the bucket.¹¹⁰

As European cities began to once again grow in population during the Middle Ages, innovative methods were developed for insuring a reliable water supply. In Venice, among the largest cities of medieval Europe and one with significant geographical challenges in terms of supplying fresh water, thousands of rainwater cisterns were constructed to adequately nourish the city with drinking water, while waste-water was dumped into the canals and taken out of the city by the tides.¹¹¹ Each cistern was designed with multiple filters, including one of fine sand, which purified the water of soot and dust and helped to regulate its temperature.¹¹² While unknown to the Venetians, the sand also aided in filtering out harmful bacteria. Venice was among the most advanced cities in Europe in terms of its public water system: nevertheless, such solutions did

¹¹¹ “Supply of Water to Cities – The Cisterns of Venice,” Journal of the Franklin Institute of the State of Pennsylvania, for the Promotion of the Mechanic Arts (1863), 862.
¹¹² Ibid., 865.
not provide the city with enough water to provide for a system of fountains, and though the Venetians were able to attain a reasonably sufficient supply of fresh water through such methods, the type of water culture that had existed in the Roman era, and continued to exist in the cities of the Middle East, could not develop there. In other cities of medieval Europe, the water situation was much worse; raw sewage was dumped into the rivers from which drinking water was drawn, cesspits leaked into wells, causing outbreaks of dysentery and other diseases, and the distribution of water was solely a private concern. While northern European cities such as Paris, London and Bruges were comparatively well-watered, the inadequacy and foulness of the water led to a broad rejection of water as a beverage in favour of beer and other liquors, and the decline of public bathing as a common activity. These prejudices became ingrained to the point that, by the nineteenth century, it was possible to be repulsed by the idea of drinking plain water; in Switzerland, for example, fresh water was referred to as “corpses’ juice,” due to amount of offal and sewage dumped into lakes and rivers.

Nevertheless, the fountain did survive as an ornamental decoration. Roman fountains continued to exist in spa towns such as Bath and Budapest, and these helped to preserve classical fountain and bathing culture in limited ways throughout Late Antiquity and the Medieval period. Returning crusaders brought back to Europe their experiences of Islamic fountains, gardens, and public baths, as well as Arabic translations of classical texts on engineering, including the famous works on hydraulics by Hero of Alexandria. By the middle of the Renaissance, European hydraulic knowledge had reached the point that it had once again become possible to reconstruct Roman fountains, or reasonable facsimiles of them. In 1453, the year of the Ottoman conquest of Istanbul, Pope Nicholas V (1397-1455) launched a campaign to reconstruct the classical aqueduct system to the city, and build a new fountain system to supply water to the populace. The success of this scheme — the first new fountain system in Christendom — inspired other such fountain building programs in competing cities in Italy. Florence, for example, soon acquired similar fountains under the patronage of the Medici family. Outside of the relatively civic-minded rules in Italy, however, urban fountains were much slower to develop. Under royal patronage, and using Italian engineers, fountains were constructed at the Palace of Fontainebleu in France, which quickly became famous throughout Europe. These fountains existed, however,

113 Spar and Bebenek, “To the Tap,” 679.
114 Rattu and Veron, “How to Govern the Urban Hydrosocial Cycle,” 34.
purely for aristocratic pleasure, and were largely decorative in intent — the idea of constructing a large scale public water system, on the same scale as that which existed in Istanbul at the time, was completely foreign to the monarchs of Europe.

The Baroque and Rococo periods brought an explosion in the prevalence of fountains, particularly within Rome. Dozens of urban fountains were constructed in Rome during this period, including the famous Trevi Fountain and the three fountains of Piazza Navona. While directly inspired by, and superficially resembling, the nymphaeums of the ancient city, the Baroque fountains differed in being primarily monumental: while all of these fountains contained taps for public usage, they did not exist as a coherent water network, in contrast to Istanbul. Rome’s fountains also suffered due to a lack of water pressure; unlike in Istanbul, where water pressure was high enough to warrant the construction of su terazisi to reduce it, the Roman aqueduct system could not deliver highly pressurized water to the city — something baroque fountains, such as the Trevi Fountain, were designed to artistically disguise through the use of terraces, sculptural decorations, and by placing the fountain below grade.

In Northern Europe, however, fountains with high jets and technologically sophisticated mechanisms became a highly sought-after decorative feature for gardens and palaces of the aristocracy. The most notable examples of these are the fountains of Versailles palace, begun in 1662 by Louis XIV (1638-1715). In constructing this enormous decorative fountain system, Louis XIV made use of the latest in European hydraulic technology, with fountains able to be turned on and off in synchronicity with music, as well as move to form ornamental shapes such as fans and bouquets. As stated by Thomas Brandstetter, the fountains of Versailles were in part “a way to elaborate on the design of the natural world,” which had increasingly come to be understood as a series of flows, pressures and cyclical systems, but was also “a way to showcase the powers of the state, by drawing together artisanal resources and amassing the workforce necessary to make the infrastructure work.” The very “pointlessness” of the labour and expense — all put towards the aesthetic fancy and amusement of Louis XIV and his courtiers — was central to the image and self-definition of the absolutist state, which claimed complete power not only over the populace, but over a supposedly rational and controllable natural world as well.

Immense technological ingenuity was put into making this system possible: in order to supply sufficient water and water pressure to allow the fountains to function, the river Seine was canalized, and a massive pumping machine, the *Machine de Marly*, was constructed to raise the river water to a reservoir located on a nearby ridge. A marvel of pre-industrial engineering, the *Machine* utilized dozens of waterwheels to slowly force water through a series of tubes towards the crest of the ridge, which then travelled via aqueduct towards the palace. Its construction and maintenance was an enormous investment — it was calculated at the time that a glass of water, having passed through the machine, was worth more than wine\textsuperscript{116} — and it became a glaring symbol of inequality in *Ancien Régime* France, considering that supplying merely the decorative fountains of Versailles (let alone the domestic needs of the palace and town), utilized more fresh water than was supplied to the entire city of Paris. In contrast to his initial desires, after the death of Louis XIV, the fountains of Versailles came to symbolize not the grandeur of the regime, but rather its failure — despite the construction of the *Machine de Marly*, the fountains of Versailles could never run at even half pressure, and the machine itself rapidly became criticized as noisy, ugly, inefficient, and obsolete, as steam engines developed in power and sophistication during the later eighteenth century.\textsuperscript{117}

The development of steam power led to a revolution in European hydraulic technology, for it finally allowed for large-scale pumping of water against gravity, without being dependent upon animal, wind or water power. Indeed, the primary initial usage of steam engines was to pump water out of coal mining shafts. Yet, more than technological advances, it was social changes that precipitated a shift in European attitudes towards public water. Industrialization — a process which had begun in Britain in the late eighteenth century, and spread to France, the Low Countries, parts of Germany and the northern United States by the middle of the nineteenth century — was accompanied by massive rural migration to industrial centers, and this constituted a massive disruption to the European social fabric. By the beginning of the nineteenth century, London had exceeded Istanbul in terms of population to become the largest city in Europe, with over a million inhabitants, and other industrial cities in Britain, such as Manchester, Liverpool, Birmingham and Glasgow, were rapidly expanding as masses of rural poor flocked to the cities for work. As cities expanded, however, the already insufficient medieval water infrastructure in

\textsuperscript{116} Ibid., 207.
\textsuperscript{117} Ibid.
most of these cities became heavily overloaded; in some newer cities, such as Manchester, initially no water infrastructure existed at all. In the absence of public water authorities, private individuals and companies took advantage of the growing demand for water; the Perrier brothers, for example, constructed a steam engine pump to supply the city of Paris with fresh water in 1778, forming the first French *Compagnie des Eaux*. As Brandstetter writes, this was “was a very controversial undertaking,” for the urban populace did not uniformly accept the idea of “making a commodity out of water.” While supplying a necessity for daily life, these companies did not necessarily work in the public interest: the water supplied was often filthy, with little quality control, and supplied only intermittently. As described by the British physician John Simon in the 1850s, private water provision often resulted in “horrific” scenes of inequality: water was provided in casks filled only once or twice a week, and often located near refuse dumps and cesspits; these wooden casks quickly rotted, exposing the water to contaminants and causing “a black sooty scum” to form on the water’s surface. Simon’s report detailed how the urban fabric was affected by its dependence upon private water:

> The system of supplying water usually adopted by companies is to turn it on to the several districts of the town at certain periods of the day, generally two to three hours three times a week. The houses of the wealthier portions of the community are furnished with cisterns to receive and retain the water. The poor have to collect water from the butt when it is turned on and those who are engaged in occupations from home necessarily lose their chance of getting a supply.

Such scarcity was a major cause of neighbourhood strife; as Simon further wrote:

> Quarrels which ensue during the water collection are very injurious to the morals and peaceable disposition of the poorer classes; so much so... that the police magistrate states that a large proportion of the cases of assault brought before him are traceable to disputes engendered by this mode of supply.

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118 Ibid., 209.
120 Ibid., 37.
121 Ibid.
The lack of sanitation in the expanding cities of industrial Europe was also a major concern; vast amounts of sewage were produced, overwhelming the medieval system of cesspits, open sewers and night soil collectors that previously served to dispose of the city’s waste. In London, for example, sewers consisted primarily of small creeks which fed into the Thames, the city’s main source of drinking water. As London increased in size, these creeks overflowed with human waste, and the Thames itself took on the character of a large, slow sewer. As *The Dolphin*, a British pamphlet from 1827, described, the Thames received waste from over 130 different sewers, as well as acted as a drain for the city’s industrial refuse, hospital waste, slaughterhouse discards, and other assorted trash. Drinking water was often drawn directly from these sources; disregarding the bacterial contamination unknown to medical science of the time, the water delivered by these companies often included solid waste matter such as feces, rotting food, dead animals, and rubbish. While experimental water treatment facilities were constructed — for example, a filtration system operated by horse power was constructed in Paris in 1806 — these facilities were few and far between, and did nothing to stop microscopic pollution.

In essence, borrowing a phrase used by water resources theorist Karen Bakker, water in early nineteenth century Europe was “caught between market failure and state failure.” In supplying a necessity for daily living, water companies held a captive market who would accept intolerable conditions in order to receive a supply; without a state regulatory apparatus, or state involvement in urban water, the supply of fresh water to European cities quickly fell victim to a “tragedy of the commons,” in which there was no private incentive to ensure the protection and quality of the urban water supply. The fountain, too, fell victim to this dynamic. In the case of public fountains that were sponsored by state authority — often with certain propaganda value, such as the “victory fountains” constructed by Napoleon I in 1806 — drinking water was relatively pure and provided for free. However, while useful pieces of urban infrastructure, these fountains were generally located in wealthier areas of the city, where the need for pure water was less dire. In contrast to these decorative public fountains, the private “fountains” of poor

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122 Spar & Bebenek, “To the Tap,” 767.
neighbourhoods consisted solely of simple taps, with intermittent supply and all of the issues described by Simon previously. While fountain technology continued to improve — for instance, the fountains of Place de la Concorde in Paris, constructed from 1833 to 1840, utilized cast iron pipes and statuary, while other fountains used steam power to build up water pressure — by the middle of the nineteenth century, the basic issue of providing clean water to urban populations still remained unsolved in Europe.

3.2 Early Nineteenth-Century European Travellers and their Narratives

For some European intellectuals and social commentators, it was possible that answers could be found abroad. The eighteenth century marked the beginning of the European “tourist,” including particularly those on the “Grand Tour,” a secular pilgrimage through the antiquarian and Renaissance-era sites in Italy, particularly Venice, Rome, and the recently rediscovered ruins of Pompeii and Herculaneum. The Grand Tour, a rite of passage for young aristocratic and upper class gentlemen from Northern Europe, popularized the genre of the travel narrative, in which Northern European tourists — generally English or French — recorded their impressions of the local ways of life, both with an educational purpose, and to show off their own sophistication and worldliness. As the Grand Tour became institutionalized, certain adventurous travellers decided to continue beyond the traditional ending point of Naples, on to other Mediterranean locations — Malta, North Africa, Greece, and Istanbul. The rise of fast clipper ships, in the late eighteenth century, and steamboats in the 1820s, led to a vast expansion in the number of travellers undertaking such a journey — suddenly, travel to the Southern Europe and the Middle East was, while still expensive, not impossible for members of the upper bourgeoisie. Nevertheless, it was still primarily members of the aristocratic class, including particularly those with neoclassical or philhellenic impulses, who continued on from Italy to the Ottoman Empire. The “danger” of travelling through the Ottoman Empire — perhaps overstated, but with real risks including bandits, corsairs, poor roads, and the difficulty of communication — meant that only the most adventurous tourists continued past Greece. While every decade of the nineteenth century saw an increasing proportion of European tourists to the East, in general, writers of travel narratives
from the Ottoman Empire, and Istanbul in particular, travelled there not for pleasure, but rather were on diplomatic, mercantile, military or antiquarian business.\textsuperscript{125}

Several of these travellers authored narratives of their excursions, offering opinions and detailed descriptions of sites, and often wrote with the intention of providing a literary work meant to contribute to the intellectual discourse surrounding the nature of the Turks and the Ottoman state. Notable among these works are those of James Dallaway (1763-1834), Josiah Brewer (1796-1872), Charles C. Frankland (1770-1843) James E. Dekay (1792-1851), and Julia Pardoe (1806-1862). A common theme among these works was commenting upon the water system, and describing in great detail the technological advancements of the Ottomans, often in contrast to contemporary water systems in Europe and the United States. For example, Dr. James Dekay, who regularly traveled to the East from his home in New York due to his work as a naval physician, authored the book \textit{Sketches of Turkey} (published in 1833), which dedicates an entire chapter to the water conditions of Istanbul and begins by relating his admiration of Istanbul’s water system:

Every stranger is struck with the numerous contrivances around Constantinople for supplying it with pure and wholesome water. Belonging to a city in the United States which has long been distinguished for its nauseous and detestable water, and for the culpable negligence of its rulers on a subject of so much importance, no opportunity was neglected to obtain all the information in our power in regard to the hydraulic establishments in this neighbourhood. The result, however mortifying, must not be concealed, and we therefore state, that on a subject intimately connected, not only with the comfort, but with the health of the people, the commercial emporium of the United States is some centuries behind the metropolis of Turkey.\textsuperscript{126}

The chapter proceeds in a similar fashion and tone, remarking on how droughts seem to never occur in the city of Constantinople, and how the Turks, in comparison to the New York municipal authorities, consider “no expense too enormous, no sacrifices too great, in comparison

with the health and comfort of the people.”  

Although contemporary critics of Dekay, such as an editorial written in *North American Magazine* (1833), censured what they perceive as an “anti-Hellenistic” and “pro-Turkish” remarks, they nevertheless agreed with his observations on the water technology, writing:

Constantinople is abundantly supplied with water, by means of numerous aqueducts; and, our author says, ‘that, in this particular, the commercial emporium of the United States is some centuries behind the metropolis of Turkey.’ The New Yorkers, we hope, will profit by this kindly hint, for their water is certainly detestable to the palate and revolting to the stomach. The mortality of cholera, in that city, was, in great measure, to be ascribed to the want of a plentiful supply of good, wholesome water.  

European and American travellers to Constantinople in the early nineteenth century were struck by three aspects of the water system: its technological aspects, including the aqueducts, reservoirs, and *su terazisi*, the abundance of water, and the city’s fountains. James Dallaway, an antiquarian who travelled throughout the Ottoman Empire and was later appointed as the chaplain and physician to the British embassy in Constantinople, summarized his impressions by remarking that “Constantinople would suffer greatly from a deficiency of water, if the munificence of the sultans had not provided numerous fountains, which the aqueducts, those truly imperial works, constantly supply.” Another European source on Istanbul’s water system is the Englishwoman Julia Pardoe, who travelled to Constantinople with her father, Major Thomas Pardoe, and who is esteemed as one of the most detailed and insightful observers of Constantinople of the period. In her book *Beauties of the Bosphorus* (1838) she closely describes not only the art and architectural aspects of fountains, but also remarks frequently on the impressive water systems:

The necessity of ample supply of water to a population of nearly eight hundred thousand souls, and the frequency of drought in the capital, have led to great care and

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127 Ibid., 114.
some ingenuity in its conveyance to the cisterns and reservoirs of the city from the numerous streams that fall from the mountains…\textsuperscript{130}

While European observers found the Ottoman fountain, and Istanbul’s public water system, to be an exotic “Oriental” curiosity, this exoticization was hardly unwarranted — no water system in Europe, not even those of Rome, Paris, and London, rivalled that of Istanbul in the early nineteenth century. As Dekay wrote, “the public fountains in the capital and suburbs invariably elicit the admiration of the traveller.”\textsuperscript{131} The Ottoman public water system existed as primarily a technological marvel for these commentators, and one very foreign to their own experiences of urbanity. For many, it was a model worthy of being copied in their own cities; aside from the previously mentioned editorial in \textit{North American Magazine}, Josiah Brewer, an American missionary who travelled to Istanbul in 1827, in his own writings remarked that “the fountains [in Istanbul] are very numerous, both in the city and by the way-side, and are an example worthy of imitation in Christian countries."\textsuperscript{132} Nevertheless, while Ottoman technical achievements in water delivery and supply regularly impressed European observers of the period, these observers were generally hardly content to imply that Ottoman superiority in providing public water necessarily meant a superiority in social or political governance. A case in point can be seen from the observations of British admiral Charles Colville Frankland, who travelled to Constantinople in 1827, and in his travelogue simultaneously praised the city’s water system while disparaging the Turks

\begin{quote}
European residents in general allow, that the Turks are humane[…] that they are charitable to the poor; they endow and build hospitals, khans, caravanserais, and fountains, and that they dig wells in the deserts to refresh and preserve the thirsty and worn out traveller[…] and that they construct splendid bendts and aqueducts, hydraulic columns, and mosques[…] Now let us reverse the picture, and we shall see that the Turks[…] erect khans, caravanserais, fountains &c, &c., because the Government does nothing of the sort[…] The merit of the bendts and aqueducts with the hydraulic columns, belongs not to the Turks, but to the ancient Greeks; and it is a
\end{quote}

\textsuperscript{130} Pardoe, \textit{ Beauties of the Bosphorus}, 24.  
\textsuperscript{131} Dekay, \textit{ Sketches of Turkey}, 275.  
\textsuperscript{132} Josiah Brewer, \textit{ A Residence at Constantinople in the Year 1827} (New Haven: Durrie & Peck, 1830), 85.
curious fact, that the men employed to this day in the construction and preservation of these great national works, are chiefly Greeks…¹³³

Although Admiral Frankland was particularly hostile in his observations of Turks, claiming at one point that “…the true policy of Europe is to drive out the barbarian Mussulman, the enemy to civilization and to the human race; and to restore, in its full extent, the European Greek Empire,”¹³⁴ it was nevertheless common for European and American travellers to frame their narratives within the discourse of the “Occident” and the “Orient.” The literary and cultural critic Edward Said defines Orientalism as a series of discourses that separates “the West” and “the Orient,” where the identity of both categories exist only in contrast to the other, and where they inherit essentializing characteristics that create a hierarchy between the two “places”; for example, the Orient is backwards, barbaric, and exotic, while the Occident is modern, civilized and the norm. This discourse is created and perpetuated by Orientalists, meaning the people who studied the East in an abstract scholarly manner and claimed authority to speak for the Orient, without allowing those they observed any agency. While the travelogues of the early nineteenth century engage and contribute to Orientalist dialogues, for example by exoticizing and essentializing their subjects of study, it is not until the latter half of the century that the writings related to water-works employ prejudicial and disparaging attitudes. Some scholars such as Bernard Lewis and John Mackenzie who have critiqued Said’s *Orientalism*, reason that such attitudes were not so much a result of European arrogance or exclusive to Euro-American imperialism, but rather that such discourses flourish when one culture holds technological, political and cultural dominance over another. For example, it was not rare for Turks in fact to speak superciliously about Europeans during their period of strength.¹³⁵ However, by analyzing how European attitudes towards Ottoman water changes in the later part of the nineteenth century, it becomes clear that the dichotomy and hierarchy between East and West was not simply a reflection of actual technological difference, but rather an ideological conjecture actively constructed, and even retrospectively projected into the past. Within a mere thirty years after 1839 — corresponding to the great changes which occurred in the water systems of cities in Europe during this time — huge shifts occurred within European attitudes towards Istanbul’s

¹³³ Frankland, *Travels to and from Constantinople in the Years 1827 and 1828*, 181-183.
¹³⁴ Ibid., 192.
public water, aqueducts, and fountains. As we will see in sections 3.2 and 3.6, these later
European narratives do not merely provide commentary on contemporary conditions of water
systems, but rather frame their discussion in terms of an ancient competition between an
ascendant West and perpetually decaying East.

3.3 Sanitation Movement in Europe

No event altered European attitudes towards public water more than the arrival of cholera in
1831. Cholera, a highly contagious bacterial infection which causes death due to extreme
dehydration by diarrhea, was originally endemic to the Indian subcontinent. Beginning with the
First Cholera Pandemic of 1817-1824, cholera became an epidemic disease outside India,
spreading throughout East Asia and reaching the Persian Gulf region, Syria, and Russia. Cholera,
which is transferred via diarrhea into local sewer and water systems, is an easily spreadable
disease and one which, before the advent of microbe theory and proper sanitation, extremely
difficult to contain. The initial cholera pandemic killed tens, if not hundreds, of thousands of
individuals; nevertheless, it would be dwarfed by the second coming of the disease, the 1829-
1851 Second Cholera Pandemic. One of the most deadly and quick-spreading pandemics of the
nineteenth century, the Second Cholera Pandemic was the first to reach Europe and the
Americas, and caused an international panic. Starting in East Asia, the disease soon spread to
Iran and then on to Russia, from which, despite attempts at quarantine, it soon spread via
steamship and railroad to Great Britain and the rest of Europe. The disease overwhelmed the
meagre medical systems of the time; hospitals overflowed, and in the cities of Western Europe
and North America tens of thousands died. In Great Britain, which was among the first European
countries hit by the pandemic, cholera severely tested all of the social and political mechanisms
developed during the early nineteenth century, and “exposed the frailties of England’s urban
industrial structure.”136 Cholera would return several times throughout the century and it, along
with tuberculosis and syphilis, greatly affected the social dynamics of the nineteenth century,
becoming a central feature of the century’s political and cultural discourse.

Cholera caused such disruption not only due to the deaths that it caused, but also because
it occurred at a time when the nature of European governance was in flux. The late-eighteenth

136 Ian Cawood and Christ Upton, “‘Divine Providence’: Birmingham and the Cholera Pandemic of 1832,” Journal
and early nineteenth centuries marked a massive shift in all areas of European life, but in particular, it marked an expansion of the state and an increasing involvement of the state in the cataloguing, monitoring, and managing of the state’s subjects. It is, of course, impossible to discuss this process without reference to the works of French philosopher and theorist Michel Foucault (1926-1984), whose works provide a powerful theoretical background for analyzing this period. For Foucault, the second half of the nineteenth century was typified, in Europe, by evolution of what he calls “bio-power” — a form of power that “unlike discipline, which is addressed to bodies [...] is applied not to man-as-body but to the living man, to man-as-living-being; ultimately, if you like, to man-as-species.”

A product of the increasing influence and sophistication of statistical-medical establishments in Enlightenment-era Europe, bio-power involved the measuring and controlling of “a set of processes such as the ratio of births to deaths, the rate of reproduction, the fertility of a population” — that is, the observation and governance of life processes by the state. The rise of bio-power as a means of governance was commingled with the disruptions of the Industrial Revolution; power, which had previously been defined and organized through the concept of “sovereignty,” was forced to evolve when it “found itself unable to govern the economic and political body of a society that was undergoing both a demographic explosion and industrialization.” Indeed, as urban theorist Matthew Gandy has written, “the rise of the industrial city necessitated a transformation in relations between the human body and emerging institutions of modern governance.” Functionally speaking, this took the form of government intervention in the promoting population growth, in the alteration of the social, urban and natural landscape to encourage statistically measurable improvements in the aforementioned metrics, and in the criminalization and pathologization of “un-productive” sexualities and sexual practices — for example, homosexuality, abortion, and prostitution. Bio-power was not expressed solely as a function of increasing fertility, however; as Foucault writes, bio-politics was also concerned with “the problem of mortality,” not simply in the medieval sense of fear of the epidemic, but also in dealing with “endemic” issues: that is, “the form, nature, extension, duration, and intensity of the illnesses prevalent in a population.”

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138 Ibid., 243.
139 Ibid., 249.
140 Gandy, “Zones of Indistinction,” 498.
141 Foucault, “‘Society Must Be Defended’, 243.
progressed from an epidemic disease to a long-term endemic issue within urban communities of Europe in the 1830s, the management of cholera became a primary focus of the European biopolitical institutions.

Indeed, the coming of cholera often served as the impetus for a broadening of the state’s involvement in bio-politics. Birmingham, one of the industrial centers of Great Britain and a pioneering city in terms of combatting the cholera epidemic, serves as a useful example. In an article describing the city’s reaction to the arrival of cholera in 1832, Ian Canwood and Chris Upton describe the initially inability of medical and state institutions to deal with the crisis. As cholera first struck the areas of the city with the poorest sanitation, it was initially seen as a class-based disease; early reports remarked that “it is almost entirely confined to the very lowest people,” or, more simply, that “cholera is a disease of the poor.”\textsuperscript{142} It was believed that cholera was simply a manifestation of the poverty of the lower classes, and, indeed, possibly a symptom of their moral deficiencies. While British authorities did attempt to institute a quarantine to slow the spread of infection from continental Europe, it was nevertheless widely believed that the spread of cholera was due to the sinfulness and backwardness of the victims, and that in Britain, “those leading blameless lives would be spared.”\textsuperscript{143} As the cholera epidemic spread, however, it became apparent that the disease was indiscriminate in its victims; as neighbourhoods of all classes came to be devastated by the disease in cities such as London and Liverpool, it became clear to institutions of the time that “it would be [...] uncharitable to think that they whom it carried off were greater sinners than those whom it spared.”\textsuperscript{144} This realization led to a vast expansion in governmental institutions set up to combat the epidemic; while in the Birmingham of the early 1830s there was a near total lack of any sanitary authorities, or health authorities of any kind, very quickly a Board of Health was established for the city, including municipal authorities and local physicians as members. This Board of Health, which reported directly to London, assumed total control over the management of the epidemic, including employing a “contingent-contagionist” approach which combined quarantine procedures with advocacy for “improved sanitation, dietary changes, and social assistance.”\textsuperscript{145} Distrust of these new authorities was widespread; many of the urban poor believed that medical authorities were transferring

\textsuperscript{142} Canwood and Upton, “‘Divine Providence,’”\textsuperscript{1107.}
\textsuperscript{143} Ibid., \textsuperscript{1113.}
\textsuperscript{144} Ibid., \textsuperscript{1108.}
\textsuperscript{145} Ibid., \textsuperscript{1110.}
cholera victims to hospitals in order to perform dissections and human experiments upon them, and large-scale riots occurred in multiple cities throughout Britain. In many cases, medical authority could only be established through the use of force; in Manchester, a riot provoked by the discovery of a dissected child was put down by military regiments from the 15th Hussars corps.\footnote{Ibid., 1115.}

Such medical institutions soon spread throughout Europe, and the alliance of state monopoly of force and medical power-knowledge caused numerous changes, not only in the socio-political order, but also in the infrastructural and architectural form of European cities. As Gandy writes, “the regulation of the body and its relation to the urban environment” can be directly linked to “the development of ‘medico-administrative’ knowledge and the hygienist preoccupation with the control of urban space.”\footnote{Gandy, “Zones of Indistinction,” 503.} This was in particular due to the prevailing theory of disease transmission of the time, which held that odorous miasmas were the primary vector for illness. As scientists, physicians and other medical professionals came to play a prominent role in urban administration, cities came to be modelled around these theories. In keeping with the common conception that “all smell is disease,” sources of bad odours — open sewers, refuse piles, and industries such as tanneries and slaughterhouses — were “quarantined” away, either hidden by being underground, or relocated outside urban cores. For example, in 1833 the prefect of Paris covered many of the city’s open sewers, and constructed several new ones to better clear away the odor of raw sewage. In many cases, these efforts in fact did bring numerous health benefits; in a case of doing the right things for the wrong reasons, some of the remedies proposed by miasma theorists actually inadvertently helped to slow the spread of microbial infections. Yet fundamentally, the issue of poor public health was not solved; raw sewage continued to be dumped into the water supply of cities such as London, Manchester and Paris, and outbreaks of epidemic diseases — cholera and dysentery, particularly — continued to regularly afflict urban populations. In Paris, for example, the sewers of 1833, despite being considerably more sophisticated than the previous system, still deposited raw sewage directly into the Seine, and cholera subsequently returned to the city in 1849. Stronger measures were thus employed: wholesale urban renovations were begun, attempting to “open up” the dusty, cramped medieval city centres and allow miasmas to dissipate. The most notable example of
these efforts were the renovations of Paris under the Baron Haussmann, which were undertaken between 1853 and 1870 under the patronage of Napoleon III (r. 1848-1870). By 1850, endemic cholera, as well as air and water pollution from industrialization and severe overcrowding, had led the Parisian bourgeoisie to become “obsessed with filth, degeneration, and infection,” and the renovations, which included reorganizing the city along the hygienic principles, were a response to the city’s moral and social panic.\textsuperscript{148} By cutting broad avenues through the dense medieval city, and relocating the poor to areas outside the urban core, Haussmann’s renovations served multiple purposes: they cleared away un-policable and un-monitorable areas of the city, which had been the heart of multiple urban revolts and revolutions; they acted as quarantine “fire-gaps” helping to prevent the spread of miasmas, while also allowing fresh air to fill the city; and they also served as a method of reshaping the urban social landscape. The construction of these avenues was intended to not only clear away “physical contamination,” but also “moral degeneracy” — the opening of the streets in turn enforced the concealment the city’s underclasses, including prostitutes, the poor, and the ill.\textsuperscript{149} In fact, Parisian social reformers such as Alexandre Parent-Duchâtel explicitly stated the connection between dirt, disease, and moral decay, using “dirt as a vehicle with which to link sewers, filth, and putrefaction to prostitution, and by extension, prostitution to the potential contamination and destruction of bourgeois society as a whole.”\textsuperscript{150}

The Sanitation Movement, thus, from its origins as a medical theory in response to the challenge of epidemic disease, soon acquired the characteristics of a broad reformist movement which exercised influence at all levels of society, with the backing of the state power. Sanitation reformers such as Edwin Chadwick, whose 1842 \textit{Report on the Sanitary Conditions of the Labouring Classes} was a key work of the period, intended to diagnose not only the medical issues of Europe’s cities, but also their social ills, and were inspired not only “by the environmentalist desire to improve urban conditions,” but also by the desire to “regulate, discipline, and order the disorderly chaos of cities.”\textsuperscript{151} Indeed, for the Sanitation reformers, cleanliness, health, and moral discipline were intimately connected — alongside the miasma of disease, physicians theorized on the existence of “moral miasma,” in which moral degeneracy


\textsuperscript{149} Ibid., 253

\textsuperscript{150} Ibid.

\textsuperscript{151} Wilson, \textit{The Sphinx in the City}, 35.
could be contracted merely by proximity to depravity, just as one could contract an illness by proximity to a noxious smell. In the rhetoric of these reformers, the industrial city was nothing less than a “cesspool,” a breeding ground for immorality “about to be submerged within a tide of excrement.” In response, the Sanitation movement imagined the creation of what Matthew Gandy calls “the bacteriological city,” one in which sickness and filth was compartmentalized, triaged, and hidden away, and governed by a rational, bio-political framework — that is to say, a city with both physical and social quarantine built into its urban form. Yet these efforts were doomed to failure until a more consistent theory of disease transmission could be identified.

The London Cholera outbreak of 1854 offered an opportunity to produce such a theory. The physician John Snow, who had become extremely sceptical of miasma theory, founded the modern science of epidemiology when he traced the source of the outbreak to the Broad Street water pump using bio-statistical tools of analysis, including producing overhead maps of the location of the victims and charting the spread of the disease over time. While lacking a mechanism of disease transmission, he was nonetheless able to prove that foul water was the source of the outbreak, by demonstrating the disappearance of the disease in the neighbourhood after the disabling of the water pump. Nevertheless, it would be more than a decade before these findings were accepted by the medical establishment. In the meantime, the increasing foulness of urban rivers led to major sewer reform efforts, aiming to dissipate the miasmas which were believed to be emanating from the water. By the second half of the nineteenth century, “water was increasingly seen as something important to public health,” but “scientists had yet to discover a reliable method to investigate these connections” — as such, water quality efforts focused primarily on the obvious aesthetic issues of dirty water. In Paris, beginning in 1852, the sewer system was massively expanded under the direction of Eugène Belgrand, and waste was redirected from the Seine into a large area of undeveloped wetlands. In London, the “Great Stink” of 1858, during which the stench of the Thames forced the evacuation of Parliament, convinced the government of the necessity for diverting London’s sewage outside of the city. Under the direction of Joseph Bazalgette, and with the authority of a special Enabling Act,
massive resources were employed in one of the largest infrastructure projects of the Victorian era. While Bazalgette continued to believe strongly in miasma theory, his works nevertheless greatly reduced microbial pollution of the city’s water supply, and was instrumental in proving the pathogenic theory of disease; in 1866, a new wave of cholera struck the city just as the sewer network was reaching completion. Those neighbourhoods with incomplete sewers, and which drew their water from polluted sources, soon developed cholera; those with clean water largely escaped the disease. These findings, when publicized by the respected physician William Farr, greatly contributed to public acceptance of pathogens and microbial contamination as a vector of disease.

The discovery and acceptance of microbial theory also significantly altered European approaches towards clean water. As early as 1847, Ignaz Semmelweis, a physician in Vienna, had researched and adopted mandatory hand-washing as an antiseptic measure; however, his research was heavily criticized or misinterpreted by the medical establishment and few followed his lead. The discovery of pasteurization and refutation of spontaneous generation by Louis Pasteur in the 1860s led to a much broader acceptance of germ theory and sanitary measures among physicians in Europe, including the adoption and popularization of antiseptic clinical techniques in 1867 by Joseph Lister. The discourse of germ theory brought with it new mentalities of cleanliness — whereas miasma theory had advocated for physical separation and the enforcement of quarantine against sickness — both of the body and of morality — germ theory emphasized embodied hygienic practice and living, including the frequent use of sterile liquids such as carbolic acid, ethyl alcohol, hydrogen peroxide, and clean water. Clean water was not only aesthetically pleasing, but came to possess serious medicinal and hygienic qualities. Far from being “corpse’s juice,” bottled water from fresh sources — generally mountain springs or freshwater lakes far from cities — quickly became a medical necessity for the urban bourgeoisie, to whom it was advertised as a cure-all health tonic.\textsuperscript{156} With water chlorination still many decades away, urban water, while generally much less contaminated than decades previously, was still far from drinkable. As such bottled water companies quickly expanded to fill this void. Hundreds of varieties of water were sold, each listing its acidity, dissolved minerals, carbonation level, and each of these qualities was implied to have several health benefits. Many supposedly natural

\textsuperscript{156} Rattu and Veron, “How to Govern the Urban Hydrosocial Cycle,” 38.
waters were in fact artificially produced — for example, with added carbonation. Despite the large sums of capital invested in the bottled water market, many were still suspicious of water as a beverage; for instance, in Russia, which was generally the first European country to be struck by cholera pandemics, it was remarked in a popular medical guide that “there are many people who almost never use water, and others who even laugh at water drinkers... Haters of water also affirm that wine gives strength, while water weakens [the body], and, unfortunately, even some medics agree with this.”

Water’s medicinal properties could not be absorbed through drinking alone; water practices, including bathing, hand-washing, douching, and enemas, came to be seen as necessities for hygienic living. In Foucaultian terms, a new governmentality of water usage — that is to say, a new organization of mentalities and techniques guiding the behaviour of individuals around water — was developed by the association of water with cleanliness and good health. This new governmentality — what has been termed “hydromentality” — was inextricably linked to the previous European bourgeois obsessions with the “cesspool city,” and the earlier governmentality of miasma, which effected a quarantine-based “anti-contagion” ethos. This is to say that the hygienic hydromentality of the second half of the nineteenth century was not a phenomenon which developed out of nowhere, but rather was, at its core, affected by the class dynamics of urban European society and socio-political discourses that were arising at that time, including colonialism, orientalism, nationalism and technological positivism. These water practices quickly became associated with class; while class inequality had always had a central effect on access to clean water, nineteenth century hydromentality created a distinction in water practice between classes, and indeed water practices served as a method of class definition. As Maria Kaika writes, “the deodorized body of the new urban elites,” who had access to fresh water on demand, bathtubs, showers, and the other accoutrements of cleanliness, “was distinguished from the smelly peasant and the sweaty proletarian.” The practices of hygienic hydromentality — the purchasing of bottled water, and regular bathing and cleaning in an urban environment without public bathing facilities — were all activities which required

158 Rattu and Veron “How to Govern the Urban Hydrosocial Cycle,” 33.
161 Ibid., 231.
162 Kaika, City of Flows, 37.
either free time or ample money, or both, and as such, “the urban sanitation conquest brought water squarely into the sphere of money, cultural capital, and power relations,” as well as “redefined representations of the body and bodily relations along class and gender lines.”\textsuperscript{163} Without public mains water, and urban public water spaces such as baths, public washrooms, fountains or pools, initial participation in hygienic hydromentality was limited to those people who could fulfill these practices at home; “the modern home became an axiomatic space of liberal governmentality where new codes of behaviour evolved in tandem with a panoply of architectural and technical innovations.”\textsuperscript{164} The “washbasin and the private flush toilet in the boudoir” became symbolic not only of wealth, but proper healthy behaviour and modern society.\textsuperscript{165} For bourgeois women in particular, the new emphasis on hygiene entailed a new definition of domestic labour: as well as taking care of the family, women were expected to become “‘environmental managers’ for the domestic interior.”\textsuperscript{166} The effect of late nineteenth century hydromentality on middle class women was to further confine them to domestic spaces. As Gandy argues, “the growing use of water within the home, exemplified by the diffusion of the modern bathroom,” was a massive catalyst of change in European society’s economic, social and gender dynamics and ultimately involved the “hydrological reconstruction of the modern city.”\textsuperscript{167}

The rise of hygienic hydromentality occurred during a period in which romantic nationalism had progressed into becoming state policy, and as European states were embarking on their second phase of colonial expansion. With the Americas largely independent, European states — in particular, Britain, France and Russia — began to expand into the Middle East, Asia, and Africa. The European investment into colonialism was ideologically justified by an orientalist discourse that supposed an essential difference between Europeans and Orientals. Hygiene and sanitation practices quickly came to be utilized to define the boundaries of “civilized” and “savage” behaviour: “water-use practices became a source of sensual pleasure, the object of new, water-intensive personal hygiene routines, and a marker of civilization.”\textsuperscript{168} Water usage, being both bio-political (in that the state had, in a colonial context, an incentive to promote good health among the colonists) and governmental (in that the colonists were partially

\textsuperscript{163} Ibid.
\textsuperscript{164} Gandy, “Zones of Indistinction”, 505.
\textsuperscript{166} Gandy, “Zones of Indistinction,”505.
\textsuperscript{168} Bakker, “Water,” 617.
self-defined by their water practices), represented a complex facet of the colonial experience. Discourses of water hygiene were utilized in colonized regions “both as evidence of the superiority of ‘modern’ colonists compared with ‘natives,’ but also to justify racially segregated water supply systems.” In most colonial cities — for example, Lagos, Bombay, and Algiers — the construction of adequate sewer systems was only ever partially finished, and usually only connected European neighbourhoods; as such, colonial cities in the late-nineteenth and early twentieth centuries were marked by recurrent outbreaks of epidemic disease.

In the case of European colonists in Islamic lands — Algeria and Muslim India being the earliest examples — hygienic hydromentality encountered an equally established Islamic hydromentality that had anticipated many of the advancement in Europe by several centuries. As discussed earlier, European witnesses of Islamic and Ottoman water systems in the early nineteenth century, while hardly free from orientalist discourse, were nevertheless generally willing to acknowledge their encounter with an older, technologically sophisticated hydromentality, one which was in many ways the superior of extant European systems. By the 1850s, however, the discourse of European cultural and racial supremacy had become increasingly intellectually entrenched, and “Oriental” technological equivalence with Europe became ideologically unsettling conception. This may be surprising, considering that many of the hygienic advancements in Europe of this period — for example, the spa, the swimming pool, and the private bathroom — were, in Maria Kaika’s words, merely “a post-Enlightenment Western re-interpretation of the Arabic or Roman bath,” albeit “privatized and/or commodified.”

Indeed, the image of the Turkish bath was an omnipresent theme in art of the period, and bathing amid steam and flowing water was indelibly associated with the exotic East; the Moorish-inspired architecture of the Crossness pumping station of the London sewer system perhaps was intended to harken back to this association. The 1860s even saw a craze in Britain for “Turkish-style” baths, which sometimes constituted the sole “respectable” public bathhouses in a town; nevertheless, while the concept was popularized in Britain by David Urquhart, a noted Turcophile, it was quickly condemned by others who claimed that adopting “the customs of the

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169 Ibid., 619.
170 Gandy, “Rethinking Urban Metabolism,” 368.
171 Kaika, City of Flows, 54.
barbarian” would “enervate and demoralize the sturdy Briton.” Many Turkish-style baths were thus subsequently renamed as “Roman baths,” or even “Anglo-Roman” baths — thus appropriating Turkish practice and making it palatable for a European audience. Other hygienic practices, including regular hand-washing, were also anticipated in daily practice in the Islamic world. Faced with these similarities, the discourse of European superiority in hygiene developed in a rather different manner in the Islamic lands than in other colonial contexts. This was particularly true of the Ottoman Empire, which, while having lost considerable military and cultural strength vis-a-vis Europe in the nineteenth century, nevertheless remained a major world power and member of the concert of nations. While the Tanzimat period marked a major opening up of the Empire to European ideas and discourses, as well European capital, it did not yet mark European political domination; as such, the hygienic hydromentality of the 1850s and 1860s was not brought to the Ottoman Empire with the force of state power, but rather, on the initiative of private individuals. In the case of Istanbul, the vast majority of these individuals were Francophone and Italophone Levantines of Pera and Galata.

3.4 Levantines’ Engagement with European Hydromentality

The term “Levantine” is one of complex meaning, the implications of which have changed throughout time. It not only encompasses the non-Muslim groups with long lasting ties to the Mediterranean such as Greeks, Italians, Syrian Christians, Armenians and Jews, but also the more recently established communities of the French and British. However, by the nineteenth century, the Levantine identity was an intermediary one, with many holding prominent positions in both foreign consulates as well as the Ottoman bureaucracy. The Levantine identity of the nineteenth century was one of hybridity, between Ottoman and European, and thus became, as Shlala writes, “a pejorative, suspicious category for both the colonizers and colonized who did not believe that they fit into either one of their worlds entirely.” Indeed, the negative attitudes native-born Europeans held towards Levantines can be gleaned from the travelogues of the period, that particularly criticize the mixing of Turkish and European cultures and race; the

173 Ibid., 222.
175 Ibid., 42.
176 Ibid., 41.
writer Urquhart, as one notable example, wrote that “generally speaking, the Greek peasant degenerates in Asia, the Turkish, in Europe; — that is, where they come into contact, both loses his value.”

In large part, this was the result of a difference in their imagining of what Istanbul, the city, was meant to be. The foreign traveller to Constantinople was in search for the unknown, the exotic, and while many benefited from the familiar comforts of Pera and Galata — the most European quarters of Istanbul — they seldom praised much about these neighbourhoods, and instead criticized the loss of their essential “Turkish” quality. As Edhem Eldem writes, foreigners were disillusioned by Galata, which seemed too familiar to be a true city of the “Orient.” In general, one could say that the traveller is particularly interested in differentiating the known from the unknown, that is, the “here” from the “there” and seeks the journey to new places to not only satiate their curiosity, but to also liberate themselves from a restrictive or boring “home.” However, for the Levantines of Istanbul, their physical “home” was the Ottoman Empire, while, both in language and in the greater discourse, their “home” was in Europe. With the increasing sophistication of printing technology, which made niche audience newspapers economical, and the development of the telegraph and wire news agencies such as Associated Press and Reuters, the Levantines were able to form a bridge between their two “homes” through native Levantine Francophone, Italophone and Anglophone newspapers. “Place polygamy,” to use the terminology of Beck, allowed the Levantine newspapers to act as a conduit for the latest European discourses to enter into Ottoman society.

Medical discourse, including the latest thought on hygiene, sanitation, and healthy living, was among the topics of Levantine newspapers. Particularly notable was the Francophone Gazette Medicale d’Orient, the founding of which was first announced in British medical paper The Lancet. Almost as if to vet the periodical, The Lancet referenced the similarity of the Gazette both in structure and content to other French medical journals, as a way of bolstering its legitimacy both in Europe and among readers of European languages in Turkey. Indeed, many of

178 Eldem, “Istanbul,” 144.
the readers of the Istanbul-based journals also subscribed to foreign ones, and because they had access to the latest news from across the world, often wrote and engaged with articles that drew parallels between Istanbul and other cities in Europe.

Istanbul’s water quality, quantity, and systems were a recurring topic for editorials and articles. By writing about the city’s water, the physicians and activists of the Gazette were connecting Istanbul to contemporary debates in Paris, London and New York; yet in doing so, it could not be implied that Istanbul’s problems were less severe than those of the West, as this would directly imply that the Ottoman state had somehow anticipated the latest advancements in Western hygiene. Instead, articles increasingly focused on the insufficiency of water in the city, and the supposed inability of the current system to meet demand. While it is undoubtedly true that Istanbul’s population increased during the nineteenth century, the net population increase from 1844 to 1856 was only about 22,000 individuals, from 213,992 to 236,096. While these figures, which come from the Ottoman census program started under the Tanzimat, are undoubtedly undercounts — women and foreigners were frequently excluded from the listings — when we consider that in the 1830s Istanbul’s water was regularly described as abundant, and that late-eighteenth and early nineteenth centuries saw the completion of several new water systems in the city, including the Taksim, Selimiye and Mihrisah systems, it seems difficult to imagine that Istanbul’s water was suddenly completely incapable to dealing with the added load. Rather, it is likely that it was changes in the patterns of water usage unanticipated by the existing system — notably, the increasing size and water usage of Pera and Galata — which may have led to an unequal distribution of water and caused shortages. Nevertheless, as Dinçkal writes, “by the 1850s [...] the water supply of Istanbul was increasingly regarded as deficient, and the so-called Disette d'Eau (the water misery) was an important and recurrent topic in the city's daily newspapers.”

One landmark article on this topic is “Sur les Eaux Potables et la Disette a Constantinople,” which appeared in Gazette Medicale d'Orient in 1863.

The article, written under a pseudonym, begins by praising the hydraulic achievements of the Romans, including the “genius” of the Emperor Constantine in building the city’s initial

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water system. Then, however, it moves on to the failure of the Byzantines to fulfill Constantine’s vision, claiming that,

[Translation from French by the author] Water thus, more or less of the time, barely reached into Constantinople, and despite the genius of the Romans and the piety of the Muslims, the inhabitants of this great city have, in all the centuries, suffered greatly from the miseries that accompany this calamity and the sicknesses that must be a consequence of it.\(^\text{183}\)

This discussion of Istanbul’s water history naturally served to obscure the Ottoman-era water supply system; the aqueducts of Mehmed II, Suleiman I, and the eighteenth-century sultans, as well as the centuries-old Ottoman fountain system, were summed up merely as expressions of Islamic piety, and it is clearly implied that the Ottomans added little to an already extant, and nonetheless insufficient, Roman foundation. While praising Ottoman “vigilance and seriousness over the location of their water supply,” he ascribes this to the Islamic need of water for ritual ablution — thus, the author saw the Ottoman-era additions to Istanbul’s water system as a primarily religious, rather than civic, work of infrastructure, and one in which the “heavy lifting” in terms of conception and construction was initially done by Christians.

In discussing the “water misery” of the city, the author refers primarily to Pera and Galata; despite claiming that the city had continuously suffered from water shortages, he concedes that Stamboul, the historic centre of the city, was sufficiently watered and suffered “much less often” from shortage. The water shortage of the Levantine neighbourhoods was ascribed to multiple causes: an eight month long drought, the silting up of the distribution pipes, unequal water allocation between “privileged” Ottoman aristocrats and non-Muslims, and the expanding population of Galata and Pera. While claiming that the portion of water allocated to Galata and Pera was completely out of proportion to its population, the author nevertheless does not provide evidence for this assertion; indeed, in the footnotes, he “regrets” to write that that there is no “reliable statistical data to determine the relationship between the population of the suburbs and the amount of water they deserve.”\(^\text{184}\) The influence of hygienic hydromentality is clear in his

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\(^\text{184}\) Ibid., 159.
writing — while he does not go into detail about germ theory, his believes strongly in medicinal quality of drinking water, arguing that epidemics of “diseases of the digestive tract, gastric fevers, dysenteries, scarlet fever, diptheria and puerperal infections” in Istanbul could be directly traced to a shortage of water.\textsuperscript{185}

The remedy proposed by the author for this dire situation is instructive: having declared the city’s Byzantine and Ottoman water infrastructure historically insufficient, he does not recommend the expansion of this system. Rather, the author proposes the renovation of the city’s water supply along European lines, using the latest in European technology. He praises the Ottoman government’s existing waterline maintenance projects, but primarily focuses upon the government’s employment of cast iron pipes, which, he notes, are “manufactured in England and equipped with all accessories,” and emplaced “under the supervision of an intelligent engineer, Mr. Godlewski.”\textsuperscript{186} Finally, in the footnotes to the article, the author describes his eventual solution for the issue: the selling of water rights to private interests, and the establishment of “a Company composed of capitalists and skilled engineers” which would initiate a “philanthropic project destined to relieve so many unfortunates who have been condemned to drink brackish and stagnant waters, and be deprived of a host of industries that would give them a living.”\textsuperscript{187} The solution proposed by the author represents a commodification of the city’s water, and the colonization of the Ottoman water system by European capital, and it is notable that this proposal could only be justified by the “Orientalization” or outright omission of the city’s current water system.

The water shortage was a frequent topic of discussion in non-medical journals as well, including particularly the long running Francophone paper \textit{La Turquie} and the Anglophone \textit{Levant Herald}. Although these papers were more general in focus, their discussions of the city’s water supply still centered around the medical and bio-political aspects. These magazines, which were read and contributed to by many of the city’s wealthiest and most influential Francophone and Anglophone business interests, professionals and academics, soon came to exercise real effects on Ottoman policy. As was previously described in reference to works by Kaika, Gandy,

\textsuperscript{185} Ibid., 2.
\textsuperscript{186} Ibid.
\textsuperscript{187} Ibid., 159.
Bakker and others, within a colonial context, hygienic hydromentality served as a means of distinction between colonizer and colonized. Yet the Ottoman Empire, as a non-Western society which remained politically uncolonized, represented a relatively unique case. Instead, Levantine engineers, intellectuals and medical professionals were the first to adopt and promote antiseptic, hygienic, and private water practices. But what was their motivation? Jean-Pierre Goubert, as paraphrased by Gandy, has written, “The class identity of the urban French bourgeoisie was constructed in part through the spread of the private boudoir and the use of increasingly elaborate (and expensive) hygiene-related devices and practices, which in turn justified increased investment in networked water supply systems in order to ‘water’ the city.” Private water, and modern hygienic practices, served to identify the Levantines as “European” and “modern,” and in an era in which issues of Levantine identity had become increasingly strained by Orientalist and Colonialist discourse, the adoption of private water helped to mark the Levantines as full members of Western civilization. The Levantine neighbourhoods of Pera and Galata became, for the Ottoman state, both a showcase and laboratory for Westernization. However, the economic weakness of the Empire meant that these neighbourhoods were becoming more and more influential vis-à-vis state power. Even as the Ottoman Empire itself attained colonialist characteristics — for instance, in its relationship to peripheral provinces such as Iraq, Arabia, and Yemen — within the imperial center itself, the Islamic city, as typified by Fatih and Eyüp, was increasingly economically and culturally peripheralized in favour of the modern city arising on the other side of the Golden Horn.

Beginning in the 1850s, pressure from both the Levantine community and Ottoman modernizers led to multiple projects to supply private water to the city, as well as attempts to govern the municipality among more European lines. In 1855 a complaint was lodged to the Ottoman government by the committee of French, English and Italian expatriates in the city demanding the provision of modern amenities, such as private water. The members of this group were later appointed to a Commission for the Order of the City (İntizam-ı Şehir Komisiyonu) because of their familiarity with European systems. In their petition, they cited the

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190 Eldem, “İstanbul,” 201.
191 Çelik, Remaking Istanbul, 44.
need for urban embellishment (*tezyin*) and regulation (*tanzif*), which they regard Istanbul as lacking, especially compared to other major cities in Europe.\(^{192}\) Beginning in 1854, reports were commissioned on the feasibility of bringing private mains water to Istanbul; however, these projects quickly became mired in disagreement and infighting between project planners.

A decade later, in 1864, two separate schemes were devised that would compete for public acceptance until 1874. The first, devised initially by a German civil engineer named Ritter who was in the employ of the Ministry of Public Works, involved the diversion of the slightly brackish waters of Lake Terkos, located about 55 kilometers to the northwest of the city. The second, devised by an English engineer named MacNeel and sponsored by the British branch of the Oppenheim investment bank, involved damming the waters of Kağıthane which feed into the Golden Horn, and turning the area of Alibeyköy into a large reservoir.\(^{193}\) The waters would then be pumped with steam engines to Pera and Galata. The infeasibility of this scheme, including health concerns over the creation of large body of standing water so close to the city and the flooding of agriculturally valuable land, led to a compromise solution: pumping machines were installed at Kağıthane to divert water to the already extant Taksim water delivery system. While initially functional, the lack of a reservoir soon meant that the waters of Kağıthane became dangerously depleted, and the scheme was abandoned after the machines suffered several mechanical failures that rendered them inoperable.\(^{194}\) With the failure of the Kağıthane project, focus returned to the idea of diverting water from Lake Terkos: once again two separate schemes were envisioned. Baron Haussmann, who had been dismissed from his duties of renovating Paris in 1870 due to an accounts scandal, tendered a project for diverting the Karamandere River (the source of Lake Terkos) towards the city; another scheme, a joint project of the palace master of ceremonies Kâmil Bey and the engineer Ternau Bey, involved diverting water from the edge of the Lake itself.\(^{195}\) In 1874, perhaps due to their palace connections, Kâmil Bey and Ternau Bey succeeded in receiving an imperial concession to establish and operate a company that would bring water from Lake Terkos, and, as such, during that year *La Compagnie des Eaux de*

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192 Ibid.
193 Kazgan, *İstanbul'da Suyun Tarihi*, 27.
194 “La Question Des Eaux,”
*Constantinople* was officially chartered. While much debate had occurred in Levantine newspapers during the previous two decades of inaction, this was nothing compared to the vociferous attacks which took place in both the Levantine and foreign press when a plan was finally decided upon.

Almost immediately, supporters of the Haussmann plan began to flood the *La Turquie*, the *Levant Herald*, and even *The Times* with (often anonymous) editorials, using hygienic discourse to criticize their competitor’s plan. Upon the announcement of the concession, Kâmil Bey and Ternau Bey commissioned John Frederick Bateman, a famed British hydraulic engineer who had constructed the waterworks of Manchester and several other cities, to produce a report on the feasibility of the project and the cleanliness of the lake water. This article, published in *La Turquie*, immediately drew criticism from opponents of the new company, who commissioned their own expert — the chemist Edward Frankland, who was a noted expert on water quality and was well-known throughout Europe for his discovery of helium — to produce a contrary report in the *Gazette Medicale d’Orient*. A “war of experts” ensued, with each side using the new discourse of microbial theory in an attempt to sway investment money to or away from the Lake Terkos project — articles critical of the project were written in both the *Gazette Medicale d’Orient* and the *Financier*. The Compagnie des Eaux, attempting to trump Frankland, asked the Ottoman surgeon-general (and later founder of the Turkish Red Crescent) Marko Pasha to conduct a hygienic examination of the lake’s waters. In July of 1874, the concession was announced in *The Times*; almost immediately, a critical letter was published under the pseudonym of “An Old Constantinopolitan,” which claimed that the brackish waters of the lake were unfit for human use, that the project had already met “great local disfavour” and was about to be cancelled due to lack of investment, and that a far more hygienic project, “at less than half the capital cost” was already in the works. A response to this letter, written by E. Heim of the Austro-Ottoman Bank (one of the early investors in the *Compagnie des Eaux*), claimed that the critiques of “An Old Constantinopolitan” were an “invention,” and that the anonymous author’s concerns for Istanbul’s public health were insincere. To prove the waters of Lake Terkos were sanitary, Heim commissioned another letter from Bateman; in his letter, Bateman argued that while the waters “were not agreeable to my fastidious taste,” they were nevertheless “as good or

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196 Geyikdağ, *Foreign Investment in the Ottoman Empire*, 111.
better than the best water in Constantinople.” Bateman continued by explaining that concerns over the lake’s brackishness were unfounded, as this could be easily solved by blocking the lake from the sea, and that he had found no evidence of the “slime” claimed by the company’s opponents. Finally, he countered claims that the lake was filled with the raw sewage of local villages by remarking that, while a few hundred people lived in the vicinity of the lake, “what mischief can they do compared to the millions of people who live in the valley of the Thames, from the water of which more than half the city of London is supplied?”

In a final response by “An Old Constantinopolitan,” the writer continued to claim that the water was “totally unfit for human use,” and that “the public needs neither medical nor engineering opinion to estimate the quality of water from an estuary of the Black Sea.”

Both Bateman and Marco Pasha’s reports were again heavily criticized, when English translations of these reports were published in the Levant Herald in September. Adolphus Slade, one of the critical writers, went so far as to implore the newspaper to use its influence to oppose the “malevolent scheme of bringing Dercos water to Constantinople,” arguing that the Ottoman state had been “misled by financiers’ sophistry and engineers’ fanciful reports” and were in the process of poisoning Pera and Galata with unsanitary water. Surprisingly, Slade then went on to praise the Ottoman water system, writing that “Stamboul water” from the Ottoman aqueducts was the equivalent or better than the best waters of England, and that London water “was only fit for washing dirty linen in.” Slade recommended that the Ottomans abandon the scheme of private water, and instead work to “repair the bendts” and “clean and renovate the conduits,” which would provide the city with an “abundance of the precious fluid.”

Defenders of the Ottoman system were rare, yet they testify to the diversity of opinions among Levantine inhabitants of the city. Critical articles continued to be written, including a particularly detailed editorial in La Turquie, dating September 1874, however, the precarious financial situation of the Ottoman Empire meant that, ultimately, whichever project could attain the most investment would be approved by the state.

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201 Slade, “The Water Question,”
202 Michal, “La Question Des Eaux,”
3.5 **Private Water Companies in Istanbul**

The financial state of the Ottoman government had become increasingly unstable following debts taken on during the Crimean War. Despite attempts at funding the war through the printing of paper bills, the Ottoman Empire was ultimately forced to pay for the war by, for the first time, contracting foreign credit in the form of two major loans from Dent, Palmers & Co., and Rothschilds of London in 1854 and 1855, respectively. Because of European fears that the Ottomans would “waste” the money, a Franco-British commission was established in 1855 to monitor Ottoman spending; this established a precedent that would come to haunt the Ottoman state in coming decades. Eager to build Ottoman credit, an Ottoman state bank backed by French and British capital was founded in 1856; nevertheless, as the government came to rely more and more upon loans to cover its expenses (as well as pay for the interest on previous loans), it increasingly bypassed the state bank in favour of receiving credit directly from foreign lenders. By the 1870s, more than half of the state budget was allocated to paying foreign debt. In October 1875, this situation had become completely unsustainable, and the government defaulted on its debts, declaring formal bankruptcy in March of the following year. This bankruptcy, coupled with multiple uprisings in the Balkans, led to a political crisis which caused the collapse and deposition of the government of Sultan Abdulaziz I (r. 1861-1876), and forced the reign of his successor Murad V (r. 1876) to last only three months. Upon the ascension of Abdulhamid II (r. 1876-1909), in an attempt to both calm the political turmoil and reassure European governments, the Young Ottomans proclaimed the first Ottoman constitution was created a bicameral parliamentary system. Russian intervention in the Balkans caused the First Constitutional Era to be brought short; by 1878, the constitution had been suspended and the Imperial court under Abdulhamid II had assumed dictatorial control over the state. In 1879, the government reached an agreement with its local creditors to cede control of “indirect revenues from stamp, spirits, and fishing taxes, the silk tithe, and salt and tobacco monopolies” in order to settle its debt; the success of this scheme angered foreign creditors, who demanded to likewise be repaid. In 1880, the agency for the Administration of the Ottoman Public Debt was created, which assumed direct control over a fifth of state revenues for the purpose of settling the Empire’s foreign debt.

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205 Ibid., 442.
The establishment of the Administration constituted “a severe blow to Ottoman pride and sovereignty,” and “a steady flow of western capital started to penetrate the Ottoman market at an increasing rate [...] in ways that entailed a greater control over some of the most crucial sectors of the economy” — a process Edhem Eldem described as “much akin to imperialism.”

European and Levantine investment banks quickly looked for opportunities opened up by these concessions; in 1882, with the approval of the Public Debt Administration as well as the backing of “La Societe Generale de L’Empire Ottoman, Camondo and Company, La Banque de Constantinople, the Oppenheim-Alberti Company, La Banque Descompte de Paris, La Banque de Paris et des Pays-Bas and AJ & Company,” the Compagnie des Eaux finally succeeded in obtaining governmental clearance to begin construction on a private water system to Istanbul. Elsewhere in the Ottoman Empire, concessions were granted to foreign water companies, often working through local intermediaries. In Beirut, the Beyrouth Waterworks Company Ltd. was founded in 1873 by British investors; the French, in turn, acquired distribution rights for the city, though in 1876 they sold these rights to the British. In Thessaloniki, an Ottoman entrepreneur named Nemlizade Hamdi Efendi obtained a concession to supply the city with private water in 1888, but was forced to sell these rights to a Belgian consortium; similarly, in Izmir, an Ottoman subject named Niyazi Bey acquired a water concession in 1893, but sold these rights to a separate Belgian company only two years later. In 1890, before the Compagnie des Eaux de Constantinople had completed their line, a separate concession was granted to supply water to the Asian side of the city; that year, La Compagnie des Eaux de Scutari et Kadikeuy was founded with backing by the Swiss.

The growth of these companies in the Ottoman Empire was aided by developments in Europe, which were turning increasingly against private water. Public outcry over private control of the water system, which left cities and neighbourhood at the mercy of sudden price hikes, intermittent supply and quality issues, and a lack of accountability, led to the creation of municipal water boards in the many of the cities of Europe to regulate private operators. In

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206 Ibid.
207 Ibid., 443.
208 Geyikdağ, Foreign Investment in the Ottoman Empire, 111.
209 Ibid., 112.
210 Ibid., 111.
Britain, for example, in 1871 the posts of Metropolitan Water Examiner and Water Auditor were established by an act of Parliament “to monitor safety standards and other ratepayer interests,” and the concept of nationalizing all water systems in the United Kingdom became a common topic of debate. Despite the defeat of numerous bills to such effect by the extensive lobbying of water companies, efforts to consolidate and regulate private water authorities continued and in 1888, the London County Council was created to eventually assume control over the city’s patchwork water supply system. Successive water shortages and contamination scandals led to the creation of municipal public water systems in cities such as Liverpool and Manchester, and the formation of a Royal Commission on Water Supply, which reported in 1900 that “it has become an almost universally accepted principle of Parliament that the water supply of urban communities should be in the hands of bodies directly representing the people.” Two years later, with the Metropolis Water Act 1902, London’s private water companies were merged into a public utility. Similar processes occurred throughout the industrialized world; in Paris, which suffered its own “Great Stink” in 1881, sanitation reforms under the prefect Eugène Poubelle resulted in heavy regulation of Parisian private water companies, as well as landlords and new constructions, in order to maintain proper hygienic standards. In New York, the water authorities of the five boroughs were consolidated in 1890, and a public Board of Water Supply was drafted in 1905. With easy access to drinkable water now seen as a hygienic necessity, water was transferred from a private interest to “a public good, a necessary precondition to participation in public life and material emblem of citizenship.” Drinking water became seen as a force for social betterment, and the influence of the Temperance Movement in Britain and America—which used hygienic discourse mixed with Protestant moralizing to advocate for the drinking of water instead of alcohol among the poor—led to the construction of public water fountains with religious symbolism throughout cities such as London and New York. Public water soon came to be considered as an essential feature of “civilized,” “modern” society, despite several centuries of private water supply; public water soon became “deeply implicated in the grand narrative of modernity where the nation state was the central agency in a story of human advance, known as

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211 Spar and Bebenek, “To the Tap,” 687.
212 Ibid.
‘progress.’” As Maria Kaika writes, “modernization in Europe and North America was inseparably linked with industrialization and capital accumulation,” as well as a “cultural process of constructing a common identity for the industrialized world: the identity of the West.” Yet the increasing regulation and municipalization of water supply in Western Europe and North America produced very different results elsewhere in the world. Private water companies soon sought to expand their operations to Russia, the Middle East, Asia and Africa, particularly within in colonial contexts where they could be assured a loose regulatory atmosphere, cheap labour, and the backing of colonial authorities. These companies employed similar tactics, utilized similar discourse, and tended to employ a “one-size-fits-all” policy of privatization, regardless of local conditions — indeed, many of the private water companies established in this period, despite being located in different cities, countries, and cultural contexts, employed the same individuals, were sponsored by the same investors, and were led by the same management personnel. As an example, J.T. Carbonell, the director of the newly-minted 1873 Beyrouth Waterworks Company, the next year also took on the directorship of the Saratov Waterworks Company in Russia, and continued to take on involvement in other waterworks projects throughout the world. Even as public water was becoming a symbol of modernity in the West, in the East, corporations continued to claim that water privatization was the only viable path forward for providing clean, hygienic water. These companies, having the lost the battle against municipalization in the West, continued to lobby against public water in the rest of the world, where weaker governments often lacked the resources to fight back. In Russia, private water companies “retarded Russia's ability to deal with public health and the urban environment,” and as “municipalities abdicated responsibility to private enterprises; real reform of public health measures on a larger scale would wait decades.” A similar process was occurring within the Ottoman Empire.

The period after the establishment of the Public Debt Administration was marked by a massive increase in efforts to commodify water in the Ottoman Empire, and to restrict the

delivery of “clean” water to paying customers; it also, concurrently, marked an intensification of
efforts to label Islamic hydromentality as “unhygienic,” “unscientific” and “primitive,” and the
Ottoman water system as “decaying,” “backward,” and “insufficient.” These companies had a
vested capital interest in the denigration of Ottoman water, and Istanbul’s fountains were hardly
immune from these efforts. With the Lake Terkos waterworks becoming operational in 1885, the
Compagnie des Eaux de Constantinople finally began delivering water to the city. Yet it became
increasingly clear that the Compagnie did not intend to focus on the entire population, but rather
primarily on the largely European neighbourhoods of Galata and Pera; indeed, as one of the
company’s engineers remarked, “too much reliance must not be placed upon the whole of the
native population, amongst a large portion of which great poverty prevails, taking the Water.”
Instead, he argued, “the Company will have a far greater sale for the Water in the European than
in the native quarter of the town.” Private water from the Compagnie was intended as a status
symbol, a sign of modern and Western identity, and not necessarily a public good; indeed, the
pipe system for the water initially targeted not the areas of greatest population, but rather the
city’s most “European” locations, foreign embassies, the city’s grand hotels and shopping
arcades, churches, and the German and Italian hospitals. The construction of fee-based piped
water exacerbated class divisions within the city, both between rich and poor Levantines, and
between Ottomans of the upper bourgeoisie who could afford such a “modern” convenience, and
the vast majority of the city’s population which continued to make do with the city’s Ottoman
system. In order to stimulate demand and encourage subscription, the Compagnie soon began a
full-out propaganda campaign against the city’s fountain water which, as a free alternative to
piped water, constituted the company’s primary competition. According to Necla Geyikdağ, “in
order to increase its customers, [the company] asked the state to close heavily-used public
fountains in certain regions,” employing hygienic experts to claim that fountain water
represented a “health hazard” to the greater population. Employing the same medical-scientific
terminology it had utilized in the newspaper debates of the 1870s, the Compagnie submitted
several medical and chemical reports to the Ottoman government in support of its position.

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218 Dinçkal, “Reluctant Modernization,” 684.
219 Ibid.
220 Ibid., 687.
221 Ibid., 689.
222 Geyikdağ, Foreign Investment in the Ottoman Empire, 111.
Curiously, the same experts who had deemed the waters of Lake Terkos “not agreeable,” but nonetheless fit to drink, now claimed that fountain waters drawn from the springs of Belgrad Forest represented a grave danger to public health. Even more strangely, this occurred at the same time that foreign-owned bottled water companies, which continued to market their product as a highly beneficial medicinal tonic, were simultaneously boasting about the “curative properties” of Turkey’s “untapped” natural springs in medical journals such as the Gazette Medicale d’Orient.223 When, as we shall see, the government of Abdulhamid II did not fully comply with the recommendations of these reports, the Compagnie began to threaten to cut off water to the city.224 The “deceitful actions” of the water company, along with its usage of “cheap, obsolete technology” — despite its claims to modernity — meant that public opinion of the Compagnie quickly plummeted.225 The operations of the Swiss Compagnie des Eaux de Scutari-Kadiköy on the Anatolian side of Istanbul were considerably more well-received, perhaps because this company did not threaten to deprive the city of water on the basis of a dispute with the government; yet both companies nevertheless had a vested interest in the destruction of Istanbul’s Ottoman fountain system, and worked towards that end. The actions of these companies, however, did not go unchallenged. For both European travellers and the Ottoman state, the fountain possessed powerful symbolism that — despite the traveller’s desire for comfort and the Ottoman state’s desire for modern infrastructure — complicated its position in late Ottoman Istanbul.

3.6 The Changing Discourse of Fountains by European Travellers

While Levantine and European capitalists were the first to bring the water question to the forefront of the Ottoman intellectual discourse, European travellers to Istanbul — that is, the tourists, guidebook writers, and travel narrative authors — were not merely bystanders to the changes brought on in the nineteenth century. In fact, as Mark Mazower argues, their presence in the city in ever-growing numbers, along with their literary contributions, was an influence that altered the city itself.226 Especially by the middle of the nineteenth century, there was a rapid growth in travel to the Ottoman Empire, in part due to the ease of travel offered by the steamship

223 “Quelques Mots sur les Eaux Minerales Ferrugineuses,” Gazette Medicale d’Orient, August 31, 1875, 1.
224 Geyikdaği, Foreign Investment in the Ottoman Empire, 111.
225 Ibid., 112.
226 Mazower, “Travellers and the Oriental City,” 60.
and railways, and also because the growing desire for leisure by those classes whose buying power had rapidly expanded in industrial Europe. These conditions, coupled with a large increase in popular literacy over the course of the century, encouraged the development of a new genre of travelogues, categorized as handbooks or guidebooks. Unlike earlier travel narratives, these handbooks were meant to provide a “matter-of-fact” style of information, where the conditions of travel and accommodation, customs and formalities, and other practical information was provided in a systematic format in order to facilitate the new tourism industry. Writers were also increasingly concerned with conveying the experience of travel in itself, describing it as an opportunity for meditation, reflection and a testament to one’s ability to journey to the unknown.

When writing about the East — the Ottoman Empire, and Istanbul in particular — authors of guidebooks had a vested interest in displaying Istanbul as a uniquely “Oriental” city, and did so by rousing the traveller’s emotional response to the city’s “exotic” scenery and lifestyle. In other words, “spatial forms came into view as a crystallisation of the distinctive features of the ‘oriental’ society.” A favourite topic of guidebooks was the “uninhabited world of monuments,” which tended to involve taking spaces out of their lived context, and presenting a static, immovable city. Because travellers could distance themselves from the trivial aspects of everyday life and work, they were apt to “read” the picturesque image onto the city. Changes to the city, including particularly modernization and Europeanization, were considered encroaching upon their idea of the city, and as “inauthentic” and “cheap” imitations of familiar Western sights. While European travellers expected modern comforts in their hotels, they wished the rest of the city to resemble their image of the timeless East; as such, when witnessing the city’s modern infrastructure, they “at one time [were] applauding the benefits for the travellers” accommodation, at another deploring the alteration of the oriental identity of the city or to mock its “occidental gloss.”

Istanbul’s fountains were a major part of the city’s “Oriental” image. While the Ottoman fountain was always considered an exotic and unfamiliar type in European travel narratives,

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229 Ibid., 56.
subtle shifts in discourses surrounding them occurred in the era of mass tourism, and with the fountain’s expected obsolescence. No longer considered a model for Europe, fountains came to be representative of the backwardness of the Ottomans, and indeed were often described as relics from the medieval era, associated with simple, pre-industrial life. The fountain was taken outside of its contemporaneous technological context, and instead the consensus of guidebook and travel writers of the later nineteenth century was not only that Istanbul was suffering from a grave water shortage, but that this had always been the case. At once the product of, and the producers of Orientalist discourse, guidebooks and travel narratives soon began to repeat the same Orientalist stereotypes perpetuated by the city’s foreign-backed water companies: that fountain water was unsanitary, unhealthy and dangerous; that fountains were obsolete and backward technology, worthy only as Oriental set-pieces; and that the piped water network owned by *La Compagnie des Eaux de Constantinople* solved, once and for all, what centuries of Roman, Byzantine and Ottoman construction could not: the problem of supplying dependable clean water to the city.

Yet the piped water system installed by the *Compagnie* was hardly a tourist attraction. Despite the fevered debate which piped water inspired in local newspapers, for European travellers, piped water was old news; it was quite familiar to those classes who could afford to travel, and the debates which surrounded water privatization were of little interest to travellers who had experienced the same conversations at home. Indeed, there was little discussion of the newly established water systems of Istanbul in guidebooks and travel narratives to time — generally, it was only mentioned in passing, and it was almost never considered a subject of interest on its own. Instead, the focus of these traveller’s guides was the city’s aqueducts and the fountains.

Numerous travel guides and handbooks were produced for travellers to the East in the nineteenth century; perhaps the most popular of these was the John Murray’s Handbook for Travellers series, published by the Murray family’s own company. Their first guidebook to include Istanbul was published in 1854 by John Murray III, and after that year new editions were periodically revised and re-released to provide up-to-date information. In general, new editions rarely contained substantial changes — only the more variable details, like hotel and restaurant

information, was regularly updated — and what changes were made tended to mostly reflect the changing tastes of the handbook’s users. As an example, early Murray’s editions contained a great deal of moral advice and a considerable amount of long quotations from earlier travellers, as well as excerpts from poetry or even classical literature. As the century continued and the middle classes engaged in more travel, however, the writers of the handbook no longer could expect their readers to have the considerable knowledge of Latin and Greek to understand their more obscure classical references, and the guide began to focus on more practical information.

Though the Murray family would ultimately wage a losing battle with their competitors, who had better sensed the needs of the growing middle-class market, they nevertheless produced a successful run of guidebooks about Istanbul from the 1840s until 1907.

The subject of Istanbul and its environs was present in several of Murray’s Handbook titles, including *Mediterranean: Its Cities, Coasts, and Islands; Constantinople, Bursa, and the Troad; Turkey in Asia Minor, including Constantinople; A Handbook for Travellers in Turkey;* and *Constantinople: The Bosphorus, Dardanelles, Brousse & Plain of Troy.* Istanbul’s water system was a frequent topic of discussion in these books; in general, however, the sections on Istanbul’s water system in all of these titles were more or less copied verbatim, with minor changes in structure. In the first edition of *A Handbook for Travellers in Turkey* (1854), the fountains of Istanbul were described as both technical and artistic achievements, and praised as beautiful ornaments to the city. The book extensively celebrated Sultan Mahmud I for his contributions to the aqueduct system, remarking that the Aqueduct, built by Sultan Mahmood in 1732, supplies the suburbs of Pera, Galata, and Beshiktash with water, and is a grand hydraulic work, worthy to rival those of the Byzantine emperors; nay, it may be said that Sultan Mahmood I deserves higher praise than Suleiman the Great.

Notably, the book praises the aqueduct not as merely an aesthetic or touristic site, but rather eulogizes it as symbol of good governance. This exact text was utilized again in the Istanbul section of the *Handbook for Travellers in Constantinople: The Bosphorus, Dardanelles,*

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231 Ibid., 356.
In both these books, the water supply system of the city was praised, and there was no mention of a dire water shortage or any kind of systemic insufficiency. Fountains in these books were discussed as part of the greater narrative of Islamic water usage; the handbooks ascribe the city’s fountain culture to water’s centrality in Islam, and the Qur’anic phrase “By water everything lives.” Yet the infrastructural and social quality of the fountain was also emphasized. The handbooks describe how fountains were rated based upon the quality of their water, and how fountains with the best waters were sites worthy of visit. In fact, the book actually recommends a particular fountain — “Simeon’s fountain,” located near Topkapi Palace — as the best in the city, and remarks that the water, having been analyzed by the physicians of Mehmed II, was declared the only one fit for the imperial court. The books describe the water as a public good and a charitable enterprise, but remark that when poorly maintained the water can turn “poisonous,” or become filled with leeches; it advises travellers to ask the local residents, who can identify which fountains are well-maintained and healthy. Istanbul’s water system, and the fountains in particular, were seen as symbol of good government, religious piety, and as an excellent opportunity for travellers to experience Turkish hospitality and the Eastern lifestyle.

By the 1893 edition of John Murray’s Handbook, however, the story had completely changed. Not only was Constantinople’s water system now described as backward, inefficient, and unhealthy, the author frames the narrative as if it has always been as such, writing:

The natural water supply of Constantinople must always have been small and insufficient for the population; and from the time of Hadrian to the present day Emperors and Sultans have endeavoured to secure a good and constant supply by bringing water from a distance.

In this passage, the author of the 1893 book seems to have been directly influenced by the discourse of Istanbul European-language press, and by the campaigns of the city’s private water

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235 Ibid.
236 Ibid, 16.
companies; indeed, even the timeline presented, beginning with the Romans and skipping over the city’s Byzantine and Ottoman waterworks, seems to have been drawn from articles such as those in *La Turquie* and *La Gazette Medicale*. To avoid contradiction, the 1893 edition excises the passage praising Mahmud I’s aqueducts that had been carried on through the 1854 and 1871 editions; there was no more discussion of “great hydraulic works.” In fact, they were merely repeating academics and commentators of the time, who wrote, among other things, that “until a few years ago Constantinople possessed no true water-system.” Likewise, the passages on drinking water from the fountains, and on the fountain’s other positive qualities, was removed. In its place was a short passage which said:

The Cheshmeh is a monument, more or less ornamental, which is usually attached to a wall that conceals a cistern, whence water runs out through one or more sprouts like an English public drinking fountain.  

Suddenly, the çesme had become a mere decorative object, and one which was no longer a symbol of Islamic or Ottoman governance; rather, it was simply a (perhaps inferior) version of the familiar public fountain. Disregarding that the Ottoman system had predated those of England by centuries, or that the Ottoman fountains served an entirely different social purpose — for example, the “temperance” aspect of the English drinking fountain was unknown in Turkey — the guidebook now considers the fountain to be hardly worth elaborating upon. Indeed, rather than discussing the fountain on its own terms, it was now usually described in reference to an imagined “primitive” past; as Van Millingen wrote in 1895, the fountain “took one far back in the ways of the world, and was a bit of the country in the town.” The fountain was also discussed in light of the new hygienic discourse; Badaeker, another popular guidebook publisher, wrote in its 1914 edition of its travel guide to the East that “one should be cautious about drinking water, since hygiene is unknown in the Orient.” Far from the discourse of the prior century, when the cleanliness of the city’s water was emphasized and the sanitary nature of

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Islamic practice regularly mentioned, by the early decades of the twentieth century the “Oriental” had become associated with dirt, filth, and disgusting practices.

Yet the fountain — in particular, the meydan çeşmesi — remained a major tourist draw. Even as its infrastructural usage was deprecated, and as tourists were advised not to drink the water, the fountain was still seen as a symbol of Oriental decorativeness and ornament, and the public fountain itself as a symbol of the Oriental city. The public fountain was a quintessential element of the city in the European imagination, and, along with the mosque, the bath and the bazaar, one of the elements of the urban fabric that most interested travellers and foreign observers of the city. This European fascination with the fountain not only affected the content of guidebooks; it also affected the city itself. As European tourism to the city increased, and began to contribute more and more to the local economy, the urban form of Istanbul was modified to fit the tourist’s eye; as Zeynep Çelik writes, houses and neighbourhoods surrounding touristic monuments, such as Hagia Sophia and Sultan Ahmet Mosque, were demolished to facilitate easy access and produce impressive and scenic sight-lines.\(^\text{242}\) Similar processes had occurred in other touristic cities, such as in Venice and Rome, and in some cases — for example, in Athens — much of the city was reconstructed with the idea of encouraging tourism in mind. In Istanbul, this process was intensified by European financial control over the state. Yet the Ottomans should not be seen as mere passive onlookers in this process; tourism represented a significant source of, if not revenue, at least prestige, for a state in dire straits, and the Ottoman state further possessed the desire for Istanbul to become a modern, world-class city. As such, the Ottomans were active participants in the “museum-ization” of the old city and its fountains; this process was fuelled by a conscious desire to create a touristic attraction as prominent as classical Rome or Athens.

A prominent example of how this touristic image of the Ottoman fountain affected the urban landscape of the city is the Alman Çeşmesi, or German fountain, donated to the city of Istanbul by Kaiser Wilhelm II (r. 1888-1918) in 1900. The fountain itself, a Neo-Byzantine edifice located near the Hippodrome and Hagia Sophia, represented a slightly obvious attempt to produce a “touristic site” in the style of surrounding authentic monuments; yet the choice of a fountain also showcased the influence of the image of the city produced by tourist’s guidebooks.

Wilhelm II decided to donate a structure to city as part of his negotiations to build the Istanbul-Baghdad railway, a major element of the increasing German investment in the Ottoman Empire at the turn of the century. Wilhelm quickly decided on the idea of constructing a fountain, having perhaps already an impression of the importance of fountains and water networks in the city. Yet this view was in part moulded by the handbooks and other European sources of the time. Wilhelm explicitly mentioned the regular water shortage in the city, and the suffering of the city’s residents, as his reason for choosing a fountain — despite the city’s piped water network having been in operation for about a decade at that time. Indeed, the government of Abdulhamid II proposed Nişantaşı for the fountain’s location, citing the better access to piped water and the newly developed neighbourhoods more modern atmosphere. Wilhelm had unwittingly blundered into a sensitive civic issue, proposing a monumental fountain in an era when foreign companies were actively seeking to remove public fountains as competitors, and in which the Ottoman state was intent on showcasing both its authentic classical heritage, and the city’s modern piped water system. As such, a faux-Byzantine monumental fountain was something hardly welcomed by anyone; yet, recognizing the touristic potential of the structure (and eager not to anger the German government needlessly), the Ottoman state finally approved the fountains location in Sultanahmet. The Alman Çeşmesi, emplaced in an area in which most of the former residents had been evicted, clearly did not fulfill much of an infrastructural function, and it added to the museum-ization and touristification of the city. The Alman Çeşmesi represented the tourist’s view of the city, brought to life. Yet the government of Abdulhamid II would find other uses for the city’s fountains. Having been turned into a symbol of “the Turk” by European narratives, Istanbul’s fountains would soon prove useful in the arduous task of defining what exactly “a Turk” was.

4 The Final Flow: Fountains as an Emblem of Ottomans

4.1 Post-Ottoman Cities’ Water Systems and Fountains

As discussed in the previous chapter, the symbolic value of the fountain as a symbol of the East, and as a stand-in for Ottoman civilization, was not lost on the Ottomans themselves. The fountain, as an physical representation of Ottoman governance, Islamic practice, and “Oriental” hydromentality, quickly acquired iconic characteristics throughout the Balkans and Middle East; yet the connotations of this symbolism ranged from highly positive to strikingly negative. As regions of the Ottoman Empire began to separate and form independent nation-states in the nineteenth century, a process of identity-construction and nation-building began which highlighted Ottoman-European difference. New post-Ottoman states, such as Serbia (which attained autonomy in 1815, but did not attain de jure independence until 1878) and Greece (which finalized its independence in the 1832 Treaty of Constantinople, although it functionally had been independent since 1828), embarked upon intensive campaigns to forge their heterogenous populations into a single national identity. The symbolism of the fountain, in part inspired and reinforced by European travel narratives, led these new states to begin overhauls of their urban water systems along more modern, European lines; in essence, the public fountain became a politicized object, an icon of the old order. In both Belgrade and Athens, the Ottoman fountain was criticized and neglected, yet also symbolically appropriated and reconstituted into the new national order.

As the first of the post-Ottoman states to gain effective autonomy, and as among the closest to sources of European discourse, we will first focus of the ideological development of the Ottoman fountain in Serbia, and specifically, Belgrade. The renovation of the nation’s capital was a major focus for the nascent Serbian state; the desire to have a modern, European city served to both distance the state from its Ottoman past and to define Serbia as a member of the European concert of nations. While already considered the most “European-like” city in the country, Belgrade was still largely dominated by markers of Ottoman identity by the middle of the century: the city was characterized by “a skyline of myriad minarets and domes nestled in the green of gardens and arboreta,” and was dominated by the Kalemegdan (from the Turkish Kale Meydani), an ancient fortress heavily modified under the Ottomans and located on a hill above
the town. Besides this, the city remained physically divided between Christian and Muslim quarters, and the population remained half Turkish. Modernization projects would take place throughout the century, including the creation of a regular street plan in 1867 and the building of Haussmann-style avenues throughout the city. The water system of the city similarly was the target of modernization and Europeanization campaigns.

At the start of the nineteenth century, Belgrade possessed three interconnected water supply systems — the Roman, Ottoman and Austrian. The Austrian system supplied the neighbourhoods on the slope towards the Sava River, while the system built during the Ottoman era brought water to approximately 50 public fountains, mostly located in the Turkish parts of town on the Danube slope. The Roman system conducted water to the odd places in between.245 During the years that Belgrade was governed by the Ottomans, the fountain system not only provided the population with potable water, but also acted as a symbolic display of state power. The Bulbulder fountain and the Terazisije fountain, both located in the center of the city, were in particular used as the locale for annual celebrations put on by the city’s Ottoman governors. This usage indelibly associated the fountain with Ottoman rule in the city’s imagination — as such, when combined with a European discourse in which the fountain was symbolic of Islam and the East, it is understandable that as part of Serbia’s conscious de-Ottomanization process, the fountain was soon seen as an undesirable relic of the past. Furthermore, fountain water, in accordance with the development of hygienic and sanitation discourse in Europe, soon came to be emblematic of unhygienic Oriental practice. Emilian Josimovic, an urbanist and professor in 1867 charged with the task of writing a report on how to improve and modernize Belgrade, focused particularly on what he called “the unhygienic conditions of the city.”246 Among his recommendations was a plan to create large green spaces such as parks and gardens, and to impose a “regular European national urban plan on the medieval Ottoman city,” by way of upgrading and replacing the Ottoman water structures, which had up to that point defined the direction of urban development.247 The old water system of Belgrade was not only seen as an emblem of the Ottomans, but also an obstruction to the path of modernization and nationalization

246 Ibid.
247 Ibid.
of the city. Thus, when the newly established Belgrade municipality began to make significant changes in the city’s infrastructure in the mid-nineteenth century, one of the most symbolic acts of “national resurgence” was the removal of the Ottoman Terazisije fountain, and its replacement with a European-style spout fountain. When the water supply system of the city was made public by Belgrade’s municipality in 1892, following the trends in Britain, France and other European countries, the “modernized” Terazisije fountain was the location of the announcement, accompanied by a jet stream of water shot several meters into the air. 248 Not only was the nationalization of the water system viewed as the advancement of Serbia, the point was further enhanced by using the European style fountain as the site of the pronouncement. By the end of the century, as the Serbian state began to envisage expansionist campaigns into remaining Ottoman territories, few traces of the city’s formerly extensive Ottoman fountain system remained.

The situation in Greece was in many ways similar to that of Serbia, but in the Greek case — and, in particular, in Athens — the city’s relationship with public water was even more directly influenced by European touristic discourse. As Maria Kaika has demonstrated in her book City of Flows: Modernity, Nature and the City (2005), the construction of Athens involved a negotiation between multiple forces: at once, the new Greek state (under a Bavarian king, Otto [r. 1832-1862] and with a largely foreign bureaucracy) wished to build a city on the model of its famous ancient predecessor, and which directly harkened back to a classical heritage widely appreciated throughout Europe, while on the other hand, it wished to create a modern, industrial city which would obliterate all traces of the four centuries of Ottoman rule. As Kaika writes, due to a “a lack of funding combined with the West’s fascination with bringing Greece’s classical past back to light (part of constructing a common identity for the West),” the process of watering and sanitizing the city developed into at once both a nationalizing and archeological project. 249 Greece, unlike Serbia, did not need to justify its “Western-ness” — philhellenic sentiment in Europe had already done so, and the idea of “Western-ness” itself had drawn much of its imagery from classical Greece. Yet this Western interest in Greece meant that the way Athens was developed owed much more to Western taste than was the case in Belgrade. Though Greece could count on military, financial and cultural support from Europe, this support came with

248 Ibid., 56.
249 Kaika, City of Flows, 80.
strings attached; though not a colony, Greece’s “economic dependence on Western capital placed it in a similarly submissive position within the geopolitics of capitalist expansion.” In constructing the city — which, at the time of independence, counted only a few thousand inhabitants — the state was also constructing an idealized past, one with a direct link to the ancient world and in which the Ottoman conquest never occurred. As such, the fountain, as a quintessential symbol of the Ottoman way of life, soon became deprecated in the national imagination.

Though Athens was never as well-watered as larger cities such as Istanbul and Belgrade, it did nevertheless possess many of the elements of Ottoman hydromentality common to small Balkan towns, including fountains, namazgah, and three hamams. Upon Greek independence, however, many of these structures were demolished, or fell out of use — indeed, even many Byzantine structures were destroyed, mistakenly assumed to be Turkish. As Kaika writes, “the notion of social miasma was linked not only to urban crime or to an urban underclass that was yet to be clearly formed, but also to traces that the city's Ottoman past had left behind.”

Ottoman architecture and buildings were associated with the city’s hated former rulers, and the German bureaucrats imported to run the nation were unfamiliar with their use. These structures were abandoned as both morally and physically “foreign” and “unclean”; despite this, however, the years after independence marked a severe decrease in the city’s hygienic environment. Cholera struck Athens for the first time in 1835, and returned in 1854; water was collected by individuals daily from local springs, or sold at high prices by water vendors. Furthermore, dust, a regular problem in any city with unpaved roads, soon came to represent a crisis all of its own; both European tourists and Europeans who had moved to the city to work for the government regularly complained about the city’s dust, and as such, scarce water was wasted attempting to “clear the streets” of dust.

The first attempt to construct a new water supply system for the city highlights how the city was moulded around these touristic impressions, regardless of how impractical actually producing this ideal truly was. Financed by archeological funds from abroad, the city

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250 Ibid., 108.
251 Ibid., 96.
252 Ibid.
government of Athens soon latched onto a scheme to excavate and renovate a well-known Roman-era aqueduct, the aqueduct of Hadrian, in order to supply the city with fresh water. The plan had numerous benefits — it would produce a new tourist site, connect the image of the ancient city to the modern one, supply water, and make use of foreign funds; the fact that the aqueduct had already been superseded and replaced by the (now demolished) Ottoman-era water system was not called attention to.\textsuperscript{253} For over 56 years, from 1833 to 1889, the vast majority of money intended to build a water supply for the city was spent on an ultimately quixotic attempt to reconstruct the ruined Roman aqueduct. In the meantime, the city continued to suffer from real water shortage. It was only the later part of the century, when private water companies were looking for countries in which to expand their operations, that the city finally acquired a functioning piped water system.

Though the Ottoman fountains had been demolished or abandoned, the influence of Ottoman hydromentality remained. Athenians continued to follow Ottoman legal customs regarding the ownership of water, despite those laws having been taken off the books; as Kaika writes, “the link between water rights and land ownership that had existed since the Ottoman period made the design and implementation of large-scale collective water supply projects very difficult.”\textsuperscript{254} Locals had become accustomed to expecting water rights to be bought and sold with the land; the idea of paying for water itself as a commodity was foreign and highly suspicious. In 1839, with the water crisis having become increasingly severe, the first private water company was formed in Athens, along the lines of those contemporaneously operating in Western Europe. While only proposing relatively small projects, the company, which became known as “the company of the four capitalists” soon found itself facing “immediate public criticism and outrage.” Its proposals were soon rejected by the city authorities, which labelled the commodification of water as “an excessive and hideous speculation” because it sought to “profit from selling a public good.”\textsuperscript{255} Nevertheless, from the 1870s onwards, Western European investors began to once again attempt to operate private water companies in the city; Kaika continues by saying, “Greece became one of the many fertile sites for Western capital in search of a ‘spatial fix’ — an underdeveloped geographical site that offered investment opportunities,

\textsuperscript{253} Ibid., 100.
\textsuperscript{254} Ibid., 114.
\textsuperscript{255} Ibid.
which could offset diminishing returns in regions already heavily invested in.”  

After several false starts and small projects, in 1926, the Marathon Dam and reservoir system — owned and operated by the Hellenic Water Company and financed by American capital — finally supplied the city with abundant fresh water. Athens had finally excised the specter of water scarcity. In this new era, private piped water had finally obliterated the memory of the Ottoman fountain, yet, water metering and mandatory billing signified the end of the conception of water as a “public good.”

4.2  Nationalizing the Ottoman Fountain

The association of the fountain with the Ottoman state spelled its doom in Serbia and Greece. But as these regions seceded from the Ottoman world, the remaining parts of the Empire were forced to redefine what it meant to be Ottoman. In the era of nationalism, the task of constructing a strong Ottoman identity was a difficult one. The process of constructing an Ottoman “nation” required shared symbols with which this new nationality could base itself on; symbols of Ottoman governance and lifestyle, such the fountain and public water, were particularly useful in this regard. Having been characterized as an essential element of the “Ottoman” in European travel narratives and in the greater discourse, the government of Abdulhamid II began to utilize the fountain as signifier of Ottoman identity; the fountains came under Sultanic protection, and, as such, users dependent on the fountain for fresh water became symbolically protected by, and bound to, the greater Ottoman state. With fee-based private water reaching (to those that could afford it) both sides of the city of Istanbul by the 1890s, it would seem as though the state had relinquished its authority over the water supply of the capital. Yet as water management in Europe became increasingly under public control, the “mastery of the supply and quality of water then became a testimony to the achievement of a still higher degree of civilization.”

As soon as the Ottomans completed ceding control over Istanbul’s water to private companies, nationalizing the water system had become a sign of modernity and state power.

The Ottoman state under Abdulhamid II lacked the financial ability, or even legal means, to re-municipalize water in Istanbul; such a move would have run against both the Public Debt Administration and against the European banks, companies and state investors in Ottoman water

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256 Ibid., 112.
257 Dicke and Albrow, “Reconstituting the Public-Private Divide under Global Conditions,” 233.
projects. Instead, it was the modus operandi of Abdulhamid II’s government to provide concessions, but to implement limitations or regulations that would create the illusion of state control over any public infrastructural plans.258 The Ottoman state also began to sponsor projects to create a parallel modern public water network alongside the privately-owned European one; this water network, which would come to fruition in the Hamidiye line, would utilize the latest technical achievements, but be employed in supplying water in the traditional Ottoman manner; free of charge, and to public fountains and mosques. In doing so, Abdulhamid II would both undercut his European competitors, and would use the construction of modern water infrastructure to “legitimize the state as the agent of modernization.”259

The coexistence of two water networks in Istanbul was a situation unacceptable to private water companies; as Dinçkal writes, “the free availability of well water in public places represented an attractive alternative, especially for a low-income population, to the newly established private, and costly, water supply system.”260 As mentioned previously, the water companies conducted a propaganda campaign against fountain water, labelling it “unhygienic” and attempting to use the city’s medical establishment to declare it unfit for human use. Yet the companies’ efforts to discourage the use of fountains did not end there; they also pursued legal avenues of disabling the city’s fountain system, lodging official complaints to the state.261 By setting up this dichotomy — piped water or public fountains — the foreign water companies (in particular, the more mercenary Compagnie des Eaux de Constantinople) in fact encouraged the idealization of the public fountain as a symbol of “Ottomanism.” While unwilling — and, perhaps, unable — to halt the privatization of the city’s water network, the government of Abdulhamid II was able to make these companies support, in limited ways, older Ottoman “hydromentality”; likewise, the city’s population remained suspicious of private water, and continued to utilize the city’s older network. From both the state and the people, a reaction against private water had the effect of making the fountain a point of resistance against Europeanization, economic imperialism, and global capital.

259 Dicke and Albrow, “Reconstituting the Public-Private Divide under Global Conditions,” 235.
261 Dinçkal, Istanbul und das Wasser, 131.
Perhaps aware of the growing shift towards public water in Europe, and unwilling to cede total control of the city’s water to private interests, Abdulhamid II made it a condition of the concessions granted to the Compagnie des Eaux de Constantinople and the Compagnie des Eaux de Scutari et Kadiköy that free water was to be supplied, on customary and humanitarian grounds, to schools, hospitals, mosques, fire hydrants and public fountains. The construction of new public fountains was stipulated in the contracts; twelve were built on the European side from the initial Terkos line in 1874, and when this was not considered sufficient, another 40 were constructed on both sides of the city in 1888. As Dinçkal writes, the Ottoman state was able to thus utilize “modern technologies and hygiene standards,” while securing “the enhancement and continued existence of the culturally and socially important public water supply” through mandating the construction of fountains. This imposition was not taken lightly; the companies considered these conditions as unfair and directly harmful to their profits, and regarded the city’s administration as being in breach of contract. The companies went so far as to cut off the supply water to the city’s hospitals, claiming that the usage of tap water for lavatory and cleaning purposes constituted an unnecessary wastage of their free water. Actions such as these hardly endeared the companies to the greater populace, and this, combined with a general inability to pay for the high price of private water, meant that a large proportion of the city’s users began to rely increasingly upon these free water sources, along with the older Ottoman system, for their daily water supply. To counteract this, companies launched cost-cutting measures, and also began offering free trial subscriptions. Nevertheless, despite these strategies, both companies consistently had trouble attracting customers and producing a profit.

By the turn of the century, Abdulhamid II had embarked on a project designed to further subvert the concessions he had previously given. The Hamidiye water-line, begun in 1898 and in operation by 1902, followed the path of part of the Kirkeşme water system and drew water from springs south of Kemerburgaz, conveying it to Yıldız Palace, Beşiktaş, Dolmabahçe, and other areas on the European side of the city. While following a traditional Ottoman aqueduct route, the Hamidiye line was built of cast iron pipes and pumped from its source using steam engines;

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262 Ibid., 133.
263 Dinçkal, “Reluctant Modernization,” 689.
264 Ibid., 690.
265 Ibid.
266 Pilehvarian, Urfalıoğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 132.
as such, it utilized the modern technology employed by the private companies, and even
employed some of the same medical-scientific professionals in its design. In contrast, however,
to water supplied by these companies, water from the Hamidiye line was distributed for free,
through direct lines to mosques, hospitals, military facilities and schools, as well as to a system
of 86 public fountains and another 45 fountains in the imperial complexes of Yıldız and
Beşiktaş. Dinçkal describes this system as highlighting “the religious, artistic, and prestige-
oriented reasons for the gradual modernization of Istanbul’s water supply,” for the Hamidiye line
at once undercut foreign-owned companies, helping to re-establish state pride; made use of the
latest technology, symbolizing Ottoman proficiency with the modern machinery and
architectural techniques; and, in supplying both public fountains and mosque ablution fountains,
emphasized Abdulhamid II’s status as Caliph of Islam and protector of Ottoman tradition. As
the coverage area for the Hamidiye line directly overlapped with that of the Compagnie des Eaux
de Constantinople, it was the subject of vociferous complaints by representatives of the
company, who demanded monetary compensation from the Ottoman state and Istanbul
municipality. The Ottoman state simply ignored these complaints during the construction of the
water system, and afterwards, claimed that the Hamidiye line was in fact not in breach of
contract, for the Hamidiye system was not a private piped water system and thus was not in
competition with the two companies. The Hamidiye line simply had too much symbolic and
political value to Hamidian regime to be concerned with the objections of companies which had
already lost much public support. The construction of the Hamidiye line connected Abdulhamid
II with the other great aqueduct building sultans, like Mehmed II, Suleiman I and Mahmud II; the
construction of a fountain system was even more tangible evidence of this connection.

The fountains constructed by the Abdulhamid II line further exemplified the multiple
symbolisms of the Hamidiye line. The Hamidiye fountains were built in various types, with
certain unique fountains — such as the Laleli fountain in Galata and the Şeyh Zafir Türbe
fountain in by Beşiktaş, both by the Italian architect Raimondo d’Aronco — constructed in the
latest European “art nouveau” style (see Fig. 5). These fountains, architecturally among the best

267 Ibid.
269 Dinçkal, Istanbul und das Wasser, 132.
examples of Ottoman art nouveau architecture, symbolized official awareness and acceptance of contemporary European fashion. Yet the majority of the Hamidian fountains consisted of two main types, both of which spoke to different audiences in their respective designs. The first, made of marble (see Fig. 6), were clearly inspired by florid eighteenth-century designs, with added “Oriental” elements such as pointed domes not common to traditional Ottoman architecture.\(^\text{271}\) The marble Hamidian fountains, with stylized floral decoration, mukarnas, and domes, represented a conglomeration of multiple Islamic motifs; in effect, it was a fountain built for the orientalist eye, in response to the orientalist image of the city. The marble Hamidiye fountains were, in effect, the physical manifestation of the conceptual “Ottoman” fountain that European narratives had, over the eighteenth century, constructed. The other type of Hamidian fountains were built out of cast-iron (see Fig. 7), and were instead ideologically meant for the city’s Ottoman population. Inscribed with the tuğra of Abdulhamid II, and designed in the form of a miniature meydan çeşmesi, these fountains more accurately resembled their original inspirations. Built out of a material symbolically associated with modernity, the fountains represented Ottoman mastery of European technical science; that the fountains were actually manufactured in Paris was less publicized, marked only by a small stamp where the body of the fountains was welded to the base.\(^\text{272}\). In fact, the appropriation of European technical expertise was a common tactic under the reign of Abdulhamid II; as a notable example, French technicians working on railroads were mandated to wear the fez while working, to convey the impression that native Ottomans were directing the operations.\(^\text{273}\) The engraving of the imperial tuğra upon an iron fountain wholly built in Europe served a similar purpose — to convince people of the technically advanced nature and modernizing power of the late Ottoman state. The Hamidiye fountains acted in a similar manner to the Hamidiye clock-towers which were being constructed throughout the Empire at the same time; a piece of modern technical infrastructure, built with an ostensibly Islamic purpose, which served to reorient urban space towards state power.\(^\text{274}\) This was particularly the case in the Ottoman Empire’s Arab provinces, which increasingly came to possess the character of colonized peripheries. In Arab cities such as Damascus and Beirut —

\(^{271}\) Pilehvarian, Urfaloğlu and Yazıcıoğlu, Fountains in Ottoman Istanbul, 196.

\(^{272}\) Ibid., 197.

\(^{273}\) Çelik, Empire, Architecture, and the City, 34.

and in Izmir, which, while an economic center of the Empire, was culturally and ethnically dominated by its large Greek, Jewish and Levantine population — the Hamidian clock-tower and the fountain were combined into large, monumental single structures. These syncretistic structures at once proclaimed Ottoman modernity — indeed, the one marking the start point of the Damascus-Haifa railway was decorated in bas-reliefs of locomotives — and a certain callback to tradition, with the public fountain becoming once again the focal point of public space.\textsuperscript{275} These fountains, while acting as representatives of Ottoman identity and of the Ottoman state, nevertheless referred back to an orientalist image of the East: they were designed by European architects, including the aforementioned Raimondo d’Aronco; often prefabricated in Europe; and they called to mind the European image of the exotic, Oriental fountain, utilizing architectural motifs drawn from Mughal, Persian, Moorish, Egyptian, and art nouveau styles. These fountains often explicitly employed anti-colonialist and anti-imperialist imagery: the Damascus fountain has an inscription proclaiming that now “it is the sultan-caliph who makes the decisions about highways, railroads, and telegraph lines and no longer the Europeans.”\textsuperscript{276} The irony of inscribing such a message on a structure designed and built by Europeans was surely known to the bureaucrats in Abdulhamid II’s government, but for the greater populace in the provinces, which lived under the heavy censorship of the Hamidian regime, it was perhaps an effective demonstration of Ottoman power. The Hamidian fountains — both those in Istanbul, with their two distinct forms and intended audiences, and those in Izmir, Beirut, Damascus, and other non-Turkish centers — were, despite the influence of Oriental imagery, powerful symbols for the construction of Ottoman identity. That they would be the last major fountains constructed in the Ottoman Empire testifies to the deteriorating circumstances of the Empire, and the ultimate failure of the Ottoman “nation-building” project.

The Young Turk Revolution of 1908, and the successive crises which struck the state during the Second Constitutional Era, led to an abandonment of the Hamidian fountain-building program, though smaller fountains sponsored by private individuals and foundations — and often built by ethnic Turkish architects of the “National Architecture Renaissance” movement in an Ottoman Revival style — did continue to be built in limited numbers. The years from 1911 to


\textsuperscript{276} Kreiser, “Public Monuments in Turkey and Egypt,”111.
1923, from the Italo-Turkish War through to the end of the Turkish War of Independence, were ones of severe economic strain, and in 1916 it was decided to continue the dual system of private piped water and public fountains in want of a better alternative. While both the Compagnie des Eaux de Constantinople and its counterpart on the Anatolian side of the city had been taken over by Ottoman investors shortly after the 1908 Revolution — as much due to patriotic fervour as to the low profitability of the companies for foreign investors — they nevertheless continued to operate as private competitors to the older Ottoman and Hamidiye systems. In order to compete with free public water, the companies were forced to drastically cut costs, including funding for maintenance of the water system and proper water filtration; as such, the quality of private water precipitously declined. Furthermore, as refugees from the Balkan Wars, the First World War and Russian Civil War flooded into the city, Istanbul began to suffer the consequences of a severe water shortage — something the private water companies had claimed their concessions would prevent. In 1933 and 1937, following the foundation of the Turkish Republic under Mustafa Kemal Atatürk, the new national government in Ankara formally transferred Istanbul’s two water companies back to state control. Istanbul, having experimented with the then “modern” idea of private water for more than fifty years, finally returned to a fully public system alongside most other developed cities in the Western world. This was portrayed as yet another “modernization,” as well as a sign of the Republic’s commitment to public welfare: as Dinçkal writes, “For many years after nationalization occurred, the well-remembered inadequacies of the water supply companies remained the backdrop against which the achievements of the new municipal owners were highlighted.”

In 1937, an outbreak of typhoid — though likely to have been related to poor vaccination practices, and tangential to the water system — nevertheless led to the closing of the fountains fed by the Kırkçeşme water system. In 1941, the fountains fed by the Halkali water system were similarly closed, due to the discovery of E. coli bacteria in the mains. The municipal authorities, with a strong Kemalist modernizing impulse and the collapse of Istanbul’s tourism revenue due to the Second World War, clearly saw no reason to keep the “Oriental fountain” around; as Istanbul’s mayor Lüfti Kirdar said in 1941,

277 Dinçkal, “Reluctant Modernization,” 694.
278 Geyikdağ, Foreign Investment in the Ottoman Empire, 112.
279 Dinçkal, “Reluctant Modernization,” 697.
Let us close all the fountains in the quarters, all the fountains at the corners. Water shall be at our disposal in each of our houses, at each of our storeys. The water that had been drawn with unclean hands from the fountains at the corners into unclean receptacles — this water shall belong to the past!  

Finally, in 1950, the drinking of water from all of the early Ottoman water lines was prohibited by law. Though water from the Hamidiye line was still considered safe, it was clear that the writing was on the wall for the city’s fountains; in the 1950s and 1960s, although complicated by rapid and largely unplanned expansion of the city in the era of the gecekondu, the municipality nevertheless was able to build an effective domestic water system. Though the water was — and is — heavily chlorinated and relatively unpleasant to drink, it was more than sufficient for most activities, and the city’s fountains soon fell out of use. In the end, it was the Turkish Republic, rather than a century of European commercial interests, which brought the nearly fifteen hundred year era of Istanbul’s public fountains to an end.

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280 Ibid., 699.
5 Conclusion

The 1950 prohibition of drinking water from Istanbul’s Ottoman fountains, while not always followed in practice, nevertheless marked a point of no return for the public drinking fountain as an active and comprehensive urban feature in the city. Though fountains continue to exist, in large part they act merely as relics of the past; they rarely function, have often been moved to accommodate new structures, and are poorly maintained, if not forgotten. The proliferation of public piped water mains in the latter half of the twentieth century undoubtedly brought Istanbul in common with most other major cities in the Western world. Yet, though the introduction piped water was seen as a part of Turkey’s modernization process, the poor quality of domestic tap water has resulted in a situation rather like that of the nineteenth century, in which drinking water is primarily supplied by private bottled water companies. Many of the most popular brands, such as Erikli, Alaçam, Hayat and Sirma, are fully or partially owned by large foreign multinational water companies, such as Nestle and Danone; as such, the “nationalization” of Turkey’s water mains has not stopped the colonization and commodification of Turkish water usage by Western capital interests. In analyzing the Ottoman fountain, and in particular the once extensive fountain system of Istanbul, it is important to understand who benefits from discourses such as “modernity,” and how these concepts are shaped and constructed by different actors and media. In the case of Istanbul’s fountains, nineteenth-century European travel and touristic narratives played a large role in the characterization of the public fountain as “Oriental.” As the century progressed and the process of constructing Western identity increasingly developed into a dichotomy of Occident and Orient, advanced and primitive, and clean and unclean, the city’s “Oriental” fountains became characterized as unhygienic, inefficient and anti-modern, despite having been regularly praised only a few decades before as being far in advance of comparable European infrastructure. The nature of Orientalist ideology required the Ottomans to be seen as a society in inexorable decline; as such, Istanbul’s water system came to be re-characterized as having always been insufficient, and Ottoman technological and infrastructural achievements were excised from European narratives.

The study of European narratives of Istanbul’s fountains is specifically useful, because it offers a case study of how the evolution of the discourse of “modernity” became dis-attached from actual technological or infrastructural modernity; rather, in the case of Istanbul’s fountains, and Ottoman hydromentality in general, the concepts of modern and traditional evolved to suit
European interests and self-definition, and reflected Ottoman-European power difference. Indeed, this study has attempted to contextualize discourses and narratives on water infrastructure and technology in relation to prevailing attitudes and behaviours of the time. Such contextualization can help us understand developments in infrastructure beyond simply “how” technologies developed, but also “why.” By understanding modernity has a constructed ideology, reconstituting the fountain as a piece of modern infrastructure is possible. In fact, throughout the city today, a small number of fountains can be found either being reused for their original purpose, such as the Hatice Turhan Valide Sultan Sebil ve Çeşmesi which was refurbished and put into service again in 2003, or serving a different purpose, such as the Sebil of Nuruosmaniye, restored in 2003 and functioning today as a carpet store (see Fig. 8). Fountains are being reintroduced to the city and its urban environment, albeit on a small scale and in new forms, and a promising avenue for future research will be to analyze this development in light of contemporary Turkish discourses, including particularly the rise of what has been termed “Neo-Ottomanism.”
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Figure 1: Su Terazisi Depicted by DeKay (DeKay, 1831)
Figure 2: The Fountain with *Namazgah* (Giulio, 1827)
Figure 3: View of Tophane Square and the Fountain of Sultan Mahmud I (Pardoe, 1838)
Figure 4: Column Fountain, Tarabya 1831 (Open Source, 1921)
Figure 5: Laleli Fountain (Brian McKee, 2015)
Figure 6: The Opening Ceremony for Maçka Fountain (Open Source, 1902)
Figure 7: Hamidiye Yedikule Fountain (Open Source, Nineteenth/Early Twentieth Century)
Figure 8: Sebil of Nuruosmaniye (Saglar Onay, 2009)