FROM NATURE TO PRODUCTION AND COMMERCE: SPATIAL TRANSFORMATION OF BURSA IN THE LATE OTTOMAN PERIOD

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ABSTRACT

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IN THE LATE OTTOMAN PERIOD

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The process of modernization realized in industrial, agricultural and commercial developments intensified in the Ottoman city of Bursa by reforms, regulations, and constructions driven by state interventions, foreign investments, and local entrepreneurs in the nineteenth century. The spatial transformation of Bursa was intertwined with this process under the umbrella term of urban economy. The advent of technology and new methods of production necessitated the import of new technological equipment and the export of raw materials. This also led to the construction of new buildings of industry, agriculture, transportation, and commerce as well as advanced infrastructure. These constructions realized by using natural sources such as land, sea, streams, mountains, and mulberry groves as well as technology, and by mitigating the negative aspects of natural disasters, contributed to spatial transformation in and around Bursa. The study explores how the settlements economically and spatially expanded across the close periphery and the larger hinterlands of Bursa and reached its edges that were integrated with the urban core through the construction of buildings and infrastructure. The city, thus, transformed

into a more productive and commercial city while also being transformed spatially. The study aims to discuss how the changing means of industrial and agricultural production, accompanied by changing means of transportation and commerce, formed consequent spatial transformation in Bursa during the late Ottoman period in relation to the city's specifies.

Keywords: Bursa, Ottoman modernization, spatial transformation, nineteenth century architecture

ÖZ

DOĞADAN ÜRETİME VE TİCARETE:
BURSA'NIN GEÇ OSMANLI DÖNEMİNDE MEKÂNSAL DÖNÜŞÜMÜ

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Endüstriyel, zirai ve ticari gelişimlerle gerçekleşen modernleşme süreci Bursa'da devlet girişimleri, yabancı yatırımcılar ve yerel girişimcilerin çabaları ile oluşan reformlar, düzenlemeler ve yapı faaliyetleri aracılığıyla on dokuzuncu yüzyılda güçlenmiştir. Bursa'nın mekânsal dönüşümü bu süreçle kent ekonomisi bağlamında kesişir. Teknolojinin ilerleyişi ve yeni üretim yöntemleri, yeni teknolojik alet ve araçların ithali ve ham maddenin ihracını gerekli kılmıştır. Bu gelişme, hem gelişmiş bir altyapı hem de yeni endüstriyel, zirai, ulaşım ve ticari yapıların inşa sürecini getirmiştir. Teknoloji kadar toprak, deniz, dereler, dağlar ve dutluklar gibi doğal kaynaklardan da faydalanan ve doğal felâketlerin zararlarını en aza indirmenin bir aracı olan bu yapısal faaliyetler, Bursa'nın içinde ve çevresinde mekânsal dönüşüme katkı sağlamıştır. Bu tez, yerleşimlerin ekonomik ve mekânsal açıdan nasıl Bursa kentinin yakın çevresine ve daha geniş hinterlandına doğru yayıldığı ve kentsel merkezle, yapı ve altyapı inşası aracılığıyla entegre olan sınır bölgelere ulaştığını inceler. Kent, böylece, mekânsal olarak da dönüşürken daha üretken ve ticari bir kente dönüşmüştür. Bu tez, endüstriyel ve zirai üretimin değişen yöntemleri ve bunlarla birlikte değişen ulaşım ve ticaret biçimlerinin, geç Osmanlı döneminde

Bursa'nın özgün değerleriyle ilişki içinde nasıl bir mekânsal dönüşüm oluşturduğunu tartışmayı hedeflemektedir.

Anahtar Kelimeler: Bursa, Osmanlı modernleşmesi, mekânsal dönüşüm, on dokuzuncu yüzyıl mimarlığı

To my beloved and devoted mother,

Havva Aslan

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[3] Previous a nineteenth century factory building.

[4] Previous Fabrikâ-î Hûmâyun.

[5] Previous Hüdâvendigâr Agricultural School.

[6] Previous Mihaliç *Çiftlikât-i Hûmâyun* / Karacabey *Hârâ-yı Hümâyun.*

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LIST OF ABBREVIATIONS

HGM	General Directorate of Mapping *(Harita Genel Müdürlüğü)*
SALT	SALT Research Archive
c.	circa
DH.MKT.	Ministry of Internal Affairs *(Dahiliye Nezâreti, Mektubî Kalemi)*
BEO.	Sublime Porte Document Office *(Bâb-ı Âlî Evrak Odası)*
A. MKT. MHM.	Prime Ministry Documents *(Bâb-ı Âlî Sadâret Dairesi)*
A. DVN.	Prime Ministry Documents *(Sadâret Mukâvelenâme ve Mukâvelât Defterleri)*
ŞD.	Council of the State *(Şûrâ-yı Devlet)*
Y.	Yıldız Documents
Y. PRK. TNF.	Yıldız Documents (*Yildiz Perakende Evrakı - Sadâret, Nezâret ve Devâir Maruzûtı, Ticaret ve Nâfıa Nezâreti Maruzâtı)*
Y. A. HUS.	Yıldız Documents *(Sadâret Hususi Maruzât Evrakı)*
İ. MVL.	Imperial Decrees *(İradeler)*
PLK. p.	Plans, Projects, and Drawings *(Plan, Proje ve Krokiler)*
HH.	Ministry of Imperial Treasury *(Hazine-i Hâssa Nezâreti Defterleri)*
H.	Hijri

CHAPTER 1

INTRODUCTION

1.1. Aims and Significance

The process of modernization realized in industrial, agricultural and commercial developments intensified in the Ottoman city of Bursa by reforms, regulations, and constructions driven by state interventions, foreign investments, and local entrepreneurs in the nineteenth century. The spatial transformation of Bursa was intertwined with this process under the umbrella term of urban economy. The advent of technology and new methods of production necessitated the import of new technological equipment and the export of raw materials. This also led to the construction of new buildings of industry, agriculture, transportation, and commerce as well as advanced infrastructure. These constructions realized by using natural sources such as land, sea, streams, mountains, and mulberry groves as well as technology, and by mitigating the negative aspects of natural disasters, contributed to spatial transformation in and around Bursa. The study explores how the settlements economically and spatially expanded across the close periphery and the larger hinterlands of Bursa and reached its far edges that were integrated with the urban core through the construction of buildings and infrastructure. **(Figure 1.1)** The city, thus, transformed into a more productive and commercial city while also being transformed spatially. The study aims to discuss how the changing means of industrial and agricultural production, accompanied by changing means of transportation and commerce, formed consequent spatial transformation in Bursa during the late Ottoman period in relation to the city's specifies.

The study examines spatial transformation in Bursa during the nineteenth century in relation to the three contemporary frames of industrial, agricultural, and commercial developments, by also emphasizing the roles and experiences of diverse urban actors

in this transformation, including governmental bodies, private companies, local and foreign investors and entrepreneurs, merchants, peasants, workers, travelers, etc. The focus is especially on the years from the 1830s to the 1900s as a significant period when Bursa underwent rapid and radical changes in relation to the profound changes in the industrial and agricultural production of the Ottoman Empire that necessitated advanced investments in the field of construction. **(Figure 1.2)** In this perspective of analysis, the study aims to be a comprehensive research into the urban and architectural history of Bursa during the late Ottoman period.

The main reason behind the choice of Bursa as a case study for this dissertation is related to several factors: Beyond being the first capital of the Empire, its proximity to the latter capital İstanbul, its extensive expansion towards the environs, and its industrial, agrarian, and commercial character provide Bursa as a significant example of urban and architectural analysis. During the late Ottoman period, it was an exemplary city where the innovations starting from the period of Mahmud II were implemented and many public services under the control of government were realized, and these contemporary dynamics became in contact with the traditional and natural settlement characteristics of Bursa. As a result, the choice of Bursa as a case study forms an understanding of the urban and architectural history of the city with an emphasis on natural resources that engraved the relations between the industrial, agricultural, and commercial developments and spatial transformation.

Technological developments leading to industrial and agricultural production, the improvement of urban infrastructure, the advancement in urban transportation system, and the efforts for the integration of the Ottoman economy into the world economic system had a great impact on the spatial transformation in Bursa in the urban core, the periphery, the hinterland and the edges of the city. What makes this study of spatial transformation of the nineteenth century city of Bursa distinctive is that the research seeks to understand the consequences of industrial, agricultural, and commercial developments for the reconstruction process of the city as well as the interrelations between these urban development levels.

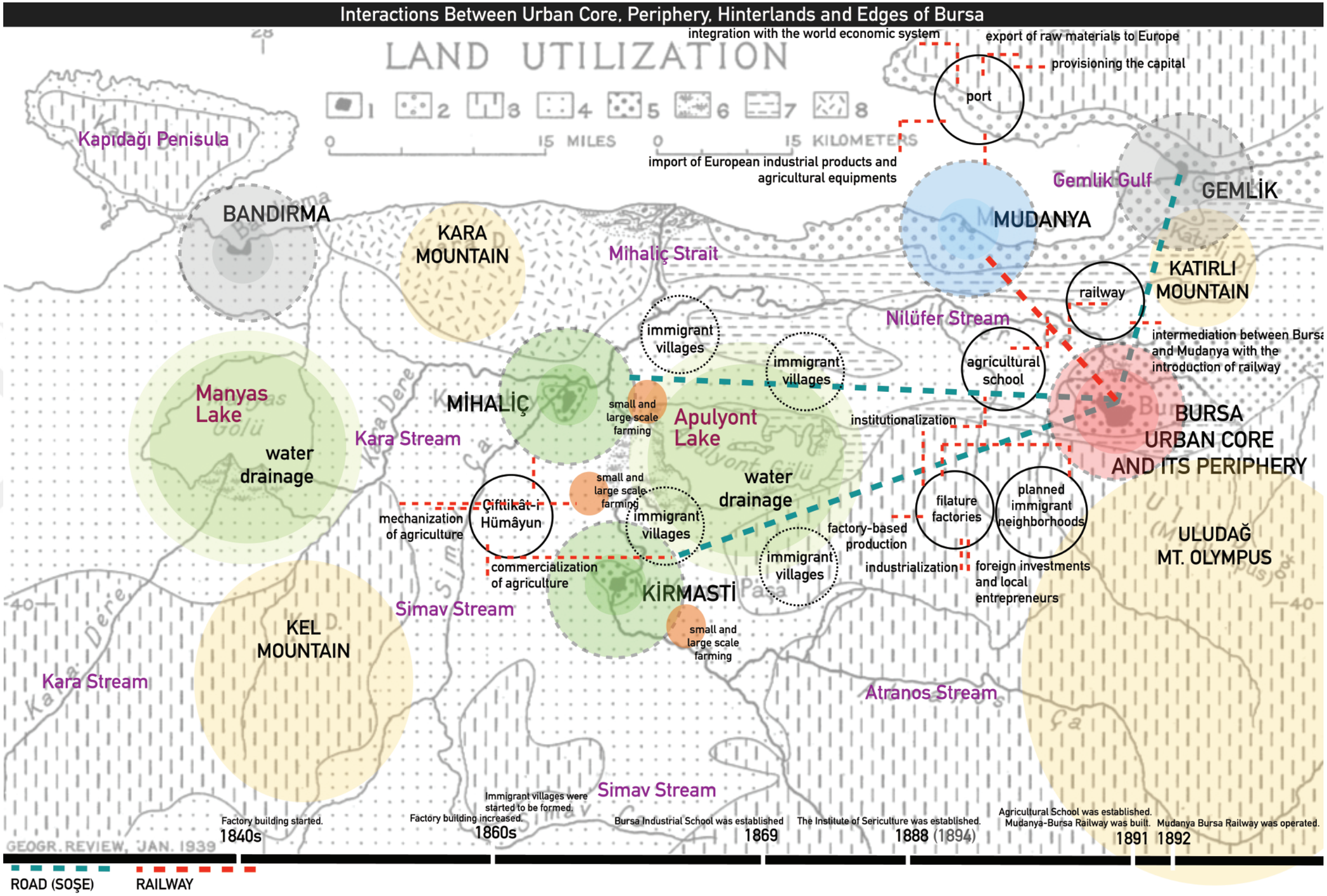


Figure 1.1 Interactions Between Urban Core, Periphery, Hinterlands, and Edges of Bursa (redrawn by the author, 2018; base map: Land utilization analysis of Stotz, 1939)

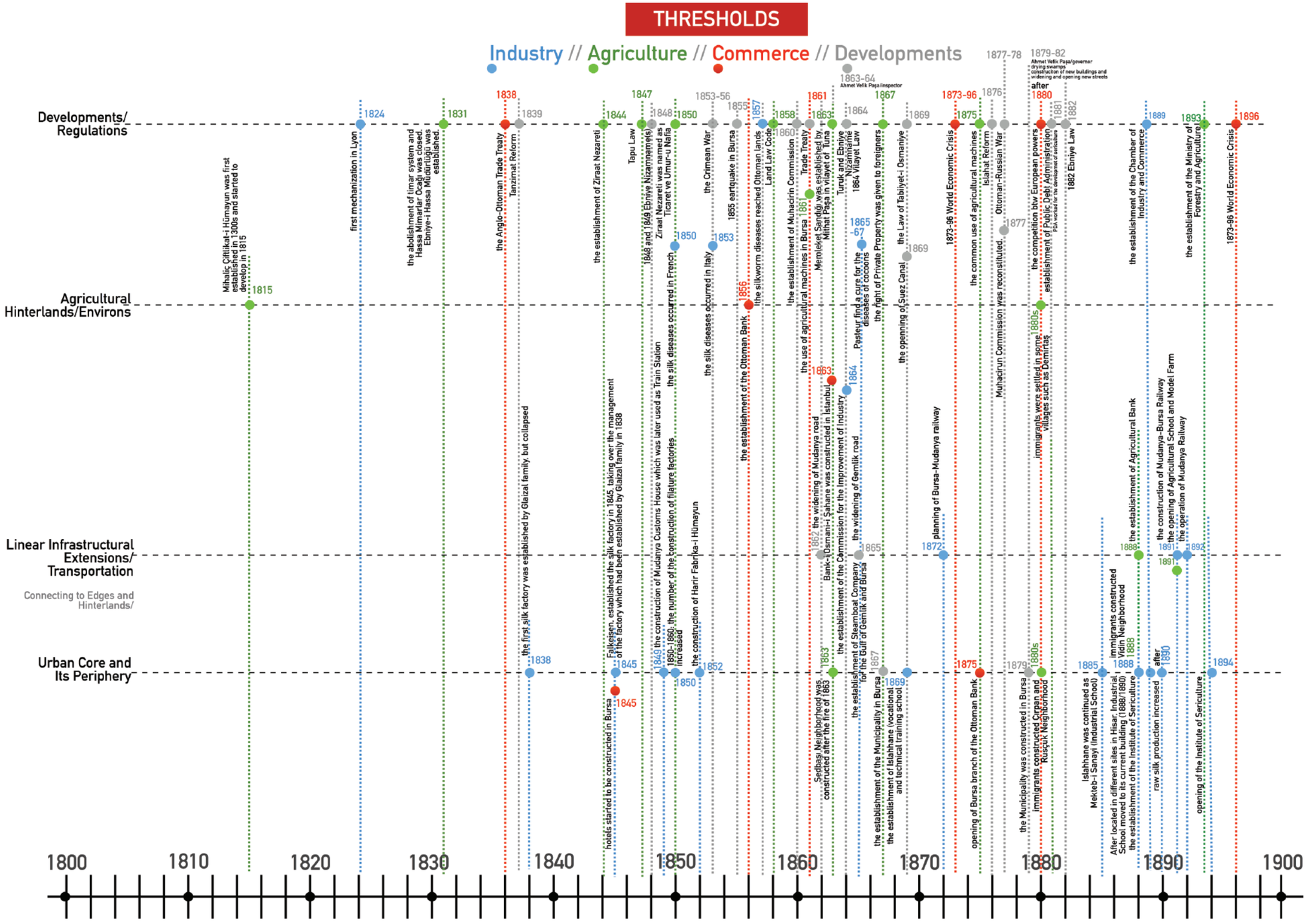


Figure 1.2 Timeline (drawn by the author, 2018)

In spite of the rising interest in the literature on the physical transformation of cities and the reflections of socio-political agencies on urban development, the exploration of the correlation between industrial, agricultural and commercial urban development levels, along with an examination of the interrelation between the economic and natural aspects of a city, has rarely been discussed in literature. Besides, public buildings like government houses, theatres, hospitals, and schools built in the nineteenth century Ottoman cities have been widely studied by architectural historians under several conceptual manners; however, organizational and spatial processes as well as the role of changing modes of production, transportation, and commercial patterns on spatial transformation have not been examined in detail.

When it comes to the nineteenth century Ottoman city of Bursa, several cases under the title of historical formation of the commercial center of Bursa, industrial heritage of the city, Bursa Agricultural School as an agricultural institution, and many other buildings have been examined by scholars as single entities. Significant dimensions behind the urban development of Bursa throughout its urban history can be listed as: (1) being a center among fertile plains and agricultural lands, (2) its relationship with İstanbul in several aspects, (3) being a significant international trade center for long-distance trade, (4) being an industrial center especially for raw silk production and silk weaving, and (5) serving as a relaxing and remedial place with its thermal springs.[1] These features inherited from the previous centuries maintained their importance especially during the nineteenth century.[2] This study aims to explore the correlation among the singular urban and architectural components in relation to such manifold dimensions that affected the development of the city as a result of contemporary concepts as urbanization, institutionalization, commercialization, and modernization as a whole during the late Ottoman period.

[1] Tekeli, İ. & İlkin, S. (1993). Osmanlı İmparatorluğu'nda 19. Yüzyıl'ın İkinci Yarısında Nafia Programları ve Teknoloji Gelişimi Üzerine. *Dünü ve Bugünüyle Toplum ve Ekonomi,* No: 3, p. 60.

[2] Ibid.

1.2 Conceptual Framework, Literature Review, and Methodology

Fundamentally, three paths of analysis are followed in order to construct and visualize the conceptual framework of the study: (1) revealing four fundamental components of discussion as nature, production, distribution of products (transportation), and commerce, (2) making an urban geographical and spatial analysis of the city, and (3) identifying the city as an expanding, producing, and provisioning urban environment.

First of all, the study is based on the acceptance that an intertwined relationship exists among nature, production, distribution of products (transportation), and commerce as the components of discussion, taking the natural aspects of Bursa as intricately connected to the developments in the fields of technology, industry, agriculture, and commerce in the nineteenth century. By using natural resources and mitigating hazardous effects of natural disasters, technological development led to an increase in industrial and agricultural production, and thereby resulting in a commercial development. These developments paved the way for the introduction of the Empire's industrial and agricultural products into the foreign market. The new modes of infrastructure and transportation systems were also the facilitators of this process. The construction of buildings and spaces, required for this process in the development of production and commerce, resulted in the urban and architectural transformation of Bursa.

Secondly, then urban geographical and spatial analysis of Bursa undertaken in the study indicates that water and land as essential natural sources were utilized in shaping the urban core, its periphery, agricultural hinterlands, and infrastructural extensions to the edges of the city during the nineteenth century. Natural resources of Bursa began to be utilized with the contribution of scientific and technological progress in the nineteenth century. Although the boundaries of the city that had been defined by complexes in the previous centuries remained prevalent, the structure of the periphery altered with the construction of factories and extended through the newly constructed roads and railways. Since land-use was always one of the main concerns of the Ottoman Empire, the peripheries of the city also expanded through

the management of land use as agricultural farmlands and immigrant villages. Although the lands outside the periphery of the city was not as densely populated as the urban core, the agricultural hinterlands also spatially transformed with the construction of small- and large-scale farm companies, scattered houses, and immigrant villages.

Thirdly, considering the urban transformation of Bursa, the study identifies the city as an expanding, producing, and provisioning urban environment. The study does not make an urban morphological analysis, but expresses the spatial continuity between the urban core, periphery, hinterlands, and edges of the city by identifying the process of expansion. The strong continuity between the core, the periphery, and the hinterlands was established by the use of nature and technology to develop production and commercial relations, providing a new scale for the producing and provisioning characteristics of Bursa during the nineteenth century. The developments in the fields of industry and agricultural production allowed the city to provide provisions to the capital, other Anatolian cities, and European cities.

The urban and infrastructural processes of Bursa accelerated through the utilization of nature and technology, which resulted in the growth of production. Within this process, the urban core and its periphery were reshaped via mainly industrial production; the hinterlands were formed via agricultural production; and the city edges were structured for the distribution of products via roads, bridges, and railway crossing the land and meeting water. The process culminated in advanced commercial activities beyond the ports at the city edges. The study offers a new scale for the reevaluation of Bursa in this conceptual framework in order to evaluate its spatial transformation during the late Ottoman period.

Examining the urban and architectural history of the Ottoman city of Bursa in the nineteenth century, the study gets use of the existing literature on contemporary stylistic features of buildings or new building typologies. However, there is also a group of studies of further contribution to the discussion of the study, dealing with new perspectives to spatial analysis of the period by focusing on the infrastructure, urban networks, and environmental concerns. Thus, the literature on urban,

architectural, environmental, and economic history are interpreted in an interrelated frame of analysis in the study.

Initially, studies on urban and architectural history act as a springboard in the construction of the current study. Considering architecture and city as a whole context, the studies on urban and architectural history of the Ottoman Empire have comprehensively discussed the construction activities, urban renewals, and renewed economic prosperity in the second half of the nineteenth century cities.[3] The most prominent ones in these terms are *The Remaking of Istanbul During the Nineteenth Century* by Zeynep Çelik and *Ottoman İzmir: The Rise of a Cosmopolitan Port, 1840-1880* by Sibel Zandi-Sayek.[4]

When it comes to the literature especially on the urban history of Bursa, three significant comprehensive encyclopedias covering a wide range of information on its

[3] Also see the recent books that are also significant contributions to the literature on the lateate Ottoman architecture: *Geç Osmanlı Döneminde Sanat Mimarlık ve Kültür Karşılaşmaları* (2016), edited by Gözde Çelik; *Osmanlı Hükümet Konakları* (2016) by Yasemin Avcı; *Osmanlı Mimarlık Örgütlenmesinde Değişim ve Dönüşüm* (2011) and *Osmanlı Mimarisinin Temel İlkeleri* (2015) by Oya Şenyurt; and *Osmanlı'dan Cumhuriyet'e Salgın Hastalıklar ve Kamu Sağlığı* (2017), edited by Burcu Kurt and İsmail Yaşayanlar. While Avcı scrutinizes especially governmental buildings and Şenyurt analyzes especially government houses, military barracks, schools, and police offices, Çelik comprises articles dealing with not only governmental buildings but also the spaces of production such as industrial buildings and Kurt and Yaşayanlar highlight health institutions, also including an environmental dimension. The conceptualization of three Ottoman architectural principles, "the continuity of the familiar and traditionalism", "thinking related to language and written documents", "utilitarianism: converting/re-functioning/economic concerns" in Şenyurt's book, *Osmanlı Mimarisinin Temel İlkeleri,* is a significant contribution in terms of not only establishing links to the classical Ottoman architecture but also understanding the relations between the Ottoman thoughts on economy and architecture. Additionally, the book *7 Centuries of Ottoman Architecture "A Supra-National Heritage",* edited by Afife Batur and Nur Akın (1999) is also insightful, including several stimulating articles[3] about late Ottoman cities and architecture. In this book, see especially the articles studying urban transformation: Pierre Pinon's *Attempted Typology of Urban Fabric of Ottoman Towns of Anatolia and the Balkans*; Cânâ Bilsel's *The Ottoman Port City of İzmir in the Nineteenth Century: Cultures, Modes of Space Production and the Transformation of Urban Space*; and Neslihan Dostoğlu and Elif Özlem Oral's *The Physical Transformation of the Ottoman Capital of Bursa from* Tanzimât *to Republic.*

[4] Also see: Çelik, Z. (1986/1993). The Remaking of Istanbul: Portrait of an Ottoman City in the Nineteenth Century. Seattle and London: University of Washington Press; Eldem, E. (1999). Istanbul: From Imperial to Peripheralized Capital. In E. Eldem, D. Goffman, & B. Masters (Eds.). *The Ottoman City Between East and West: Aleppo, Izmir, and Istanbul.* UK: Cambridge University Press; Çelik, Z. (2008). *Empire, Architecture, and the City French-Ottoman Encounters, 1830-1914.* Seattle and London: University of Washington Press; Zandi-Sayek, S. (2012). *Ottoman İzmir The Rise of a Cosmopolitan Port, 1840-1880.* Minneapolis London: University of Minnesota Press; Hanssen, J., Philipp, T., & Weber, S. (Eds.). (2002). *The Empire in the City: Arab Provincial Capitals in the Ottoman Empire.* Beirut and Würzburg: Orient-Institut der Deutschen Morgenländischen Gesellschaft; Keyder, Ç., & Quataert, D. (Eds.). (1994). *Port Cities of the Eastern Mediterranean 1800-1914.* Cambridge: Cambridge University Press.

history, social life, and economic situation are *Bursa Ansiklopedisi* written by Akkılıç, and *Bursa Anıtlar Ansiklopedisi* and *Bursa Ansiklopedisi* by Raif Kaplanoğlu.[5] The dissertation of St. Laurent, titled *"*Ottomanization and Modernization: The Architectural and Urban Development of Bursa and the Genesis of Tradition 1839-1914,*"* and the article "Bir Tiyatro Amatörü: Ahmet Vefik Paşa ve 19. Yüzyılın Son Çeyreğinde Bursa'nın Yeniden Biçimlenmesi" both examine urban and architectural transformation of Bursa in the nineteenth century.[6] While the latter analyses the role of the governor Ahmet Vefik Pasha in the rebuilding process of the city, the former investigates the city under the concepts of *"*modernization" and *"*Ottomanization." Similar studies investigating the change of Bursa's urban structure in the nineteenth century on the basis of socio-economic and political aspects of the city have been co-studied in the articles by scholars such as Neslihan Dostoğlu and Elif Özlem Oral, M. Bilal Bağbancı and Özlem Köprülü Bağbancı, and Elif Secer, Selen Durak, and Tülin Vural Arslan.[7] The article, "The Physical Transformation of the Ottoman Capital of Bursa from Tanzimât to Republic" by Dostoğlu and Oral, for instance, provided significant interpretations on the urban development of Bursa during the nineteenth century with a special focus on the regularization of the urban fabric as well as the construction of the spaces of production and education for industry and agriculture.

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[5] Akkılıç, Y. (2002). *Bursa Ansiklopedisi.* Bursa: Bursa Kültür ve Sanat Yayınları; Kaplanoğlu, R. (Prep.) (1994). *Bursa Anıtlar Ansiklopedisi.* Bursa: Yenigün Yayınları; Kaplanoğlu, R. (Prep.) (2001). *Bursa Ansiklopedisi.* Bursa: Avrasya Etnografya Vakfı Yayınları.

[6] Saint-Laurent, B. (1989). Ottomanization and Modernization: The Architectural and Urban Development of Bursa and the Genesis of Tradition, 1839-1914. PhD Dissertation, Harvard University, Michigan: Xerox University Microfilms; Saint-Laurent, B. (1999). Bir Tiyatro Amatörü: Ahmet Vefik Paşa ve 19. Yüzyılın Son Çeyreğinde Bursa'nın Yeniden Biçimlenmesi. In P. Dumont & G. François (Eds.). *Modernleşme Sürecinde Osmanlı Kentleri.* (Trans.). A. Berktay. Istanbul: Tarih Vakfı Yurt Yayınları, pp. 88-90. Also see: Saint Laurent, B. (1994). Ottoman Power and Westernization: The Architecture and Urban Development of Nineteenth and Early Twentieth Century Bursa. *Anatolia Moderna Yeni Anadolu V*. Institut Français d'Etudes Anatoliennes d'Istanbul, pp. 199-232.

[7] Dostoğlu, N. T. and Oral, E. Ö. (1999). The Physical Transformation of the Ottoman Capital of Bursa from Tanzimât to Republic. In A. Batur and N. Akın (Eds.). *7 Centuries of the Ottoman Architecture.* İstanbul: YEM Yayınları, pp. 234-243; Bağbancı, M. B. & Köprülü Bağbancı, Ö. (2010). Urban Reforms of Tanzimât: Early Urbanization and Transportation Practices in the Formation Process of Turkish Reconstruction System (1839-1908) in Bursa the First Capital City of Ottoman Empire. *International Journal of Social, Behavioral, Educational, Economic and Management Engineering,* Vol. 4, No. 6, pp. 1129-1134; Secer, E., Durak, S., & Vural Arslan, T. (2016). Reflections of Socio-Cultural Changes on Urban Space in the 19th Century: The Case of Bursa. *International Journal of Social Science and Humanity,* Vol. 6, No. 8, August.

The symposium book titled *Bursa'nın Kentsel ve Mimari Gelişimi* edited by Cafer Çiftçi, and the book titled *Bir Masaldı Bursa* prepared by Engin Yenal, are other significant contributions to the urban history of the city.[8] The book *titled Osmanlı Döneminde Mudanya İskelesi ve Gümrüğü* by Cafer Çiftçi was also a significant contribution to the literature for the understanding of the formation of the city edges through commerce and transportation. The book titled *Bursa in the Ottoman Period: Photographs of Bursa from Mid 19th to the 20th Century* written by Neslihan Dostoğlu, presenting numerous historical photographs, should also be cited.[9] In his book, *Türk Sanayi ve Ticaret Tarihinde Bursa'da İpekçilik,* Fahri Dalsar[10] examines the history of raw silk in terms of its production and development of weaving. Özlem Köprülü Bağbancı's article[11] titled *"*Commerce in the Emerging Empire Formation of the Ottoman Trade Center in Bursa" analyses the formation process of *han*s, closed bazaars, shops in the "*Han*s Region" of Bursa during the years between fourteenth and sixteenth centuries as well as its transformation process from the nineteenth century to date within the socio-economic context of Bursa.

The dissertation titled "The Making of Industrial Bursa: Economic Activity and Population in a Turkish City 1835-1975" by Leila Erder[12] is one of the most comprehensive works on the city of Bursa with a special focus on the industrial history of the city. Compared to the comprehensive and multi-dimensional structure of Erder's and St. Laurent's aforementioned studies, several other studies seem to present a more state-centered analysis.

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[8] Çiftçi, C. (Ed.) (2007). *Bursa'nın Kentsel ve Mimari Gelişimi.* Bursa: Gaye Kitabevi; Yenal, Engin. (Prep.) (1996). *Bir Masaldı Bursa.* İstanbul: Yapı Kredi Yayınları Ltd. Şti.; Çiftçi, C. (2012). *Osmanlı Döneminde Mudanya İskelesi ve Gümrüğü.* Bursa İktisat Tarihi Araştırma ve İnceleme Dizisi: 1. Bursa: Bursa Kültür A. Ş.

[9] Dostoğlu, N. T. (2001). *Osmanlı Döneminde Bursa: 19. Yüzyıl Ortalarından 20. Yüzyıla Bursa Fotoğrafları* (Bursa a l'epoque Ottomane: Photographies de Bursa du milieu du XIXeme au XXeme siecle: Bursa in the Ottoman Period: Photographs of Bursa from Mid 19th to the 20th century). Antalya: AKMED.

[10] Dalsar, F. (1960). *Türk Sanayi ve Ticaret Tarihinde Bursa'da İpekçilik.* İstanbul: İstanbul Üniversitesi Yayınları.

[11] Köprülü Bağbancı, Ö. (2012). Commerce in the Emerging Empire Formation of the Ottoman Trade Center in Bursa. In Mohammad Gharipour (Ed.). *The Bazaar in the Islamic City Design, Culture, and History.* Cario, New York: The American University in Cario Press.

[12] Erder, L. T. (1976). The Making of Industrial Bursa: Economic Activity and Population in a Turkish City 1835-1975. PhD Dissertation. Princeton University.

Recent academic dissertations are also significant contributions to the literature. While some dissertations[13] study the industrial architecture in the Ottoman cities, others[14] focus on especially the city of Bursa. The thesis of Sinem Türkoğlu,[15] "Formation and Transformation of Urban Fabric in the 19th Century Bursa," examines the urban transformation of the nineteenth century Bursa with the analysis the impacts of new building types, regulations, urban principles, and the changing socio-economic demands on the urban fabric. Besides the examination of the reconstruction period of Bursa after the earthquake of 1855, Türkoğlu also analyses the newly organized residential quarters for immigrants, factory districts, and street networks by investigating the maps produced in 1895, 1907, and 1922[16]. In addition, in her PhD dissertation titled "Agriculture and Agricultural Knowledge in Bursa and Mihaliç (Karacabey) in the Nineteenth Century," Zeynep Küçükceran, from an

[13] See dissertations: Kösebay Erkan, Y. (2007). Anadolu Demiryolu Çevresinde Gelişen Mimari ve Korunması. PhD Thesis. Architecture, Restoration Program, İTÜ, The Institute of Science and Technology; Boyacıoğlu, D. (2013). Osmanlı Fabrika Yapılarının Kentsel ve Mimari Analizi. PhD Thesis. Architecture, Restoration Program, İTÜ, The Institute of Science and Technology; Tozoğlu, A. E. (2013). Actors of Change: Railway Projects and Urban Architecture of Balkan Cities in the Late Ottoman Period. PhD Thesis. History of Architecture. METU. The Institute of Social Sciences.

[14] See dissertations: Oral, E. Ö. (2004). Bursa'daki İpek Fabrikaları ve İpekçilikle İlgili Endüstri Mirasının Korunması. PhD Thesis. Architecture, Restoration Program, İTÜ, The Institute of Science and Technology; Dörtok Abacı, Z. (2005). Modernleşme Sürecinde Bursa Kenti'nin Mekânsal ve Sosyal Değişimi (1860-1910). PhD Thesis. Public Administration, Urbanization and Environmental Issues. Uludağ University. The Institute of Social Sciences; Çakıcı, M. (2010). Osmanli Sanayileşme Çabalarında Bursa İpek Fabrikası Örneği (1851-1873). Msc Thesis. Economy, Economic History. İstanbul University. The Institute of Social Sciences; Bilmiş, H. G. (2019). Tanzimât'tan Cumhuriyet'e Bursa'da Mimarlık Ortamı. PhD Thesis. Art History, Turkish Islamic Arts. Mimar Sinan Güzel Sanatlar University. The Institute of Social Sciences; and Uslu, K. (2019). Ahmet Vefik Paşa ve Bursa'nın Modernleşmesi Üzerine Bir İnceleme. Msc Thesis. Local Administration, Local Administration and Decentralization. Marmara University. The Institute of Social Sciences.

[15] Türkoğlu, S. (2002). Formation and Transformation of Urban Fabric in the 19th Century Bursa. Master Thesis, Department of History of Architecture. Ankara: Middle East Technical University. Also see: Türkoğlu Önge, S. (2019). Urban Transformation of a 19th Century Ottoman City: Bursa under the Impacts of Tanzimât Reforms. GRID - Architecture Planning and Design Journal, 2 (2) , 77-100.

[16] Raif Kaplanoğlu, an independent researcher and historian, and Sermin Çakıcı Alp, an academic, also made interpretations on the changes in the urban form of Bursa considering especially the urban core and its periphery by comparing the Bursa maps. The articles, "Kent Haritalarına Göre Bursa'nın Kentsel Gelişmesi" by Kaplanoğlu (2008), and "A Century of Transformation within Historic City Core of Bursa, A Unesco World Heritage Site in Turkey, via Historic Maps and City Plans" by Çakıcı Alp (2007) are notable contributions to follow the comparison between maps to understand the reflections of Tanzimât reforms and urban transformations in the city. All the studies on urban and architectural history in general and specifically on Bursa contributed to this thesis to draw an integrated picture of the city of Bursa and construct several arguments to place Bursa in the whole context and to reveal its unique spatial formation process. Also see: Çakıcı Alp, S. (2015). An Assessment on Conservation Activities in Bursa, Focusing on Conservation Council Decisions 1955-2012. PhD Dissertation. Middle East Technical University.

environmental history perspective, considers scientific knowledge as a tool of the state in order to control and increase production since agricultural production was one of the fundamental sources of revenue for the Empire and for an advanced economy, and emphasizes the importance of the togetherness of peasants' knowledge and scientific knowledge that led peasants to meet their needs.

In addition to studies that have urban and architectural perspectives as their focus of analysis, environmental history presents an increasing significance in recent works. The interest in the role of nature in explaining city formation and economic functions has always been at the basis of some urban history studies. The literature on environmental history, on the other hand, focuses significantly on nature as the main generator of interaction among the shapers of urban form such as the state, foreign investors, local craftsmen, and citizens to develop economic situations and thus resulting in urbanization. Regarding the urban environmental developments of Ottoman cities, there are several perspectives in the literature, which could be summarized as follows: (1) commercialization of agriculture, (2) climate change, settlement, and population as well as geography, natural disasters, and natural sources, and (3) urban and architectural historical concerns.

First of all, the scholars such as Faruk Tabak, Çağlar Keyder, and Donald Quataert have focused their studies[17] on the commercialization of agriculture. As the Ottoman peasants were highly employed by agricultural activities, Ottoman agricultural history has always been a significant subject in the literature. Faruk Tabak and Çağlar Keyder examined the emergence and questions of large farms *(çiftlik),* the shift from subsistence to commercial agriculture and from the classical land-tenure (*tımar*) to the possession of large farms as well as the consequences of the economic integration of the Empire to the world economic system. Quataert studied, first, the development of agriculture in Anatolia especially through the improvement policies of the government such as mechanization in agriculture and the establishment of agricultural schools and model farms. He also focused on the changes in production

[17] Tabak, F., & Keyder, Ç. (Eds.) (1991). *Landholding and Commercial Agriculture in the Middle East.* Albany: State University of New York; Quataert, D. (1973/2008). *Anadolu'da Osmanlı Reformu ve Tarım 1876-1908.* (Trans.). N. Ö. Gündoğan & A. Z. Gündoğan. İstanbul: Türkiye İş Bankası Kültür Yayınları.

levels, and the role of *Ziraat Bankası* (Agricultural Bank) and *Düyun-u Umumiye İdaresi* (Public Debts Administration) in the agricultural reforms, which all led to the commercialization of agriculture. While Tabak and Keyder analyzed both the shift from traditional *timar* to çiftliks (large farms) and the Empire's integration into the world market economy, the edited book *Port Cities of the Eastern Mediterranean 1800-1914* by Çağlar Keyder and Donald Quataert focused on how the port cities played a role in the expansion of world economic system into the inland cities. Moreover, examining the relationships between port cities and their hinterlands, in the article "The Cartography of Harbor Construction in Eastern Mediterranean Cities," Hastaoğlu-Martinidis also attributed the reason of the incorporation of the Mediterranean region into European economy to the tremendous increase in trade, which resulted in the necessity of harbor construction in major port cities such as Selânik, İstanbul, and İzmir with advanced transportation systems.

Secondly, climate change, settlement, and population have been studied by some scholars. Faruk Tabak and Necdet Tunçbilek offered a connection between the climate change, the Little Ice Age, and the turmoils and land-use.[18] For instance, Mikhail also states that the Jelali Revolts, which resulted in violence and banditry, largely depended on the ecological problems such as climate change, drought, famine, plagues, and high mortality in Anatolia rather than being simply based on political and economic factors.[19] In his book, *The Waning of the Mediterranean,* Tabak further tied the reasons behind the movements from the lowlands to the hillsides and mountains to the diminishing power of the state as well as the natural disasters in the pre-industrial era. As Tabak and Tunçbilek's studies reveal, the configuration of cities with their hinterlands was based on several factors that stimulated the change: the disappearance of factors that created security risks such as banditry in the previous centuries; the property reforms that regulated the rights to own private property; and the immigrations and the effective role of immigrants in agricultural production, which all increased the quantity, method, and quality of

[18] Tunçbilek, N. (1986). *Türkiye'de Yerleşmenin Evrimi.* İstanbul: Deniz Bilimleri ve Coğrafya Enstitüsü Yayınları; Tabak, F. (2008). *The Waning of the Mediterranean 1550-1870 A Historiographical Approach.* Baltimore: Johns Hopkins University Press.

[19] Mikhail, A. (2011). *Nature and Empire in Ottoman Egypt.* Cambridge: Cambridge University Press, pp. 22, 23.

industrial and agricultural production. The construction of roads, factories, and farm buildings as well as the extension of railroads into inland cities also enhanced this process.

Finally, some urban and architectural history studies also have environmental concerns. Studies by Zeynep Çelik and Sibel Zandi-Sayek, *The Remaking of Istanbul During the Nineteenth Century, Empire, Architecture, and the City French-Ottoman Encounters, 1830-1914,* and *Ottoman İzmir The Rise of a Cosmopolitan Port, 1840-1880* have played key roles in the conceptualization of this study and the formation of its arguments in environmental as well as urban and architectural terms.[20] Çelik examines the governmental and social transformation of İstanbul and the effect of this transformation on the urban fabric of the city of Istanbul, underlying the introduction of modern transportation as a way of urban expansion. Her latter study, *Empire, Architecture, and the City French-Ottoman Encounters, 1830-1914*, focuses on the key concepts of "Empire building" and "modernity". It is a great contribution to the literature since it has paved the way for disassembling the conventional single-layered approach to the modernization of the Ottoman Empire as influenced only by the European developments. In addition to this, the study prioritizes cross-cultural relations rather than only depending on a single-layered approach. Zandi-Sayek's study, on the other hand, focusing on the shaping of the waterfront in İzmir, explores how a profound transformation process was accomplished through the advanced modern forms for urban structures and infrastructure with the participation of local actors and also how the modernization project was realized despite the struggles among the state, local actors, and foreign capitalists. Moreover, these three studies have taken public parks, gardens, and the shaping of the waterfront in the nineteenth century into consideration also from an environmental point of view.

Considering urban environmental development, another set of recent environmental history books, *Nature's Metropolis Chicago and the Great West* by William Cronon, *Nature and Empire in Ottoman Egypt an Environmental History* by Alan Mikhail,

[20] Çelik, Z. (1986/1993). *The Remaking of Istanbul: Portrait of an Ottoman City in the Nineteenth Century.* Seattle and London: University of Washington Press; Çelik, Z. (2008). *Empire, Architecture, and the City French-Ottoman Encounters, 1830-1914.* Seattle and London: University of Washington Press; Zandi-Sayek, S. (2012). *Ottoman İzmir The Rise of a Cosmopolitan Port, 1840-1880.* Minneapolis London: University of Minnesota Press.

and *Baku Oil and Urbanism* by Eve Blau and Ivan Rupnik are also significant in shedding lights on the understanding of the environmental concerns as well as the relationships between production and urbanism in a historical context.[21] The methodology of these three books was mainly based on the use of natural resources. These studies were concerned with three themes of the transformation of natural environment to the market, types of production though the utilization of nature, and the role of actors as facilitators of this process. To begin with, Cronon and Blau focused on the transformation of natural environment to the market. Cronon's study shows that the transportation of products impacted marketing, and thereby promoting the development of cities. During this process, ecological layer of nature transformed into an economy-based nature. When Bursa is taken into account, nature was utilized for production and transportation. This process contributed to the development in commerce especially at the ports at city edges. However, the case of Bursa differs from the cases of Baku and Chicago studied by Blau and Cronon in the sense that the scale of the transformation was not equal to those cities and the natural environment was not transformed into the market, but into an environment of production and commerce, while the city was trading at the ports at the city edges. Secondly, for the types of production though the utilization of nature, Michail considered water resources for irrigation, Blau focused on oil production while Cronon studied various products such as lumbers from trees and meat from cattle. When the case of Bursa is considered, the production of raw silk and agricultural goods as raw materials were the main concern. Finally, Blau and Michail investigated the roles of actors as facilitators of this process. The local people or the peasants in Egypt was prominent facilitators in Mikhail's study although the irrigation of hinterlands was under the responsibility of the government. The barons in Blau's study, on the other hand, were in a competition for the investment of the construction of factories and transportation facilities. In Blau's study, the oil boom in Baku reflected as the boom in construction, which led the urban expansion of the city in the years between the

[21] Cronon, W. (1991). Nature's Metropolis Chicago and the Great West. New York, London: W.W. Norton & Company; Mikhail, A. (2011). Nature and Empire in Ottoman Egypt. Cambridge: Cambridge University Press; Blau, E. & Pupnik, I. (2018). Baku: Oil and Urbanism. Seoul Biennale Division.

1870s and the 1880s.[22] The main actors as the facilitators of the urban development of Bursa, on the other hand, were the state, foreign investors, and merchants.

In addition to urban and architectural and environmental perspectives, studies on economic history have also been determining for the conceptual framing of the study. There are stimulating studies on economic history that highlight the role of technological development and the changing modes of production on the commercialization of agriculture and the economic integration into the world economic system. The book *Osmanlı Ekonomisinde Bağımlılık ve Büyüme* by Şevket Pamuk*,* is an outstanding study that helps understand the manifold relations among productions, structural economic development, and commercial development, taking the Empire's economy as a unique case.[23] Moreover, the studies concerning technological developments also played a determinant role in understanding the cities producing raw materials and distributing products, which contributed to the development of urban economy and integration process. For instance, a well-structured article, titled "Osmanlı İmparatorluğu'nda 19. Yüzyılın İkinci Yarısında Nâfia Programları ve Teknoloji Gelişimi Üzerine,"[24] by İlhan Tekeli and Selim İlkin, analytically examines the crucial dates and developments both in the industrial and agricultural production and in the communication and transportation technology as well as the buildings as reflections of all these developments.

The book *The Economic History of Turkey (1800-1914),* by Charles Issawi, and the book, *An Economic and Social History of the Ottoman Empire 1300-1914,* by Halil İnalcık and Donald Quataert are also important contributions in terms of discussing the branches of economy such as industry, agriculture, transport, and finance. The book *Osmanlı Modernleşmesi Toplum, Kuramsal Değişim ve Nüfus,* by Kemal Karpat, emphasizes the efforts of the government to develop an economic policy through the Tanzimât reforms when an economic crisis was encountered in the beginning of the nineteenth century. *Osmanlı Devleti'nde Avrupa İktisadi Yayılımı ve*

[22] Blau & Pupnik, 2018, pp. 71, 73.

[23] Pamuk, Ş. (1994/2017). *Osmanlı Ekonomisinde Bağımlılık ve Büyüme (1820-1913).* İstanbul: Türkiye İş Bankası Kültür Yayınları.

[24] Tekeli & İlkin, 1993.

Direniş (1881-1908), by Donald Quataert, dwells upon the Ottoman Empire's maintaining its agricultural character while the European states continued their commercial and infrastructural activities. In this context, Quataert also puts an emphasis on the role of the commercialization of agriculture and foreign investments in the integration of the Ottoman economy into the world economic system. The chapter titled "The Ottoman Economy: population, transportation, trade, agriculture, and manufacturing" in the book *The Ottoman Empire, 1700-1922,* by Donald Quataert, reveals the changing modes of production and the engines behind the industrial and agricultural development, also including statistic of commercial activities. *The Ottoman Economy and Its Institutions,* by Şevket Pamuk, urges on the relation between the changing modes of production and the expansion of foreign trade with an emphasis on commercialization of agriculture that resulted in the orientation of the large share of agricultural production towards the export markets.

The articles[25] included in the book *The Ottoman Empire and the World Economy,* edited by Huri İslamoğlu-İnan, have taken the issues such as the dissolution of traditional economy, the penetration of world-capitalism, and economic integration as their main concerns. Other articles[26] in İslamoğlu-İnan's afore-mentioned book, shed light on the development of silk industry. Owen's article[27] in this book also discusses the similarities between the experiences of Bursa and Mount Lebanon in terms of producing raw material to the advanced factories for silk weaving in Europe and establishing factories for silk-reeling in the cities. In this context, George

[25] See the articles: "State and economy in the Ottoman Empire" by İlkay Sunar, and "Commodity production for world-markets and relations of production in Ottoman agriculture, 1840- 1913*"* by Şevket Pamuk.

[26] See the articles: "Price History and the Bursa silk industry: a study in Ottoman industrial decline, 1550- 1650" by Murat Çızakça and "The silk industry of Bursa, 1880-1914*"* by Donald Quataert. Also see the articles: Dörtok Abacı, Z. (2006/2). İngiliz Konsolosluk Belgeleri Işığında Bursa Ekonomisi (1848-1896). *Uludağ Üniversitesi Fen-Edebiyat Fakültesi Sosyal Bilgiler Dergisi.* Year: 7, No: 11, pp. 159-171; Faroqhi, S. (2008). At the Ottoman Empire's Industrious Core: The Story of Bursa. In S. K. Jayyusi (Ed.). *The City in the Islamic World,* Vol. 1. Leiden, Boston: Brill: Brill. Also see PhD Thesis: Küçükceran, Z. (2019). Agriculture and Agricultural Knowledge in Bursa and Mihaliç (Karacabey) in the Nineteenth Century. PhD Thesis. Boğaziçi University. Department of History.

[27] "The silk-reeling industry of Mount Lebanon, 1840-1914: a study of the possibilities and limitations of factory production in the periphery" by Roger Owen.

Sheridan's articles and PhD dissertation[28] are also significant sources in terms of understanding the French weavers' searching process for new sources of raw material due to the shortage of cocoon and high prices of Asiatic raw silk in France.

Another relevant discussion established a link between urban and agrarian economy. This link can be structured only by considering that manufacturing may be discussed under the concept of rural-urban integration, which took part in the process of economic development and urbanization. As Quataert (1993) noted in *Ottoman Manufacturing in the Age of Industrial Revolution,* , there is a consensus in the literature that Ottoman manufacturing could only be observed in urban-based forms such as guild organizations or factory settings.[29] However, since most of the population, almost eighty percent, was living in rural areas in the nineteenth century, the agrarian nature of Ottoman towns should not be ignored.[30]Agrarian economy did not only depend on agriculture but also manufacturing, so rural industry should be linked to Ottoman manufacturing. In turn, manufacturing can also be handled as an integral subject into the agrarian way of life. Moreover, non-guild urban productions such as households and workshops contributed to the urban economy in parallel to factories and guild organizations. In the Bursa case, weaving industry also continued in the environs of the city although it remained limited due to the development of factory-based silk reeling industry in the city.

The widened perspective provided by these sources leads to the argument that the economic history of Bursa, and hence its urban and architectural history cannot be explained only by studying silk production and its trade, as generally seen in

[28] See the articles: Sheridan, G. J. (1980). Household and Craft in an Industrializing Economy: The Case of the Silk Weavers of Lyon. In J. M. Merriman (Ed.). *Consciousness and Class Experiences in Nineteenth Century Europe.* New York, London: Homes & Meier Publishers; Sheridan, G. J. (2006). Craft Technique, Association and Guild History: The Silk Weavers of Nineteenth Century Lyon. In I. A. Gadd & P. Wallis (Eds.). *Guilds and Association in Europe, 900- 1900.* London: Centre for Metropolitan History, Institute of Historical Research; Sheridan, G. J. (1984). Family and Enterprise in the Silk Shops of Lyon: The Place of Labor in the Domestic Weaving Economy, 1840–1870, In G. Saxonhouse & G. Wright (Eds.). *Technique, Spirit and Form in the Making of the Modern Economies: Essays in Honor of William N. Parker.* Research in Economic History Suppl. 3, Greenwich/London: JAI Press, pp. 33–60. Also see PhD Dissertation: Sheridan, G. J. (1978). Social and Economic Foundations of Association Among the Silk Weavers of Lyon, 1852-1870. The Faculty of the Graduate School of Yale University in Candidacy for the Degree of Doctor of Philosophy.

[29] Quataert, 1973/2008, p. 2.

[30] Ibid.

conventional literature, but the contribution of various fields to urban economy should rather be understood, even though silk provided the most pre-dominant economic value. The economic activities of the agricultural hinterlands were also in line with urban development in that they reconstructed an urban economy. The book *Prusia'dan Bursa'ya 8500 Yıldır Üreten Kent,* by Erdoğan Bilenser, also focused on the impact of past forms of production on the Bursa economy dating from ancient times until today.[31] The two-volume books *Bursa'nın Ekonomik Tarihi (1326-1900)* and *Bursa'nın Ekonomik Tarihi (1900-1960),* by Ergun Kağıtçıbaşı and Enis Yaşar,[32] on the other hand, is a unique study dealing with specifically the economy of Bursa, and also documenting commercial buildings such as factories and hotels. The congress book *VIIIth International Congress on the Economic and Social History of Turkey,* edited by Nurcan Abacı,[33] also includes some articles[34] dealing with the economic history of Bursa and the role of silk industry in the city on the economy especially in the sixteenth century, which also provide an understanding of the impact of traditional experiences on the nineteenth century dynamics.

Along such discussions, recent literature on economic history, therefore, also paved the way for this dissertation to study the relation between production and distribution, and the relations of this process on the urban and architectural transformation of Bursa.

As Spiro Kostof claims, the primary methodological approach of an architectural historian is to explain the urban environment within a unified social context including the physical, social, economic, and spatial processes.[35] With reference to this approach, the urban and architectural history of Bursa will be studied in this

[31] Bilenser, E. (Prep.). (2014). *Prusia'dan Bursa'ya: 8500 Yıldır Üreten Kent.* Yapı Kredi Yayınları.

[32] Kağıtçıbaşı, E. & Yaşar, E. (2014). *Bursa'nın Ekonomik Tarihi 1900-1960.* 2nd Volume. Bursa: Uludağ Üniversitesi.

[33] Abacı, N. (Ed.). (1998). *Papers of VIIIth International Congress on the Economic and Social History of Turkey.* June 18-21, 1998, Bursa-Turkey.

[34] See the articles: "Bursa'da Kumaş ve İpekçiliğin Tarihsel Gelişimi İçinde Eski Bursa'da Giyim-Kuşam Gelenekleri*"* by Hülya Taş; "Gümrük Defterleri ve Bursa Ticaretine Dair Bazı Tespitler*"* by Mübahat S. Kütükoğlu; and "XVI. Yüzyılda Bursa'da Sanayi ve Ticaret" by Yılmaz Kurt.

[35] Kostof, S. (1992). *The City Assembled: The Elements of Urban Form through History*. Boston: Little, Brown, p. 8.

dissertation by considering its social and economic developments and their reflections on the spatial transformation of the city in addition to the technological developments and natural formations in the city. Most of the studies on spatial history of Bursa focus either on a single building or an urban process by examining, for example, public buildings or main arteries of the city. This dissertation rather aims to construct a broader frame of analysis as defined in the conceptual map that will define the process of spatial transformation with reference to multiple issues from nature to industry, agriculture, and commerce. Thus, it will not only analyze specific building types, architectural features of buildings and their urban context but also consider the role of the framing issues on the spatial transformation in a general and comparative perspective. The conceptual framework of this study is thus formed by the consideration of the dynamic relationship among the buildings of industry, agriculture, and commerce; and the role of the ecological and natural, scientific and technological and economic dynamics on the urban development.

The conceptual map, produced by the author for the study, establishes the structure of the dissertation. The map includes two axes **(Figure 1.3)**: The horizontal axis defines the transformation "from nature to production and commerce", i.e. from the natural environment into a producing city and a commercial one of markets that affected urban and architectural formation of industry, agriculture, and commerce through the processes of scientific and technological progress, the utilization of nature, the mitigation of disasters, and the adaptation and contribution of immigrants. The vertical axis defines the urban geographical and spatial transformation of the city, explaining how the spatial continuation of urban environment and the flow of producers and products were provided through the infrastructural developments and the formation of agricultural hinterlands beyond the urban core and periphery of the city, and how the sustainability of commercial activities was achieved at city edges through the arrival of the railway to the ports. The urban core constituted the citadel and the commercial *han* district, and the periphery of the city around the core expanded towards the environs that were comprised of agricultural hinterlands, water sources, mulberry groves, and immigrant villages through the extension of roads and reached the city edges at the port through the railway. The spatial terms of core,

periphery, hinterlands, and edge[36] are conceptualized in the current study in order to evaluate the spatial transformation of Bursa in the nineteenth century by focusing on its characteristics as an expanding city that had prevailed in centuries. This continuity turned into a more consolidated form through the intensive building and construction process in the late Ottoman period.

In addition to the conceptual map, the timetable, and some other tables showing the production levels and import-export details and the analysis on the archival documents are also illustrated and produced.[37] Together with these visualized materials, the historical maps of the nineteenth century are overlapped to reveal the transformation in spatial pattern. The timetable including thresholds in the levels of industrial, agricultural, and commercial developments in relation to spatial transformation, is presented to reveal the substantial level of urban development of the city during the century, particularly that of the architectural reflections on the urban pattern of the city. The city, therefore, can be analyzed in relation to these

[36] The **core** of a city is generally taken as the historical center. On the other hand, the urban periphery, in Kostof's terms, included "early suburbs," "planned extensions," and "industrial extremities" (Kostof, 1992, pp. 47-54). The **periphery** of a city generally involves the areas beyond the urban limits. In the Bursa case, the areas beyond the citadel and commercial *han* district (core) had already been formed from the fourteenth century onwards, and this formation was not realized for the first time in the nineteenth century. Thus, there was no distinction between the center (core) and periphery of the city in the nineteenth century since the periphery was not physically formed very far from the core, but the area beyond the citadel and commercial *han* district (core) transformed by the construction of new building types such as factories and hotels as well as planned neighborhoods and widening and opening of new streets. The city did not expand either through the construction of industrial buildings or planned neighborhoods although these kinds of constructions paved the way for some cities to expand from their cores to the peripheries, as also seen in the discussion of the term periphery by Kostof. The developments seen in the nineteenth century Ottoman cities such as the opening and widening of new streets, the construction of planned neighborhoods and new building types such as factories, hotels, and civic buildings, which resulted in the urban expansion of cities, were all realized in the traditional boundary of Bursa. The term, periphery, therefore, is re-conceptualized in this dissertation in order to define the areas beyond the core and to emphasize the wholeness of the core and the periphery as the expanding city. Meanwhile, the periphery, which had already been defined by the construction of mosque complexes before the nineteenth century, was feathered by new building types and the development of the street layout in the city.
The term **hinterland** means the land behind a city and the areas where goods are produced for the consumption of a city and for the storage and shipping at its port (Caves, R. W. (Ed.). (2005). Encyclopedia of the City. London and New York: Routledge Taylor & Francis Group, p. 340). In the Bursa case, since there were often economic ties between the agricultural farm lands beyond the city (core and periphery) and the domestic market in the commercial *han* district of the core, the lands beyond the city are conceptualized as "hinterlands" in the study.
The term **edge** is used and interpreted by Kostof to define city walls as the "urban edge" as well as the customs houses, ports, and resorts "meeting the water" as urban elements of cities at the "water's edge" (1992, pp. 11-46). In the Bursa case, the Mudanya and Gemlik ports and port-related buildings are conceptualized as urban and architectural developments at the edge of Bursa in this study.

[37] The tables are included in the chapters.

three urban development levels, each of which can be examined by various subtitles such as agricultural commercialization, institutionalization, integration of the Ottoman economy with the European economic system, change in marketing and manufacturing structures.

In addition to the existing secondary literature on the topic, the study is mainly based on primary documents provided from the Ottoman archives, where there are fundamentally six main types of documents related to the urban and architectural examination of the nineteenth century Ottoman cities: (1) *salnâme*s (after the middle of the nineteenth century), (2) original Ottoman documents, (3) traveler books, (4) historical city maps and photographs, and (5) journals. Among these, *salnâme*s have a special role as they not only prove the late-nineteenth century Ottoman tendency for documentation, but also provide detailed information about provinces including such urban and architectural dimensions as infrastructural projects, urban affairs, and construction of buildings as well as urban life.[38] The *salnâme*s of Hüdâvendigâr province published during the years between 1867 and 1909,[39] and those dated 1906 (1324) and 1907 (1325) as well as 1927 *Bursa Vilâyet Salnâmesi* are mainly utilized in this study. In addition, the photographs of the buildings and the city views were mainly included in the *salnâme*s dated 1906 (1324), 1907 (1325), and 1927.

The original Ottoman documents also provide a remarkable insight into various urban issues. For that reason, the Ottoman archival documents concerning the nineteenth century is examined thoroughly in order to answer the question of how specific urban agencies got involved in the urban transformation process and to explore the Ottoman Bursa province, where the dynamism of industry, agriculture, and commerce led to the urban development in the late Ottoman Empire. All types of original data including archival documents and historical buildings themselves in addition to maps, photographs, and periodicals directed the progress of the study.

[38] Çelik, 2008, p. 19.

[39] Aktüre, S. (1978). 19. Yüzyıl Sonunda Anadolu Kenti Mekansal Yapı Çözümlemesi. İstanbul Teknik Üniversitesi, Mimarlık Fakültesi, Doktora Tezi. Ankara: ODTÜ Mimarlık Fakültesi, Baskı Atölyesi, p. 30. Çolak also states that 35 *vilayet salnâme*s were published between 1869-1927 (Çolak, O. M. (2013). Bursa Fotoğrafları ve Bursa Fotoğrafhaneleri Üzerine Bazı Notlar. *Osmanlı'nın İzinde. Prof. Dr. Mehmet İpşirli Armağanı.* İstanbul: Timaş Yayınları, Vol. 1, p. 310). 35 *vilayet salnâme*s are available in the library of Turkish History Association in Ankara.

Traveler notes,[40] some of which were translated into Turkish form Ottoman Turkish and French, have also been significant sources to understand the city's spatial organization, architectural environments, and its connection to other towns. **(Table 1.1)**

Contemporary journals are also significant primary documents in terms of being an alternative way of following the traces of the process of Ottoman modernization. In the context of the study, the journals of *Servet-i Fünun* and *Bursa Sergisi* are mainly used.

Non-written sources, on the other hand, such as historical city maps, cadastral surveys, photographs, postcards, and plans with their legends have also been used extensively. The city maps were drawn in the middle of the nineteenth century for the Ottoman provinces. The Suphi Bey Map of Bursa drawn in 1862 was one among the plans prepared for the Ottoman provinces at the time.[41] Thanks to the archives of Atatürk Library, SALT Research, and Turkish History Association as well as Presidential Ottoman Archive, high-quality photographs and maps could be used in the study. The aerial photos of the studfarms, dated 1940s, found at *Harita Genel Müdürlüğü* (Ankara General Directorate of Mapping), have paved the way for understanding the locations of the farm-lands and making interpretations on the site arrangement of the agricultural buildings. Other archival documents, historical photographs, and maps available in the several local archives and libraries in İstanbul, Ankara, and Bursa have also been used as primary sources of the study.

Thus, the study has developed on the work undertaken in various libraries and institutions, including *Cumhurbaşkanlığı Osmanlı Arşivi* (Presidential Ottoman

[40] The traveler accounts, *Hüdâvendigâr Vilayetinde Bir Hafta Seyahat* by Ömer Subhi (1892); *Bursa ve Civârı* by Marie de Launay ad Bonkowski Bey (1872); *Bursa Hatırası* by Hüseyin Vassaf (1901); *1896 Bahar'ında Bursa (Hüdâvendigâr Vilayetinde Kısmen Bir Cevelan)* by Fatma Fahrünnisa Hanım (1896); *Velosiped ile Bir Cevelan Hüdâvendigâr Vilayeti Dahilinde* by İbnülcemal Ahmet Tevfik, are significant documents to draw the picture of the environs of Bursa accompanied by the travelers' spatial experiences. Ioannis Kalfoğlu's (1899/2013) book, *Küçük Asya Kıtasının Tarihi Coğrafyası,* and Alper Can's (2017) *Kadim Bursa Osmanlı Fethine Değin Bursa ve Çevresinin Tarihi* present the environmental aspects of Bursa.

[41] The copies of the Bursa Map of 1862 are available at SALT Research Archive (APLMUHBUR001), National Library, Ankara Turkish History Association Library, and the Presidential Ottoman Archive.

Archive), *Milli Kütüphane* (National Library), *Türk Tarih Kurumu* (Turkish History Association), Gazi *Üniversitesi Kütüphanesi* (Gazi University Library), *Orta Doğu Teknik Üniversitesi Kütüphanesi* (Middle East Technical University Library), SALT *Araştırma Kütüphanesi* (SALT Research Library), and *İstanbul Üniversitesi Nadir Eserler Kütüphanesi* (İstanbul University Rare Collections Library). Bursa *Büyükşehir Belediyesi Arşivi* (Bursa Metropolitan Municipality Archive), and Bursa *Kültür Varlıklarını Koruma Kurulu Arşivi* (the Archive of Bursa Directorate for the Preservation of Cultural Heritage), TOFAŞ *Anadolu Arabaları Müzesi* (TOFAŞ Anatolian Cars Museum),[42] and *Bursa Kent Müzesi* (Bursa City Museum) have been helpful with their rich archival documents; and the historical buildings such as Faruk Saraç *Tasarım Meslek Yüksek Okulu* (Faruk Saraç Vocational School of Design)[43], Bursa *Tarım Meslek Lisesi* (Bursa Vocational School of Agriculture)[44], and the buildings in *Karacabey Çiftliği* (Karacabey Farm)[45] have been visited as the existing sites of interest for the study.

[42] The museum functions in the building of a nineteenth century factory building.

[43] The building of the school is that of the nineteenth century *Fabrikâ-i Hûmâyun*.

[44] The building of the school is that of the nineteenth century Hüdâvendigâr Agricultural School.

[45] The farm functions as Mihaliç *Çiftlikât-i Hûmâyun/Karacabey Hârâ-yı Hûmâyun* in the nineteenth century.

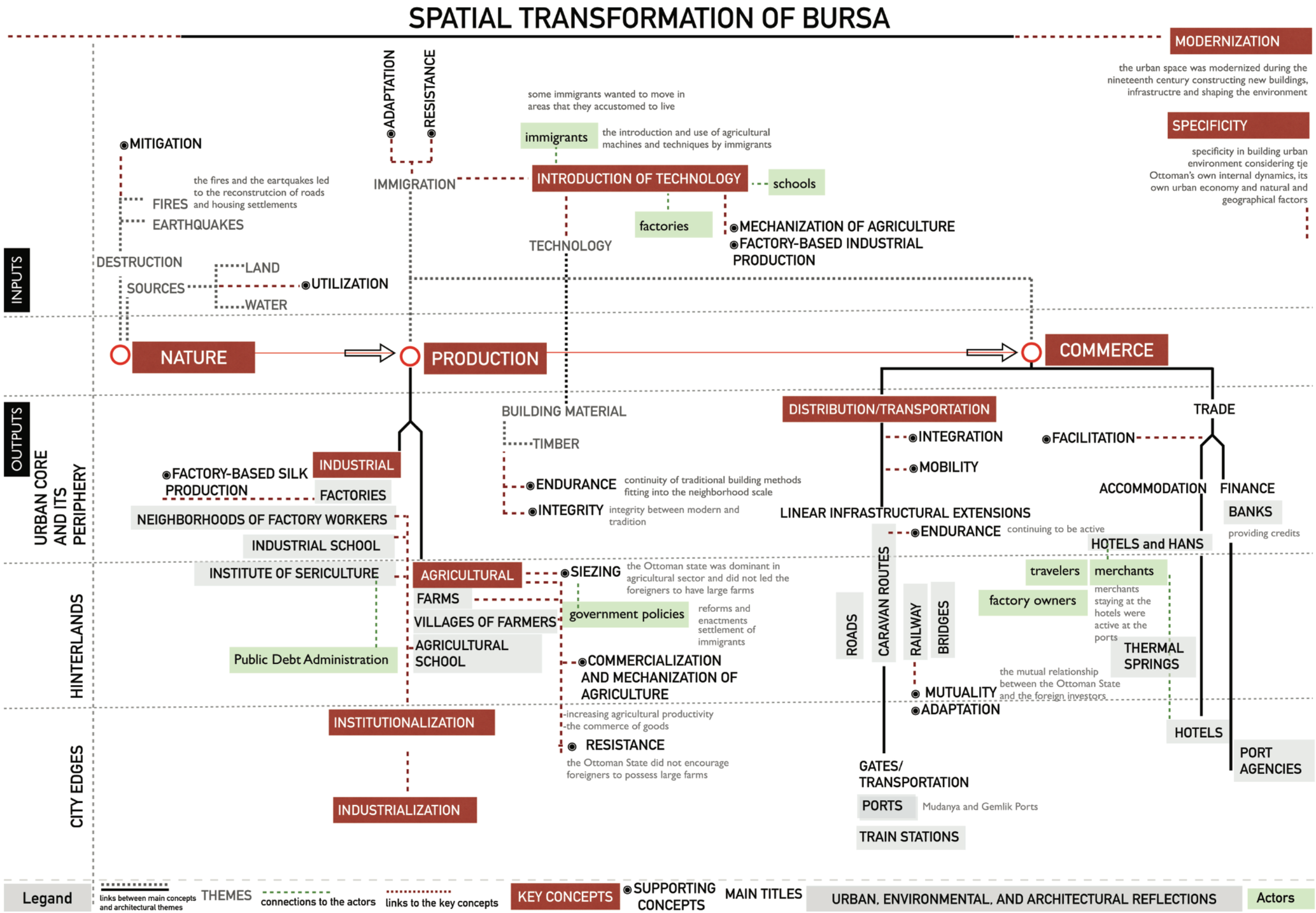


Figure 1.3 Spatial Transformation of Bursa (drawn by the author, 2019)

TRAVELER NOTES

Year of Visit	Traveler	Travel Book	Observations	Source
1640	**Evliya Çelebi**	***A Journey From Bursa to Edirne***	There was a customs house in the dock, and the Mudanya port opens to the winds from the North.	Extracts from: Çiftçi, Cafer. (2012). *Osmanlı Döneminde Mudanya İskelesi ve Gümrüğü.* Bursa: Bursa Kültür A. Ş.
1738	**Richard Pococke**		There were 700 Rum and 300 Turkish family in Mudanya. And, there were notes on the transfer of silk, cereals, and vegetables from Mudanya Port to İstanbul.	Extracts from: Çiftçi, Cafer. (2012).
1779	**Domenico Setsini**		There were notes on the transfer of commercial products from İstanbul to Mudanya Port.	Extracts from: Çiftçi, Cafer. (2012).
1786	**Latiffe-Clave**		There were mulberry groves and olive trees around Mudanya-Bursa road.	Extracts from: Çiftçi, Cafer. (2012).
1793	**Austrian Ignatz von Brenner**		The Mudanya Port was more active than Gemlik Port.	Extracts from: Çiftçi, Cafer. (2012).
1834-35	**Duc de Raguse**		There were mulberry groves and olive trees around Mudanya-Bursa road.	Extracts from: Çiftçi, Cafer. (2012).
1837	**Robert Walsh**		There were notes on the transfer of iceboxes extracted from Uludağ to the palace in İstanbul via Mudanya Port.	Extracts from: Çiftçi, Cafer. (2012).
1844 1851 1863	**Hayrullah İbni** **Abdülhak Efendi**	***Avrupa Seyahatnamesi veya Yolculuk Kitabı, Bursa Seyahatnamesi***	Hayrullah Efendi visited Bursa for three times in 1844, 1851-52, and 1863. He expressed the urban transformation of Bursa and the contributions of Ahmet Vefik Pasha. In his first visit, he observed a magnificent city, where monuments were surrounded by gardens; streets were narrow and regularly ordered, with 40.000 population and remarkable landscape. In the second visit, the city was almost destroyed by fire and earthquake. In the third visit, the contribution of Ahmet Vefik Pasha was apparent in the form of restoration of significant monuments, the construction of new public buildings as well as widening roads and construction of new peripheral roads.	Danışmend, İsmail Hâmi. (1948). Hayrullah Efendi'nin Gördüğü Üç Bursa. In: Bursa. Prep. Vedat Nedim Tör&Şevket Rado. Yapı Kredi Bankası Bursa Şubesi'nin Açılış Hatırası; Extracts from: Günaydın, Nurşen&Raif Kaplanoğlu (Compiled by). (2000). Seyahatnamelerde Bursa. Bursa: Bursa Ticaret Borsası Kültür Yayınları.
1857	**Georges Perrot**		There were notes on the destruction in Bursa after natural disasters.	Quoted from: Lowry, Heath W. (2004). Seyyahların Gözüyle Bursa 1326- 1923. Trans. Serdar Alper. İstanbul: Eren Yayıncılık.
1864	**Georges Perrot**	***Souvenirs d'un Voyage en Asie Mineure***	He came to Mudanya from Gemlik via highway and stayed in the house of a French merchant, M. Roche. Two filature factories were established by the merchant in Mudanya, and the workers in the factory were Greek.	Perrot, Georges. (1864). Souvenirs d'un voyage en Asie Mineure. Paris; Extracts from: Çiftçi, Cafer. (2012); Extracts from: Günaydın, Nurşen&Raif Kaplanoğlu (Compiled by). (2000).
1879	**Nikola Naçov**		The waters of hammams were abundaned after two earthquakes Bursa experienced.	Mevsim, Hüseyin. (2009). Bulgar Gözüyle Bursa. İstanbul: Kitap Yayınevi. Extracts from: Kaplanoğlu, Raif. (2007). Seyahatnamelerde Çekirge. In: Çekirge Semti. Eds. Raif Kaplanoğlu&Aziz Elbas. Bursa: Osmangazi Belediyesi.
1872	**Marie de Launay and Bankowski Bey**	***Bursa ve Civârı***	There was a prolong and wooden dock in Mudanya. Mudanya was a more preferable dock since Mudanya-Bursa road was 4,5 km shorter with 6% slope when compared to Gemlik road with 9,5% slope. Gemlik port was more proper for anchoring commercial ships. There were mulberry groves and olive trees around Mudanya-Bursa road.	Marie de Launay and Bankowski Bey. (2015). Prep. By Burcu Kurt&İsmail Yaşayanlar. İstanbul: Heyamola Yayınları; Extracts from: Çiftçi, Cafer. (2012).
1888	**Ibnü'l-Celâl Sezayi**	***Bursa'ya Seyahat***	Ibnü'l-Celâl Sezayi traveled with a ship of İdare-i Mahsusa and rented a landau from Mudanya dock to get connecte to Bursa. On Mudanya-Bursa road, there were mulberry groves and olive trees. Passing through Karaman village, he rested in Acemler Mesiresi and thermal springs welcomed him when he entered to the city. He also visited Osman and Orhan tombs, clock tower in the square of the tombs while wathcing the Bursa Plain from that hill. He also visited the City Hall, Mekteb-i İdâdi, and Bursa Islâhhânesi.	Ibnü'l-Celâl Sezayi. (1891/1996). In: Bir Masaldı Bursa. (Ed.) Engin Yenal, (text trans. by Emin Nedret İşli). İstanbul: Yapı Kredi Yayınları.
1890	**Ömer Subhi Bey**	***Ömer Subhi Bey'in Bursa Seyahati Hüdavendigar Vilayetinde Bir Hafta Seyahat***	Ömer Subhi described Mudanya as a port town of Bursa, Kütahya and even Konya and portrayed the Mudanya-Bursa road (soşe) with olive trees and mulberry groves. The road gradually rising and reaching the peak point at *Tepe Derebendi.* The immigrants coming from Rumelia established villages and cultivated lands to produce barley, wheat, and corn in the environs of Bursa. Çekirge, on the south of the city, included many thermal springs. He also depicted Bursa-Mihaliç *soşe* going to Kirmasti and natural sources such as Apolyont Lake, and Adranos Stream. Besides, Uluabad Village was a settlement where Carcasian migrants were located and the lands around the village were proper for agriculture to produce cereals. The swamp areas were sometimes formed around Apolyont Lake and Susurluk Stream due to snow melting in the springs. Kirmasti was also developed through the establishment of new villages for the settlement of immigrants.	Ömer Subhi Bey. (1892/2007). Ömer Subhi Bey'in Bursa Seyahati Hüdavendigar Vilayetinde Bir Hafta Seyahat. Trans. Nezaket Özdemir. Bursa: Sentez Yayıncılık.
1899	**Vasil Kınçov**		The road lying between Mudanya and Bursa was surrounded by mulberry groves and olive trees; The economic activities in Mudanya were olive cultivation and silkculture. Big warehouses were located in Mudanya and Gemlik to store olives. Two filature factories were established in Mudanya, one of which was belong to a French, and the other was to a Greek; There were three main train stations in Bursa: (1) the station on the 3 km west of Çekirge Town where thermal springs were located, (2) Yahudi Station on the perphery of the city and near Yahudiler Neighborhood, and (3) the station on the east of the city and near to the market. The third station was used for landing products to get sold in the market.	Mevsim, Hüseyin. (2009). Bulgar Gözüyle Bursa. İstanbul: Kitap Yayınevi. Extracts from: Kaplanoğlu, Raif. (2007); Extracts from: Çiftçi, Cafer. (2012); Extracts from: Yıldırım, Fahri. (2014). 14 Yüzyıldan Cumhuriyet Dönemi'ne Kadar Yabancı Seyyahların Gözünde Bursa İlindeki Mimari Eserler. Bursa: Nilüfer Belediyesi.
1894	**Dr. Şerafettin Mağmumi and Dr. Agop Efendi**		There were two wooden and prolonged docks in Mudanya. The new one was built in front of the train station by the ship company.	Extracts from: Çiftçi, Cafer. (2012).
1896	**Fatma Fahrunnisa Hanım**	***1896 Bahar'ında Bursa (Hüdâvendigâr Vilayetinde Kısmen Bir Cevelan)***	With her friends, she traveled by a ship named *Bingazi* from Galata Port and by a train from Mudanya to Bursa. The railway journey took 4-4,5 hours and the route included train stations at Mudanya, Yörükali, Koru, Acemler, Merinos, Demirtaş, and Bursa. She visited tZiraat Mekteb in Karaman Village, and she also noted on agricultural machines and spatial organization of the farm buildings in the site. Fatma Fahrunnisa Hanım depicted timber-framed houses, hotels with baths and hammams in Çekirge, filature factories, destruction and repairing process after the earthquake of 1855 in the city as well as the contribution of immigrants in the formation of villages in the environs of Bursa and urban transformation in the core and its periphery.	Fatma Fahrunnisa Hanım. (2010). 1896 Bahar'ında Bursa (Hüdâvendigâr Vilayetinde Kısmen Bir Cevelan). Trans. Nezaket Özdemir. Bursa: Bursa Büyükşehir Belediyesi.
1897	**Clement Imbault Huart**	***Konia: La ville des derviches tourneurs***	The railway lying from Mudanya to the old capital of the Ottoman Empire, Bursa, was one of the concern of the traveler. He emphasizes the migrant cars which were preferred before the construction of the railway.	Anonym. (1948). Meşhur Seyyahların Gözüyle Bursa. In: Bursa. Prep. Vedat Nedim Tör&Şevket Rado. Yapı Kredi Bankası Bursa Şubesi'nin Açılış Hatırası.
1898	**İbnülcemal Ahmed Tevfik**	***Yüz Yıl Önce Bisiklette Bursa (Hüdavendigâr Vilayeti Dahilinde Velosipetle Bir Cevelan)***	He travelled via a bicycle. The ship touched at Armutlu, Tirilye and Siği before Mudanya, and the effects of the southwest increased while approaching to the Mudanya Port. He visited Ziraat Mekteb and observed agricultural equipment and machines. He noted on Tophane Square, factories and mills, municipality, Mekteb-i İdadi (Işıklar Military School), significant historical monuments, hotels in Sedbaşı, and thermal springs in the city.	İbnülcemal Ahmed Tevfik. (1898/2007).Yüz Yıl Önce Bisiklette Bursa (Hüdavendigâr Vilayeti Dahilinde Velosipetle Bir Cevelan). Trans. Nezaket Özdemir. Bursa: Sentez Yayıncılık.
1899	**Ioannis Kalfoğlu**	***Küçük Asya Kıtasının Tarihi Coğrafyası***	Kalfoğlu described the geography of Bursa with a special focus on the city's environs, including Gemlik, Mudanya, Mihaliç, Kirmasti, Adranos, and Pazarköy. Natural water sources were İznik, Apolyont and Manyas Lakes. Armutlu was famous for its thermal spring water. Mudanya was very significant port for export.	Kalfoğlu, Ioannis. (1899/2013). Küçük Asya Kıtasının Tarihi Coğrafyası. Trans. Özge Özgür. Edirne: Albatros.
1901	**Hüseyin Vassaf**	***Bursa Hatırası***	He described the train stations on the railway. The trains stations were Koru Station where Bursa Hamidiye Sanayi Mekteb was located; Acemler Station where people used coming for thermal springs in Çekirge; Yahudiler Station (Bursa Beklemesi) located near Yahudiler Neighborhood; and, the last station, Bursa Station located near the city centre. Although it was similar to Haydapaşa dock, it was wider and longer and it had a train station.	Hüseyin Vassaf. (2010). Bursa Hatırası. (Prep.) Mustafa Kara and Bilal Kemikli. Bursa: Bursa Kültür A.Ş.; Extracts from: Çiftçi, Cafer. (2012).
1906	**Paul Fesch**		The silk produced in Bursa region was transported to İstanbul and then to France via the companies from Marseilles until 1903. However, after the initiatives of a German company named Deutsche Levant Linie for shipping between Hamburg and Mudanya in 1902, the company, Fraissinet, started shipping between Mudanya and Marseilles in 1904. The ship companies such as Messageries Maritimes and Paguet also started shipping.	Extracts from: Çiftçi, Cafer. (2012).

Legand / Main Focus of Traveler
- Natural Aspects and Disasters
- Mudanya-Bursa Road and Public Buildings in Bursa City Center
- Mudanya and Gemlik Towns and Ports, Commerce in the Ports, and Transportation to Bursa
- Hotels

Table 1.1 Notes on Travelers' Observations (compiled and prepared by the author, 2018)

1.3 Organization

Following **Chapter 1, Introduction,** which presents the aims and the significance of the study and introduces the conceptual framework by reviewing the related literature on the topic and by outlining the methodology of the study, the dissertation is organized in four main chapters and a conclusion.

Chapter 2, Bursa in the Late Ottoman Period, establishes the environmental context of the city, and the economic and urban and architectural contexts of the nineteenth century in general to be situated in the case of Bursa in particular. The subtitle, **Environmental Context of Bursa**, introduces the natural resources of the city and natural disasters in relation to its geographical situation within the context of utilization and mitigation. The subtitle, **Economic Context of the Nineteenth Century**, initially deals with Ottoman economy and explores the role of the utilization of nature and technology in the contemporary advancement of production and commercial relations, exemplified in the case of Bursa. The subtitle, **Urban and Architectural Context of Bursa,** examines the historical commercial urban core of the city as formed in earlier centuries in order to present the factors behind the early modern urban development of the city and the impacts of the complex buildings on defining city boundaries in addition to the question of how the expansion of the city was attempted to be controlled. The part sets the ground to analyze the spatial development of the city in the nineteenth century with the growth of the center towards its periphery and larger hinterlands until the edges by describing the center-edge connectivity in Bursa that worked with the construction of roads and railways the improvement of industrial and agricultural facilities that expanded the city beyond its traditional boundaries in the nineteenth century.

Chapter 3, Transformation of the Urban Core of Bursa and Its Periphery via Industrial Production, explores the diversity of manufacturing practices as well as the places of industrial production in the late Ottoman period. The shift in silk production from household practices to the filature factories, and the institutionalization of industry in schools and institutes provided the basis of urban transformation. This chapter analyzes the spaces of industrial production in the urban

core and its periphery by examining the sites as well as architecture of industrial buildings. The neighborhoods of factory workers are also studied in order to understand the wider effect of industrial production in spatial transformation.

Chapter 4, Transformation of the Hinterlands of Bursa via Agricultural Production, initially highlights that agricultural hinterlands had already been appropriated in the previous centuries, and property rights of peasants were officially established in the nineteenth century. In the nineteenth century, the people of Bursa were already familiar with sericulture as an agricultural practice with an awareness of the natural values of the city such as climate and resources like mulberry groves and water sources. The chapter illustrates the contemporary transformation of agricultural production from subsistence to market-oriented commercial agriculture as well as the institutionalization of agriculture in schools. The geographical and natural aspects of the city as well as the architecture of farmeries and villages of immigrant farmers are also discussed. This chapter analyzes the spaces of agricultural production in the hinterlands of Bursa by examining the sites as well as architecture of agricultural buildings. Villages of immigrant farmers also form part of the focus of analysis in order to understand the wider effect of agricultural production in spatial transformation.

Chapter 5, Transformation of the Edges of Bursa via Transportation for Commerce, initially examines the entire urban transportation patterns realized by technological developments in order to evaluate the spaces for the distribution of industrial and agricultural products during the late Ottoman period. The transportation patterns did not only provide well-connected spaces and efficient places for production and distribution, but also contributed to the development of cities. The chapter inquires how the intermediation between the inland and the ports was actualized in the case of Bursa. Moreover, this chapter analyses the connections of the Ottoman railways with the ports in general, and specifically the incorporation of the Mudanya port with the inland city of Bursa with a focus on the construction of the Mudanya Bursa railway. This chapter, then, displays the intensification of the relations between the producers inhabiting the inland and consumers/merchants across the Marmara Sea due to the increased marketing activities. This chapter also

analyzes the spaces of transportation of commercial products from the urban core to the edges by examining the sites as well as architecture of transportation and commercial buildings.

Finally, **Chapter 6, Conclusion,** evaluates the spatial transformation of Bursa in a comprehensive understanding of how the urban core, the periphery, and the hinterlands in the inland and the edge of the city at the coastal areas interacted during the nineteenth century via developments in industrial and agricultural production and transportation that led to increased commercial relations while changing the urban and architectural context of Bursa during the late Ottoman period.

CHAPTER 2

BURSA IN THE LATE OTTOMAN PERIOD

This study conceptualizes Bursa in the late Ottoman period within its environmental, economic, and urban and architectural contexts. In terms of the environmental context, natural resources of the city and natural disasters are introduced in the first part of this chapter. The utilization of natural sources and the mitigation of natural disasters were experienced in the spatial transformation process of Bursa and its environs. The second part examines the economic context, and indicates the increase in the volume of Ottoman external trade in the nineteenth century. Considering Bursa's economy, the increase in agricultural production in the hinterlands of the city with the contribution of immigrants and the introduction of modern agricultural technology through education as well as the development in the raw silk production through factories in the city are emphasized. The urban and architectural context is presented in the third part, which initially presents the urban formation of the early modern town of Bursa, and then examines the nineteenth century spatial transformations in the Ottoman Empire by focusing on the development of Bursa.

2.1. The Environmental Context

Kostof (1992) describes "walled frame" in the city in a historical context by stating that "things have changed in the modern period: we no longer think of the city as a closed form with hard edges".[46] In the case of Bursa, a rapid expansion and urban development initially started by the "Ottomanization" of the former Byzantine fortress town of Prousa.[47] **(Figure 2.1)** Analysing a connection between building

[46] Kostof, S. (1992). *The City Assembled: The Elements of Urban Form through History.* Boston: Little, Brown, p. 11.

[47] Pancaroğlu, O. (1995). Architecture, Landscape, and Patronage in Bursa: The Making of an Ottoman Capital City. *Turkish Studies Association Bulletin 20/1,* p. 40.

programs and the landscape of the early urban pattern in Ottoman Bursa, Pancaroğlu (1995) emphasizes the role of natural factors in the formation of the urban pattern, supported by the building activity of the sultan's practical and symbolic expressions during almost the first hundred or hundred and fifty years of the Empire.[48] The city of Bursa, with its natural resources and agricultural lands, therefore, was also shaped through "an Ottoman way of organizing space" and "topography" before the nineteenth century.[49] Lowry (2012) also asserts that the Ottoman's way of establishing their presence was to establish the institutions known as *zaviye-imaret* or dervish lodges together with *han*s (covered market halls) and *kervansarays* (inns with large courtyards) as an Ottoman sign within the urban landscape in western Anatolia and the Ottoman Balkans.[50]Another way of symbolizing their presence was to construct new environments outside the city walls. Both processes were witnessed in the case of Bursa.



Figure 2.1 View of Ulu Mosque from Hisar (Saltanat) Gate, c. 1885.
Source: Dostoğlu, N. T. (2001). *Osmanlı Döneminde Bursa: 19. Yüzyıl Ortalarından 20. Yüzyıla Bursa Fotoğrafları*. Antalya: AKMED, p. 35.

[48] Ibid., pp. 40, 41.

[49] Erder, L. T. (1976). The Making of Industrial Bursa: Economic Activity and Population in a Turkish City 1835-1975. PhD Dissertation. Princeton University, p. 203.

[50] Lowry, H. W. (2012). Early Ottoman Period. In M. Heper & S. Sayarı (Eds.). *The Routledge Handbook of Modern Turkey.* London and New York: Routledge, Taylor & Francis Group, p. 8.

Because Bursa was an expanding city towards the edges of a wide land of the plain throughout its history, the construction of afore-mentioned complexes should be regarded as the first significant attempts for the expansion of the city. That is, the city of Bursa, first shaped within the city walls, extended beyond the east through initially the constitution of *taht-al kal'a* as a small trading section, and then the construction of *hans* towards the north below the citadel for merchants to settle after long-distance trade.[51] After the initial constitution of *taht-al kal'a* as a small trading section, the city expanded towards the north after the construction of *han*s, which functioned as a temporary accommodation for merchants after their long-distance travel.[52] Constructing Ottoman *külliye*s outside the city walls was the first example of the Ottoman urban policy, which encouraged the expansion of city beyond the city walls. The urban area continued to expand with the construction of residential quarters around the complexes. Therefore, fundamentally, the citadel *(hisar),* the market area *(çarşı),* **(Figure 2.2)** and religious complexes were the main elements of the city form, and the city was first shaped within the city walls, and then expanded towards the east within the natural boundaries of the city.[53] Since the city can expand to the extent allowed by the natural sources, the conceptualization of "urban expansion" cannot be discussed without considering natural barriers. For instance, two significant geographical factors, the mountain Uludağ in the south and the Yeşilova Plain in the north, were effective in forming the physical urban fabric. While Uludağ was a dominant natural element for the city and the plain, supplying water to the two streams, Climboz and Gökdere Streams, the foothills and streams were influential in the foundation and the limitation of the urban expansion of the city, which allowed the Ottomans to develop a distinctive urban character under a topographic basis.[54]

In the nineteenth century, the urban core was still comprised of a traditional center that included work places of artisans and craftsmen particularly serving the region where low income population lived, and a newly established shopping area that

[51] Erder, 1976, p. 206.

[52] Ibid.

[53] Ibid.

[54] Pancaroğlu, 1995, p. 41.

included shops selling European products and tradesmen's offices serving high income population.[55] As the remnant of preceding centuries, the citadel became a fortified unit of a larger urban fabric in the core of the nineteenth century city.[56] Besides, working harbors, quays, and protruding docks where the town met with the water, were also tools to open the walled frame in the industrial context of the late Ottoman period.[57] The obsolescence of the surrounding walls and the development of this new means of transportation were not the sole reasons behind the urban extension. The re-composition of urban landscapes in the Ottoman provinces during the nineteenth century can be observed by "the introduction of new architectural forms" and "the arrangement of layouts".[58]



Figure 2.2 (a) Road through the commercial district, photo: anonymous, c. 1890; (b) Bazaar, photo: Sebah & Joaillier, c. 1894; (c) Shoe sellers, photo: Sebah & Joaillier, c. 1894.
Source: (a) Getty Research Institute, Research Library, Pierre de Gigord Collection, 96.R.14; accessed from: Özendes, E. (1999). *The First Ottoman Capital Bursa, A Photographic History.* İstanbul: YEM Yayın, p. 69; (b) Özendes, 1999, p. 141; (c) Özendes, 1999, p. 142.

The urban core of Bursa, the commercial *han* district, **(Figure 2.3)** with its periphery as well as its hinterlands towards the edges of the city form a unified context that needs to be analyzed in a framework of interrelations. Since the spatial continuity of the city from the core towards its edges depended on not only economic but also ecological aspects, the conceptualization of "dependency" is to be the key focus of

[55] Aktüre, S. (1978). 19. Yüzyıl Sonunda Anadolu Kenti Mekansal Yapı Çözümlemesi. İstanbul Teknik Üniversitesi, Mimarlık Fakültesi, Doktora Tezi. Ankara: ODTÜ Mimarlık Fakültesi, Baskı Atölyesi, p. x.

[56] Kostof, 1992, p. 15.

[57] Ibid., p. 16.

[58] Arnaud, J. (2008). Tradition and Modernity in the Nineteenth Century Modernization of the Cities of the Ottoman Empire (1800–1920). In S. K. Jayyusi (Ed.). *The City in the Islamic World,* Vol. 2. Leiden, Boston: Brill, p. 969.

analysis. In the early modern period, one of the reasons behind the expansion of cities was the relation between trade networks and agricultural hinterlands. Correspondingly, there seems to be a direct association between outer boundaries of a city where people live and produce in agricultural hinterlands and the way that they depend on the urban core. The links between markets and rural populations were established with a basis on commercial transactions: the distribution of local products in markets and the exchange of rural surplus for urban goods.[59] As for the nineteenth century cities, this dependency reached a new scale. Therefore, industrialization, export-oriented economy, factory-based production, increased and mechanized agricultural productivity as well as advanced transportation system stimulated the rapid urbanization and the expansion of cities. In this context, the environs of Bursa with an emphasis on natural sources and edges are worth to be studied.

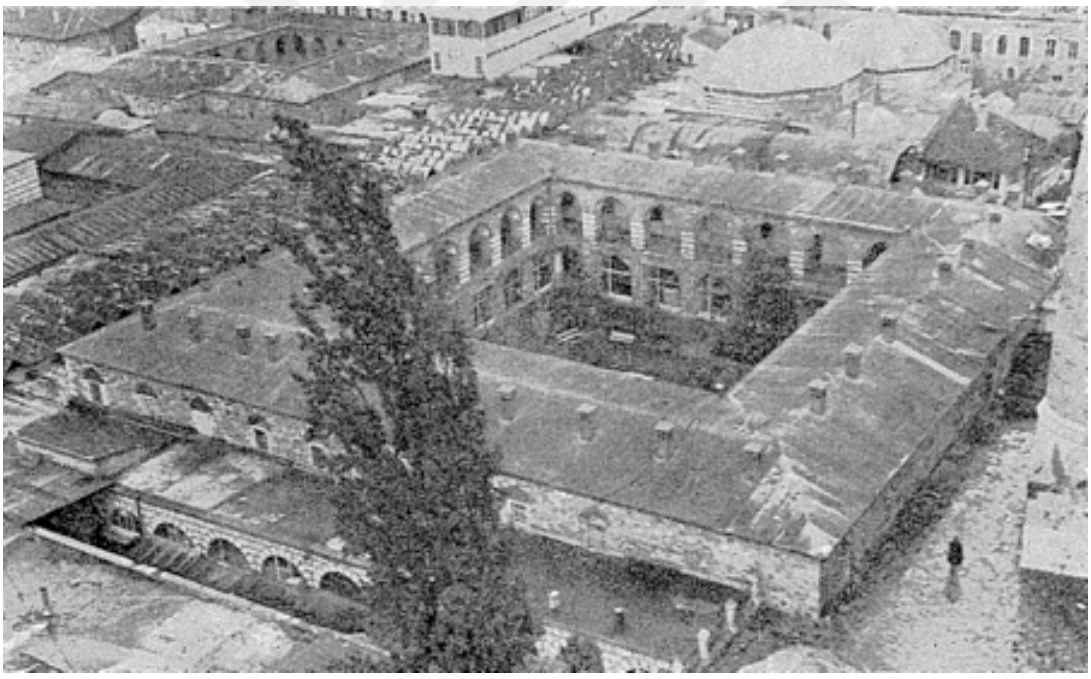


Figure 2.3 A view of *han*s in the bazaar of Bursa.
Source: Cezar, M. (1983). *Typical Commercial Buildings of the Ottoman Classical Period and the Ottoman Construction System.* İstanbul: Türkiye İş Bankası Cultural Publications, p. 25.

[59] Costello, V. F. (1980). The Evolution of Retailing Patterns. In R. I. Lawless & G. H. Blake (Eds.). *The Changing Middle Eastern City.* New York: Barnes & Noble Books, pp. 142, 143.

Bursa had fertile agricultural lands producing food for armies, orchards and gardens yielding fruits and vegetables for the domestic market and the capital.[60] Considering environmental aspects of the city, studying Bursa, therefore, opens new perspectives. For this reason, the geographical and natural boundaries and aspects of Bursa can be defined in detail. Referring to the map drawn by Stotz,[61] the Marmara Sea including the Gulf of Gemlik on the right and Kapı Dağı peninsula on the left defines the coastal area in the northwestern side of the city.[62] The southward boundary comprises certain barriers such as Ulu Dağ and Kel Dağı mountains, and the valleys between mountains crossed by Kocasu (Atronos) and Simav Streams. The western boundary is formed by Apolyont Lake and Manyas Lake as drainage system.[63] The city extends eastward covering the great plain of Yenişehir and the Bursa lowland.[64] The coastal area did not include natural harbors, but only Bandırma was an exception since the harbor was protected naturally by Kapı Dağı Peninsula.[65]

The geographical factors such as wheather, climate, landforms, flora and fauna, kind of soil, water bodies all affect the settlement policy of settlements.[66] In the case of Bursa, the melting snow flows from Uludağ into the plain through deep valleys and the amount of water flowing from the mountain was excessive, which resulted in the formation of swamp areas and made the area undeveloped until the time of Orhan Gazi.[67] The positive natural results were also achieved through the excessive amount of water; namely, the alluvion transported by water induced the formation of fertile agricultural lands and made the northern hillsides of the mountain well-watered

[60] Stotz, C. L. (1939). The Bursa Region of Turkey. *Geographical Review,* Vol. 29. No. 1, p. 81.

[61] See: Appendix E (e).

[62] See: Figure 2.9.

[63] Stotz, C. L., 1939, p. 83.

[64] Ibid.

[65] Ibid, p. 86.

[66] Can, A. (2017). *Kadim Bursa Osmanlı Fethine Değin Bursa ve Çevresinin Tarihi.* Bursa: Sentez Yayıncılık, p. 15.

[67] Ibid.

(sulak) and covered by an extensive flora.[68] The water supplies of Bursa are Kocasu, Nilüfer Stream, and the tectonic lakes of Apolyont and Kocasu, and Nilüfer Stream also provided transportation for boats.[69] Since providing both irrigation for agriculture and transportation, the vicinity of lakes has always been preferred for settlements.[70] Besides, grain and rice production in the Bursa region was one of the most developed agricultural activity, especially in the swamps of the Bursa plain and near Manyas and Apolyont Lakes.[71]

Considering the ports of Bursa, having a sheltered port against harsh weather conditions was the most significant determinant for the development of a waterfront settlement. The dominant wind direction in the Bursa region is northern and the winds of *Yıldız* blows from the north, and *Poyraz* from the north-east.[72] Since Gemlik was located in the east of the Gulf, the port is protected from the winds blown from the north, but it is exposed to the wind from the west, and having deep water, the port was the most proper place for anchoring ships.[73] However, being located as open to the winds blowing from the north, the port facilities have always been difficult in the Mudanya Port.[74] Nevertheless, despite not being a more

[68] Ibid., p. 16.

[69] Can, 2017, pp. 16, 17. After the exsiccation *(fay hattının kuruması)* of the fault lines that continued through the region, tectonic lakes were formed (Can, 2017, pp. 16, 17). These lines also caused the formation of underground hot water sources (Ibid.). Çekirge is the district famous for its sources of hot waters in Bursa.

[70] Can, 2017, p. 16.

[71] Stotz, 1939, pp. 91, 92. Oat was also grown in the lowlands especially in the area in the north of Apulyont Lake near Mihaliç Studfarm, where horses were bred and grain was produced for a large market (Stotz, 1939, p. 91). Many kinds of legumes such as beans, lentils, and peas were produced everywhere, especially in the valleys of Simav Çay and Kara Dere in the west, which were exported from the Bandırma port (Ibid., p. 92). Truck gardening was widespread in the alluvial fans of Bursa and the oasis of Kirmasti (Mustafakemalpaşa) since alluvial soils and irrigation water were abundant, and fruits and nuts were grown for domestic use and market in İstanbul (Ibid., p. 93). Animal husbandry, on the other hand, was one of the agricultural activities involving field breeding and raising animals such as sheeps, goats, and cattles living in the mountain valleys and on swampy areas in the margins of Apulyont and Manayas Lakes and yielding meat and milk (Ibid., p. 95).

[72] Can, 2017, p. 17.

[73] Can, 2017, p. 17. Marie de Launay and Bonkowski (1872) also stated that the *Gemlik* Port was quite suitable for anchoring ships (Marie de Launay – Bonkowski Bey (1872/2015). *Bursa ve Civârı.* (Eds.). B. Kurt & İ. Yaşayanlar. İstanbul: Heyamola Yayınları, p. 124).

[74] Ibid.

sheltered port, the Mudanya Port has always been a preferable port since ancient times compared to the Gemlik Port.[75] Another reason behind this choice was also related to the quality of Mudanya road that was less sloping and shorter compared to the steep and prolonged Gemlik road.[76] **(Figure 2.4)**



Figure 2.4 Arriving in Bursa from Mudanya Road, photo: Sebah & Joaillier, 1894.
Source: Getty Research Institute, Research Library, Pierre de Gigord Collection, 96.R.14; accessed from: Özendes, 1999, p. 46.

The experiences of travelers are also worth to be emphasized.[77] Among many travelers who admired the nature of the city, Moltke's letters (1969/2015) of his memoirs in Turkey during the 1830s define the city of Bursa as an expanding town over a green lowland on the skirts of the mountain of Olympia (Uludağ).[78] **(Figure**

[75] Tevfik, İbnülcemal Ahmet. (1898/2007). *100 Yıl Önce Bisikletle Bursa* (Hüdavendigar Vilayeti Dahilinde Velosipetle Bir Cevelan). (Trans.). N. Özdemir. 19. Yüzyılda Bir Bursa Seyahatnamesi. Bursa: Sentez Yayıncılık; Satıcı, E. (2008). 19. Yüzyılda Hüdavendigar Eyaleti. PhD Thesis. Ankara University, Social Sciences Enstitute, History Department; Çiftçi, C. (2012). *Osmanlı Döneminde Mudanya İskelesi ve Gümrüğü.* Bursa İktisat Tarihi Araştırma ve İnceleme Dizisi: 1. Bursa: Bursa Kültür A. Ş.; Can, 2017.

[76] İbnülcemal Ahmed Tevfik (1898/2007); Bilenser, E. (Prep.). (2014). Prusia'dan Bursa'ya: 8500 Yıldır Üreten Kent. Yapı Kredi Yayınları, p. 203; Can, 2017.

[77] See: **Table 1.1** in Chapter 1.

[78] Moltke, Helmuth von. (1969/2015). *Moltke'nin Türkiye Mektupları.* (Trans.). H. Örs. İstanbul: Remzi Kitabevi, p. 73.

2.5, 2.6) Moltke did not only write about a series of cultivated vineyards and mulberry groves that welcomed him to the city on his travel from Mudanya, but also emphasized the wealth of water in the town with a special description of Nilüfer River flowing through walnut trees with dark leaves, light green plane trees, white mosques, black cypresses, meadowlands, and full of mulberry trees.[79] Similarly, Ahmet Tevfik (1898/2007) praised mulberry gardens, vineyards, and a cluster of olive trees on the mountain between Mudanya and Bursa, Tepe Derebendi.[80] Nikola Naçov (1879), another traveler, noted that the water of baths (*hammam*s) became abundant after two earthquakes.[81] Meanwhile, the transportation between Mudanya, the threshold for many travelers, and Bursa was later developed by the construction of the railway and the organization of roads in the second half of the nineteenth century while the semi-agricultural character of Mudanya remained the same.[82]

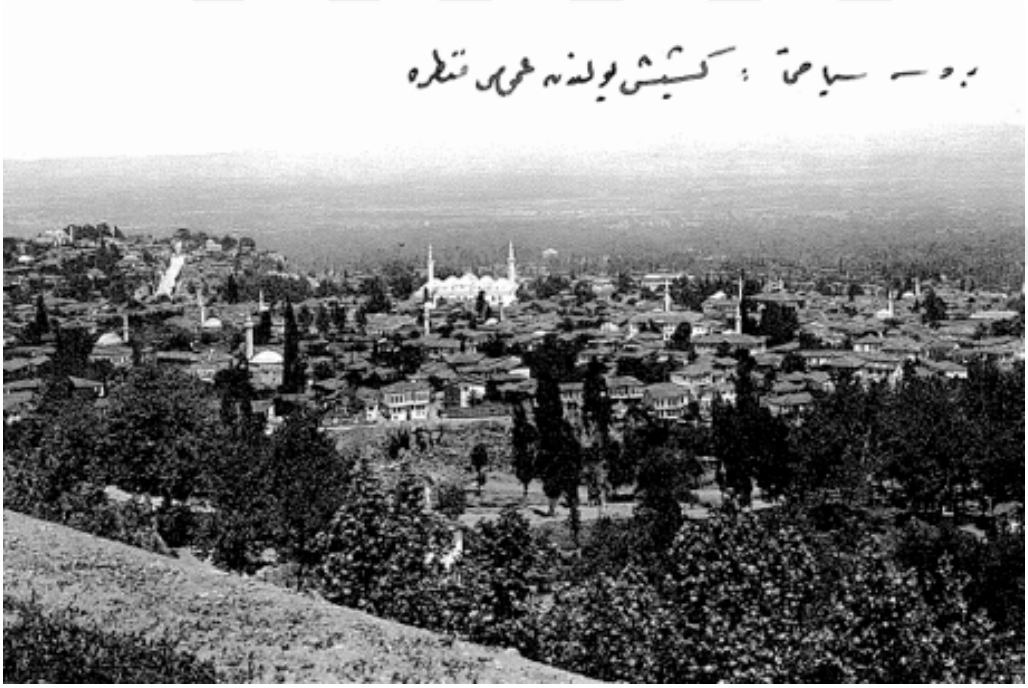


Figure 2.5 Panaromic View of Bursa from Uludağ Road, showing neighborhoods, Hamidiye Street and the plain in the North of Ulu Mosque (c. 1920s).
Source: Dostoğlu, 2001, p. 121.

[79] Ibid., pp. 73, 74.

[80] İbnülcemal Ahmed Tevfik (1898/2007).

[81] Mevsim, H. (2009). *Bulgar Gözüyle Bursa.* İstanbul: Kitap Yayınevi. The extracts from the book in: Kaplanoğlu, R. & Elbas, A. (Eds.). (2007). *Çekirge Semti.* Bursa: Osmangazi Belediyesi, p. 46.

[82] See: **Table 1.1** in Chapter 1.



Figure 2.6 Panaromic Views of Bursa.
Source: İstanbul Rare Collections Library, 90449-30 and 90449-27.

The sericulture based on the existence and productivity of mulberry trees, and the fundamental sources of nutrition for silkworms were leafs of mulberry trees. The Bursa region with its climate had one of the most suitable places for sericulture. The seeds of silkworms were exported via the ports of Bursa on Marmara seashore to Europe.[83] The germ *(ruşeym)* in silkworms had two fragile periods:[84] (1) Protecting the eggs from temperature change and providing rest for the germs were required. In addition, the eggs must be stored in a space with determinate temperature and humidity. The winter quarters *(kışlak)* in Bursa was proper places for this aim. (2) Breeding the germs uniformly and normally during the incubation period must take place in proper areas at a steady *(muntazam)* temperature. Besides, there were rooms to cover the incubation period.[85] As seen, cocoon production necessary for raw silk production necessitated an intensive care and best endeavor. Due to the development of silk industry, industrial areas of silk factories were constructed near the streams in

[83] Yetmen, T. E. (1948). Bursa'da İpekçilik. Vedat Nedim Tör & Şevket Rado (Prep.). *Bursa.* İstanbul: Doğan Kardeş Yayınları, p. 64.

[84] Ibid., p. 65.

[85] Ibid.

the city. Cilimboz and Gökdere Streams, dividing the city into three parts, were two significant natural components. **(Figure 2.7, 2.8)**



Figure 2.7 Sedbaşı Bridge passing over Gökdere Stream.
Source: İstanbul Rare Collections Library, 90449-26.



Figure 2.8 Sedbaşı Bridge passing over Gökdere Stream.
Source: İstanbul Rare Collections Library, 90752-23.

Bursa was also a leading city in animal husbandry in addition to silkculture, raw silk production, and vegetable gardening.[86] The biggest *hara* (studfarm) of the Ottoman period was developed in Bursa in the nineteenth century, husbandry of *merinos* sheep started in the city, and the most known textile factory was also founded in the city in the twentieth century.[87] A plateau on Uludağ, plains and grass-lands with mild climate all constituted suitable conditions necessary for husbandry, and Mihaliç (Karacabey), and Kirmasti (M. Kemalpaşa) became leading towns in horse breeding.[88] **(Figure 2.9)**

Considering natural disasters, many earthquakes occurred in the Bursa region; however, especially the harsh earthquake of 1854 caused a large-scale destruction in the city, and the wave of destruction continued for forty days intermittently with a series of fires between 1850 and 1860.[89] The earthquake of February 9, 1854 was comprehensively described in traveler notes. Baykal (1947) also gives some details about the monuments as well as the social situation in the city at that time, and mentioned the fire that took place at the same time with the earthquake. For instance, the public stayed in the tents and vineyards. Since the income of the *vaqf*s (endowments) was sufficient for the repair of buildings, the fiduciaries immediately set to work with the support of engineers and architects assigned from *İstanbul.*[90] When necessary, the public treasury also funded the repair of buildings and the supply of timber, and daily wage of workers was also provided by the public.[91] However, the houses, often considered as unique examples of wood craftsmanship,

[86] Batu, S. (1948). Bursa'da Hayvancılık. In Vedat Nedim Tör & Şevket Rado (Prep.). *Bursa.* İstanbul: Doğan Kardeş Yayınları, p. 67.

[87] Ibid.

[88] Ibid., pp. 67, 68.

[89] Baykal, K. (1947). 1854 Zelzelesi ve Tahribatı. *Uludağ,* No. 83, May-June, pp. 17-19; Dumont, P. & Georgeon, F. (Eds.). (1999). Sunuş. In P. Dumont & G. François (Eds.). *Modernleşme Sürecinde Osmanlı Kentleri.* (Trans.). A. Berktay. Istanbul: Tarih Vakfı Yurt Yayınları, p. ix; the date of the earthquake is specified as 1855 in some sources in the literature.

[90] Baykal, 1947, pp. 17-19.

[91] Ibid.

were vulnerable to fires.[92] At this point, the urbanization regulations *(nizamnâme)* involving notifications about building materials, and the widening of roads and streets were also prepared. Natural disasters fundamentally facilitated this process. Natural disasters were not something new for the Ottoman cities; yet what was original in the late Ottoman period was reorganizing cities according to new norms after such disasters.[93] Therefore, one interesting point is that the state used natural disasters as a benefit in providing urbanization regulations in the nineteenth century, and for instance, housing architecture built by wood was erased by fires, and it was aimed that the use of wood was no longer preferred as a construction material.[94]

After the earthquake, the destruction of the old Ottoman capital led to the transformation of the old traditional city into a modern city according to the Tanzimât principles, and this task was that of Ahmet Vefik Pasha[95], who worked initially as an inspector and later as the governor of Bursa.[96] In the meanwhile, he established a road network in the environs of the city, widened roads in the urban core and periphery, opened new neighborhoods according to new planning principals based on right angles, and built several new buildings such as the governmental hall, a hospital, a theatre, and the municipality. **(Figure 2.10)** As Dumont and Georgeon quote from a French traveler who visited Anatolia in the 1870s, stating that Ahmet Vefik Pasha could not easily accomplish the opening of roads that were suitable for health standards, but fires, as a natural phenomenon, realized that ideal of Tanzimât

[92] Koyunluoğlu, A. M. (1935). Bursa'da Görülen Tipik Evler. In *İznik ve Bursa Tarihi.* Bursa: Vilayet Matbaası, p. 117.

[93] Dumont & Georgeon, 1999, p. ix.

[94] Ibid., p. viii.

[95] When Sultan Abdülaziz assigned Ahmed Vefik Pasha as the ambassador of Paris in 1861, he had a chance to observe the changes made by Baron Haussmann (Bağbancı, M. B. & Köprülü Bağbancı, Ö. (2010). Urban Reforms of Tanzimât: Early Urbanization and Transportation Practices in the Formation Process of Turkish Reconstruction System (1839-1908) in Bursa the First Capital City of Ottoman Empire. *International Journal of Social, Behavioral, Educational, Economic and Management Engineering,* Vol. 4, No. 6, p. 1132). As the governor of Bursa, he established a new and modern Ottoman city.

[96] Dumont & Georgeon, p. ix; Secer, E., Durak, S., & Vural Arslan, T. (2016). Reflections of Socio-Cultural Changes on Urban Space in the 19th Century: The Case of Bursa. *International Journal of Social Science and Humanity,* Vol. 6, No. 8, August, p. 630; Bağbancı & Köprülü Bağbancı, 2010, p. 1132.

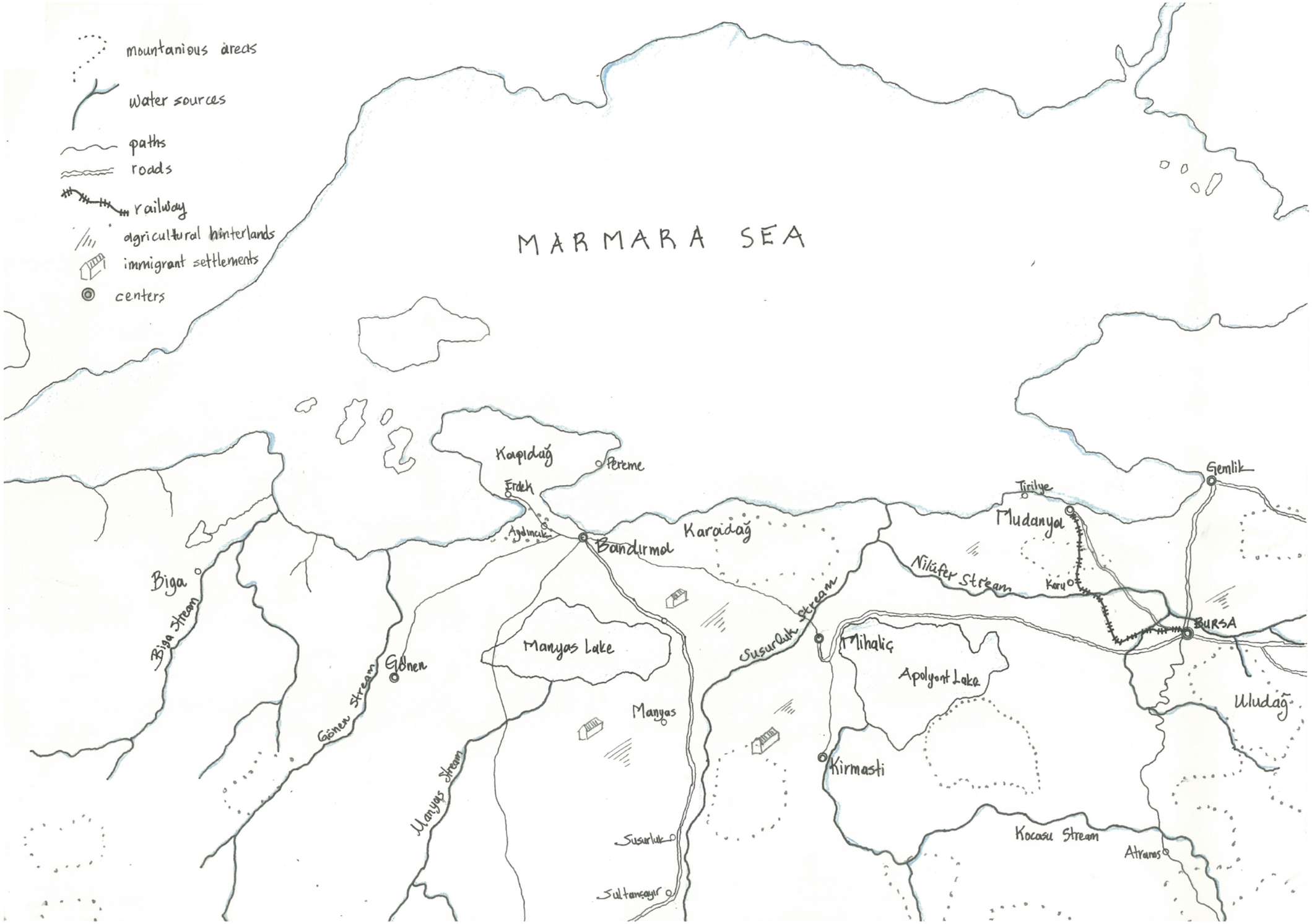


Figure 2.9 Hinterlands and Edges of Bursa (redrawn by the author; this hand drawing is produced in a way that the maps in the Appendix E are scaled according to each other by overlapping them and using a computer program, illustrator, and then the maps are printed on tracing paper and this map is drawn by overlapping the scaled maps)

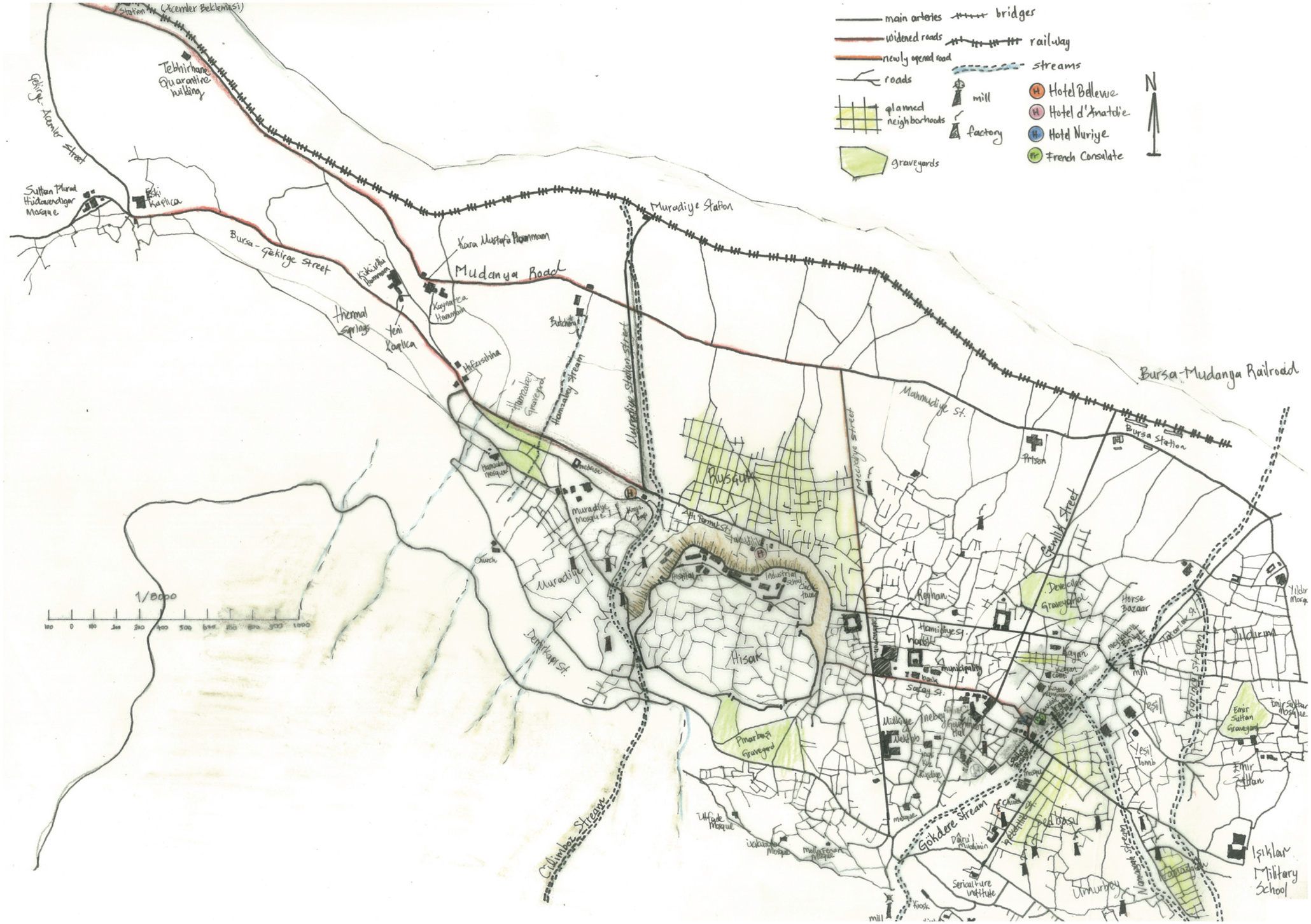


Figure 2.10 Urban Core and Periphery of Bursa (redrawn by the author; this hand drawing is produced in a way that the maps in the Appendix E are scaled according to each other by overlapping them and using a computer program, illustrator, and then the maps are printed on tracing paper and this map is drawn by overlapping the scaled maps)

and only in two months, making it possible to provide new streets through which air and light could easily circulate.[97] **(Figure 2.11, 2.12)** Although not all of the nineteenth century Ottoman governors were as prolific as Ahmet Vefik Pasha, in the first fifteen years under the reign of Abdülhamid II during the late decades of the nineteenth century, there were some governors who made numerous modernization efforts before the actual establishment of municipality in the city.[98] Meanwhile, Ahmet Vefik Pasha defined himself both as a modern and an Ottoman man.[99] That is why, he did not work only for modernizing and regulating the city, but also made efforts for the restoration of the traditional city.



Figure 2.11 A view from Hamidiye Street.
Source: *Hüdâvendigâr Vilâyet Salnâmesi,* 1906*, Bursa Vilâyeti Matbaası,* no page (after p. 200.

[97] Dumont & Georgeon, 1999, pp. viii, ix.

[98] Ibid., p. ix.

[99] Saint-Laurent, B. (1999). Bir Tiyatro Amatörü: Ahmet Vefik Paşa ve 19. Yüzyılın Son Çeyreğinde Bursa'nın Yeniden Biçimlenmesi. In P. Dumont & G. François (Eds.). *Modernleşme Sürecinde Osmanlı Kentleri.* (Trans.). A. Berktay. Istanbul: Tarih Vakfı Yurt Yayınları, pp. 79-98.



Figure 2.12 A view from Mecidiye Street.
Source: *Hüdâvendigâr Vilâyet Salnâmesi,* 1907, *Bursa Vilâyeti Matbaası,* no page (after p. 136).

2.2 The Economic Context

In the fifteenth and sixteenth centuries, the economic development of Anatolian cities was enhanced either by their connection to the major trade routes between the east and the west or their specialization on a single type of production like fine wool weaving in Ankara, copper work in Tokat, and silk textile production in Bursa.[100] As Bursa was a major trade center, particularly in the textile sector, luxury textile products and mainly silk textiles were produced in the city for the consumption of the sultan's court in İstanbul in those centuries.[101] The valuable commodities of the eastern countries brought mainly from Iran could easily be transported to the Venice ports via the Gelibolu and İzmir ports, and in return, the commodities brought from the European countries of Germany, Lehistan (today Poland), and England to Bursa via the Gelibolu and İstanbul ports.[102] This commercial connectivity also covered

[100] Aktüre, 1978, p. viii.

[101] Faroqhi, S. (2008). At the Ottoman Empire's Industrious Core: The Story of Bursa. In S. K. Jayyusi (Ed.). *The City in the Islamic World*, Vol. 1. Leiden, Boston: Brill, p. 358.

[102] Dalsar, F. (1943). Kapan'lar Nedir? *Türk Ticaret Tarihi,* No: 32. Yeni Seri: 16. II. Kânun, pp. 7-9, pp. 7-9.

Anotolia; weaving fabric of Denizli, Karaman, and Balıkesir, silk and carpets of Trabzon, Erzurum, Erzincan, and Amasya, as well as Ankara *tiftik* wool, were all brought to Bursa, and the weaving fabric of Bursa was also transported to the Anatolian cities.[103]

In addition to the variety in products, the income tax through agricultural hinterlands and the customs were also significant economic incomes for the Ottoman state. Examining population and taxation surveys *(tahrir defterleri)* of the Empire, Barkan was interested in income brought for the treasury via taxation.[104] *"Kapan,"* for instance, was known as the starting point of income tax in the history of trade and finance in the Ottoman Empire.[105] With the establishment of "*kapan*(s)", the properties were weighed, and money[106] was taken for them, and in time, this economic activity provided income for the state and trade activities of the public increased.[107] The reciprocal relations between a city and the agricultural hinterlands, which were based on the collection of rural surplus from the countryside by taxation, stimulated trade among cities before the nineteenth century.[108] As an example, the waqf of Sultan Çelebi Mehmed's Yeşil İmaret in Bursa had an important economic power due to rural revenue sources.[109]

When silk textile production is considered as a significant source of income for both the state and the public, it should be stated that the manufacturers of the eighteenth

[103] Ibid.

[104] İlhan, M. M. (1996). Introducing Barkan's Introduction to Hüdâvendigar Livası Tahrir Defterleri. *Prof. Radu Manulescu (Armağanı)*. Bucarest: I. Universitatea din Bucureşti, Facultatea De Istorie, p. 157.

[105] Dalsar, 1943, pp. 7-9; for an urban architectural history perspective, also see: Erkal, N. (2018). Grain Scale of Ottoman Istanbul: Architecture of the Unkapanı Landing Square, *Journal of Urban History,* Vol. 44 (3), pp. 351-381.

[106] Money given for weighed commodities was not given to state in return for a public service, but rather it was previously an income for waqfs of Sultan Orhan (Dalsar, 1943, pp. 7-9).

[107] Dalsar, 1943, pp. 7-9.

[108] Costello, 1980, p. 141.

[109] Orbay, K. (2015). 16. ve 17. Yüzyıllarda Bursa Ekonomisi: Sultan Çelebi Mehmed Yeşil İmaret'inin Mali Tarihi (1553-1650). *Osmanlı Tarihi Araştırma ve Uygulama Merkezi (OTAM) Dergisi,* Vol: 22 No: 22, p. 125.

century Bursa were challenged by the interruption of silk supply from Iran due to the wartime conditions during the last decades of Safavid rule and beyond.[110] However, despite a crisis in silk textile production, and a breakdown in Iranian silk imports, the city sustained its central character in trade and commerce until the end of the Empire and beyond thanks to the availability of alternative raw materials.[111] Besides, despite the transfer of the capital to Edirne in 1361 and the movement of the palace to Istanbul after the conquest of Istanbul in 1453, Bursa had always been an international trade center where silky, spicy, and soft goods had been sold via European merchants until the mid-sixteenth century.[112] Although the city went through a less active period from the seventeenth to the nineteenth century, the reforms started with the 1839 Edict of Tanzimât in order to both modernize society and centralize political power also affected Bursa. In spite of a whole serious of economic difficulties throughout the Ottoman territory especially in the last quarter of the eighteenth century and the early years of the nineteenth century, Bursa seems to have become relatively more prosperous.[113] In this point, the economic context of the nineteenth century Ottoman Empire and its connection with the world economy is worth to be evaluated in order to understand the economic context of the city of Bursa at the time.

Pamuk introduces three significant dimensions of the nineteenth century economic development within the Empire.[114] First, a success in the commercialization of agriculture occurred by a shift in market orientation of cereal and crops to cash crops and by the production of industrial raw materials before the First World War. Second, manufacturing activity focused mostly on artisanal forms with the emergence of modern factories mostly under private ownership at the end of the nineteenth century. And finally, foreign investment by European capital affected the

[110] Faroqhi, 2008, p. 375.

[111] Ibid., p. 360.

[112] Pancaroğlu, 1995, p. 41; Bağbancı & Köprülü Bağbancı, 2010, p. 1129.

[113] Faroqhi, 2008, p. 379.

[114] Pamuk, Ş. (2012). Ottoman Economic Legacy from the Nineteenth Century. In M. Heper & S. Sayarı (Eds.). *The Routledge Handbook of Modern Turkey.* London and New York: Routledge, Taylor & Francis Group.

Ottoman economy with the investment in the construction of railroads particularly in Anatolia and Syria to link the fertile agricultural lands to main ports and the other infrastructural investments such as ports, utility companies, insurance, and shipping. Although the foreign investment in the Ottoman territory was not at a considerable level until the 1850s, a rapid increase in the investments appeared through foreign loans taken by the government and investments for the construction of railways, utilities, mines, and other private enterprises.[115] In the 1860s, the construction of railways fostered the penetration of European markets from the ports to the inland cities accompanied by such services as luxury hotels and travel agencies.[116]

The seaports in the Ottoman provinces, which had also been active within the international commerce in the period between 1500 and 1800, were busiest ports in the nineteenth century with more links to the world economic system and the extension of commercial agriculture.[117] The seaports of Tunis, Alexandria, and Beirut, for instance, were significant ports during the European semi-colonialist relationship with the Ottoman Empire.[118] The transformation of the city of Selânik was also established through a combination of state efforts aimed at centralization with foreign capitals and private enterprises.[119] After the Ottoman ports had encouraged European merchants, bankers, and businessmen, growing international trade enforced an advanced transport system, port facilities, postal services, and commercial accommodation besides the requirements of new public buildings like hotels, entertainment areas, and new urban infrastructures for newcomers.[120]

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[115] Issawi, C. (Ed.). (1974). The Economic History of Iran, 1800–1914. *Publications of the Center for Middle Eastern Studies,* No. 8., xvii. Chicago and London: University of Chicago Press, p. 117.

[116] Arnaud, 2008, p. 955.

[117] Reimer, M. J. (1991). Ottoman-Arab Seaports in the Nineteenth Century: Social Change in Alexandria, Beirut, and Tunis. In R. Kasaba (Ed.) & I. Wallerstein (Adv. Ed.). *Cities in the World-System. Studies in the Political Economy of the World-System.* New York, Westport, Connecticut, London: Greenwood Press, p. 135.

[118] Ibid.

[119] N Neumann, C. K. (2002). Ottoman Provincial Towns in the Eighteenth to the Nineteenth Centuries. In J. Hanssen, T. Philipp, & S. Weber. (Eds.). *The Empire in the City: Arab Provincial Capitals in the Ottoman Empire.* Beirut and Würzburg: Orient-Institut der Deutschen Morgenländischen Gesellschaft, p. 144.

[120] Gül, M. (2009). *The Emergence of Modern Istanbul Transformation and Modernisation of a City.* London and New York: I. B. Tauris Publishers, p. 25.

Political-economic interests of Europe and the concerns of the Ottoman state had a great impact on the emerging exceptional changes in the Ottoman social, economic, and political situations.[121] The transformations in the nineteenth century Ottoman Empire started during the reign of Mahmud II during the early decades of the nineteenth century, who aimed to found a modern and centralized governmental system with judicial, military, administrative, and educational reforms based on the European models.[122] The changes initiated by Mahmud II through the abolishment of the janissary corps turned into more permanent and comprehensive changes in the administrative system of the Ottoman Empire starting with the Tanzimât regulations.[123] Meanwhile, the Ottoman state and society had also started to adapt to the changing circumstances in the early modern era before being faced with the nineteenth century reforms.[124]

A series of reforms, developed in the years between 1789 and 1839, led to the changes in the military, economic, and social structure of the Empire.[125] Along with these transformations, the attempts for centralization reflected on the policies of the Ottoman economy as well.[126] The power of central administration became more efficient thanks to the Tanzimât reforms bringing better internal security, reinforced property rights, and reduced state interventionism both in İstanbul and the

[121] Quataert, D. (1994). The Age of Reforms, 1812-1914. In H. İnalcık & D. Quataert (Eds.). *An Economic and Social History of the Ottoman Empire, 1300-1914.* UK: Cambridge University Press, p. 761.

[122] Ersoy, A. (2006). Istanbul. In J. Merriman & J. Winter (Eds.). *Europe: 1789 to 1914 Encyclopedia of the Age of Industry and Empire.* Detroit, New York, San Francisco, San Diego, New Haven Conn, Waterville Maine, London, Münich: Charles Scribner's Sons, p. 1186.

[123] Çadırcı, M. (2015). 1864 Vilayet Nizamnamesi'nin Anadolu Coğrafyasında Uygulanması. In Erkan Tural & Selim Çapar (Eds.). *1864 Vilayet Nizamnamesi.* Ankara: TODAIE, p. 141; Yazbak, M. (2015). The Vilayets Law and Its Impact on Palestine. In Erkan Tural & Selim Çapar (Eds.). *1864 Vilayet Nizamnamesi.* Ankara: TODAIE, p. 149; Reyhan, C. (2015). 1864 - 1871 Vilayet Nizamnamelerinde İdare Meclisleri: Osmanlı Taşrasında "Birörnek Yönetim Modeli"nin Kuruluş Sorunu. In Erkan Tural & Selim Çapar (Eds.). *1864 Vilayet Nizamnamesi.* Ankara: TODAIE, p. 51; Gençoğlu, M. (2011). 1864-1871 Vilayet Nizamnamelerine Göre Osmanlı Taşra İdaresinde Yeniden Yapılanma. *Çankırı Karatekin Üniversitesi Sosyal bilimler Enstitüsü Dergisi 2(1),* p. 29.

[124] Pamuk, Ş. (2009b). *The Ottoman Economy and Its Institutions.* Variorum Collected Studies Series. Farnham, Surrey: Ashgate, p. vii.

[125] Hanioğlu, M. Ş. (2012). Modern Ottoman Period. In M. Heper & S. Sayarı (Eds.). *The Routledge Handbook of Modern Turkey.* London and New York: Routledge, Taylor & Francis Group, p. 16. Also see: **Figure 1.2** in Chapter 1.

[126] Hanioğlu, 2012, p. 17.

provinces.[127] Taking taxes according to the income of people and providing security for the public were all defined by the Tanzimât Edict.[128] The process of urban reforms also led to a shift from responsibility of urban administration, *kadı*, to Tanzimât's urban reforms, regulations, and legislations in a municipal form since *kadıs* were not capable of fulfilling all of their tasks due to increasing commercial activities and growing size of cities in the second half of the nineteenth century.[129] The *firman*s for the reforms of 1839 and 1856 were carried out to provide equality, security, and justice for each citizen.[130] The set of laws and regulations were, therefore, enacted to challenge internal and external forces.[131] Besides, despite the centralization policy and the total imperial argument, different provincial capital cities had their own locales of responsibility and were exposed to different imperial policies due to the new provincial laws of 1864 and 1867.[132]

Rather than a single authority, the councils of provinces *(vilayet meclisleri)* together with governors contributed to the administration of cities.[133] Besides, the *vilayet* (provincial) laws led to the establishment of new governmental institutions to provide a close relationship between the local administrative system and the center while enhancing the integration of local bodies and citizens in the new administrative system.[134] The councils were also responsible for assisting in military issues,

[127] Pamuk, 2012, p. 44.

[128] Çadırcı, 2015, p. 141.

[129] Çelik, Z. (1986/1993). The Remaking of Istanbul: Portrait of an Ottoman City in the Nineteenth Century. Seattle and London: University of Washington Press; Dostoğlu, N. T. and Oral, E. Ö. (1999). The Physical Transformation of the Ottoman Capital of Bursa from Tanzimât to Republic. In A. Batur and N. Akın (Eds.). *7 Centuries of the Ottoman Architecture.* İstanbul: YEM Yayınları, p. 235.

[130] Yazbak, 2015, p. 149.

[131] Ibid.

[132] Hanssen, J. (2002). Introduction: Towards a New Urban Paradigm. In J. Hanssen, T. Philipp, & S. Weber. (Eds.). *The Empire in the City: Arab Provincial Capitals in the Ottoman Empire.* Beirut and Würzburg: Orient-Institut der Deutschen Morgenländischen Gesellschaft, p.13; Çadırcı, 2015, pp. 143, 146. In 1864, *vilayet* units comprising *liva*s were formed, and with *1867 Vilayet-i Umuniye Nizamnamesi,* the scope of the law was extended and new regulations were also conducted (Gençoğlu, 2011, p. 35). 1864 *Nizamnamesi* was valid until the enactment of 1871 *Idare-i Umumiye-i Vilayet Nizamnamesi* (Ibid.). According to 1864 *Nizamname*, vilayet was the main administrative body, and *liva, kazâ,* and *köy* were other administrative units after vilayet (Reyhan, 2015, p. 55).

[133] Reyhan, 2015, p. 66; Gençoğlu, 2011, pp. 38-41.

[134] Yazbak, 2015, p. 150.

controlling taxes and financial issues, security, education, construction, commerce and craft, and taking precautions against any obstacles during the management of this process.[135] The inspectors were also sent to the provinces to make reforms under the control of local councils, to control sub-administrative units and local officers, to shape opinions on the development of transportation and agriculture, and to implement their occupations.[136] Besides, during this process, wealthy land owners, influential merchants, and state officers assumed a mediatory role between the public and the governing bodies by organizing the public to work in constructions and meeting some expenditures for investing in repair and construction activities.[137]

The development of transportation technologies facilitated market-oriented production. From the 1830s onwards, the development of steam navigation triggered the exchanges and the transportation by the sea.[138] The Mediterranean shore of the Empire, including the ports such as Selânik, İstanbul, Smyrna, Mersin, Beirut, Haifa, and Alexandria, therefore, became centers to supply raw materials to Europe as well as markets for production.[139] More prominently, the export of the agricultural output in central Anatolia further gained acceleration thanks to a connection towards the ports of İstanbul and İzmir provided by the construction of roads and the railroads. While major infrastructural investments such as Baghdad and Hidjaz railways, an irrigation project in the Konya Valley, and telegraph lines were significant attempts in the development of Ottoman industry, an increase in the production levels of such goods as silk, carpets, tiles, glass, and industrial production such as gas, minerals, and cigarettes also demonstrated the growth in the Ottoman industry and the integration of the Empire into the world economic system.[140]

[135] Reyhan, 2015, p. 58.

[136] Ibid., p. 52.

[137] Ibid., p. 60.

[138] Arnaud, 2008, p. 953.

[139] Ibid., p. 954.

[140] Hanioğlu, 2012, p. 23.

The nineteenth century modernization efforts also went forward by the introduction of new techniques and cash crops as well as new schools for agricultural education.[141] Institutional changes in the agricultural sector as another dimension of urban economy led to some important innovations for the modernization of agriculture during the nineteenth century. Examples to these innovations were the increased security in rural areas along with the centralization policy of the state, the regulations of land laws, and the establishment of financial institutions relating to agriculture. Therefore, rural population started to settle in distant fertile lands near transportation networks and urban markets, consequently contributing to agricultural productivity. As the financial institutions grew into a more centralized structure after 1826, a severe shift emerged in the economic realm from the former *timar* (land tenure) system toward the "monetization" of the Ottoman economy through the reorganization of land ownership.[142] For instance, with the Land Code of 1858 as a significant institutional change to encourage private property rights, the Ottoman government was no longer the owner of agricultural lands.[143] In line with Pamuk's argument, the emerging transportation networks, increasing domestic and international market integration, and liberal trade economic policies also encouraged market-oriented agriculture.[144]

While improving liberal policies in commerce, Tanzimât reformers also took steps to initiate industrialization by privileging new factories as well as protecting the local industry.[145] Accordingly, in the second half of the nineteenth century, the Ottoman state undertook some precautions in order to revive craft and small-scale industry in Anatolian cities.[146] Rising customs in order to limit the entrance of European products into the Anatolian bazaars; opening exhibitions to present local products and machines produced by foreign companies and to encourage local industry;

[141] Pamuk, 2012, p. 49.

[142] Hanioğlu, 2012, p. 20.

[143] Pamuk, 2012, p. 49.

[144] Ibid.

[145] Hanioğlu, 2012, p. 20.

[146] Aktüre, 1978, pp. 60, 61.

opening industrial schools to provide employment in industrial centers in cities; and establishing firms to assemble tradesmen were the precautions taken.[147]

An overhaul of the Ottoman financial system started in the 1840s, including the opening of the first Ottoman post office in 1840 in İstanbul, the establishment of the Ottoman Bank in 1856, the operation of the first steam-powered ferries in 1851, followed by the organization of telegraph lines, and the construction of railways linking the capital both to the Arab provinces and to Europe.[148] In a moving account, the banks not only lent to the state but also financed large industrial, agricultural, and commercial works of private entrepreneurs in the mid-nineteenth century.[149]

In this context, a shift emerged in the relative position of the city of Bursa in the urban network of the nineteenth century from being the second rank city with respect to its population and commercial activities to granting its place to the city of İzmir as a growing port city.[150] Nevertheless, Bursa sustained its considerable significance with respect to the level of employment, export-oriented commercial activities, and foreign investments, which affected its urban economy and urban growth.[151] Within the Anatolian urban network, export-oriented economy was realized by Gemlik, Mudanya, Bandırma, Erdek, and Kapıdağı ports with the later supply of İzmir-Aydın and Mudanya-Bursa railways.[152] From the 1890s on, the railways provided the connection between the ports and the inland cities, and the transportation of imported commodities as well as the export of local industrial Ottoman raw materials.[153] The Mudanya Port, for instance, was a significant contributor to the commercial activities

[147] Ibid, p. 61.

[148] Ayalon, Y. (2015). *Natural Disasters in the Ottoman Empire Plague, Famine, and Other Misfortunes.* New York: Cambridge University Press, pp. 174, 175, 180.

[149] Kuran, T. (2005). The Logic of Financial Westernization in the Middle East. *Journal of Economic Behavior & Organization,* Vol. 56, p. 609.

[150] Erder, 1976, pp. 64, 68, 69.

[151] Ibid., p. 69.

[152] Çadırcı, M. (1991). *Tanzimât Döneminde Anadolu Kentlerinin Sosyal ve Ekonomik Yapısı.* Ankara: Türk Tarih Kurumu Yayınları, p. 369.

[153] Çöteli, M. G. (2012). Anatolian Urban Network: Regional Commercial Networks Overcoming the Territorial Disparities. 15th International Planning History Society Conference. Brazil, 15-18 July 2012.

throughout Anatolia, operating the transport of the products of Bursa, Ertuğrul, Kütahya, and Afyonkarahisar to the other Anatolian cities and abroad.[154] Besides, maritime towns, namely İzmir, Beirut, and Selânik, became key port cities and functioned as linkage points between Europe and Anatolia thanks to the sea and rail routes.[155] Despite the differences in the growth level of cities and regional development processes, the urban network of the Ottoman cities, especially those in Anatolia, was established by direct interactions of inland cities to the major port cities, which accelerated the process of the incorporation of the Ottoman economy into the European-dominated world capitalist economic system.[156]

Considering the development in the production level in Anatolia, especially in Bursa, the search for the markets to trade products of the nineteenth century also induced an era for the presentation of these products in exhibitions. From the second half of the nineteenth century onwards, many attempts to organize exhibitions had been observed in the Ottoman Empire, one of which was the 1909 Bursa Exhibition. This exhibition was a significant attempt to record the economic and technological development of Anatolian cities in the Ottoman Empire, especially that of Bursa. A commission was formed to organize the exhibition. The exhibition was to be placed in the municipality and its garden. A periodical, *Bursa Sergisi,*[157] comprised of ten issues and related to the exhibition, was published. As understood from the periodical, a competition was also planned to evaluate machines and products. The machines and equipment related to industry and agriculture were also to be tested in the farms and presented in the exhibition.

Agricultural machines, for instance, were tested in *Numune Çiftliği* (Model Farm). All the experiences gained by these tests were published in daily newspapers and viewed by the public. In the first issue of the afore-mentioned periodical, *Bursa Sergisi*, the news showed the increase in local tourism. Since the ship services of

[154] Çadırcı, 1991, p. 370.

[155] Çöteli, 2012.

[156] Ibid.

[157] *Bursa Sergisi:* 10 Temmuz 1325/23 Temmuz 1909, No: 1, comprising of 10 issues, *Matbaa-i Vilayet.*

İdare-i Mahsusa (State Ship Company) were inadequate to carry the passengers traveling between *Dersaadet*, the capital city of Empire, and Mudanya, the port near Bursa, extra services were assigned for this travel. *Han*s and hotels were all full during the period of the exhibition, proving that it positively affected the economy in Bursa.

To conlude, the volume of Ottoman external trade increased due to increased agricultural production and import and export commercial relations with Europe. The growth in the Ottoman economy was achieved in the nineteenth century especially after the 1860s with planning and construction of roads mainly by the state, the construction of railways, and foreign investments.[158] **(Table 2.1)** Considering taxation of agriculture as the indicator of this growth,[159] agricultural developments played a significant role in the development of Ottoman economy. The contribution of immigrant farmers was one of the significant factors in the development of economy.[160] More importantly, foreign interventions into the agricultural field remained limited as foreigners rather invested in the construction of railway and ports; therefore, the field of agriculture was more under the supervision of the state.[161] The state leading the agricultural developments contributed to the process by establishing modern agricultural schools and model farms, encouraging the use of modern technology, opening new farmlands for the settlement of immigrants, providing tax exemption for peasants as well as establishing financial institutions to provide agricultural credit.[162] The agricultural development led to the spatial

[158] Quataert, D. (2005). The Ottoman Empire, 1700-1922. Cambridge: Cambridge University Press, p. 128; Karpat, K. (2008/2019). *Osmanlı Modernleşmesi Toplum, Kuramsal Değişim ve Nüfus.* (Trans.). C. Elitez. İstanbul: Timaş Yayınları, pp. 93, 94, 102; Tekeli, İ. (2019). Cumhuriyet Dönemi Boyunca Kırsalın Geçirdiği Dönüşüm ve Kırsaldan Kopuş. *Efil Journal of Economic Research,* Vol. 2, No. 6, p. 10; Baskıcı, M. M. (2011). Machine Prices and the Mechanization of Ottoman Agriculture, 1860-1914. *Journal of Social Sciences,* Vol. IV, No. 1, p. 69.

[159] Quataert, 2005, p. 30.

[160] Pamuk, Ş. (1987). Commodity production for world-markets and relations of production in Ottoman agriculture, 1840- 1913. In H. İslamoğlu-İnan (Ed.). *The Ottoman Empire and the World Economy.* Cambridge: Cambridge University Press, p. 184.

[161] Pamuk, Ş. (1988). The Ottoman Empire in Comparative Perspective. Review (Fernand Braudel Center), 11(2), pp. 133, 135, 145, 146, http://www.jstor.org/stable/40241089.

[162] Quataert, D. (1975). Dilemma of Development: The Agricultural Bank and Agricultural Reform in Ottoman Turkey, 1888-1908. *International Journal of Middle East Studies,* Vol. 6, No. 2, pp. 210-227; Baskıcı, 2011, pp. 69, 70, 73.

transformation of the hinterlands of Bursa. Due to the increase in the volume of Ottoman trade, the urban development of cities was facilitated especially in the cities having a port.[163]

Considering the economy of Bursa, the city with its environs also experienced this process at a considerable level. With the settlement of immigrants and the establishment of agricultural school in the hinterlands, agricultural production increased. The small-scale farming remained constant with the existence of immigrants. The increase in agricultural production also necessitated advanced transport technology. The construction of roads and the railway contributed to the transformation and development of the lands beyond the urban core and its immediate periphery. However, the reason behind the construction of transportation, especially roads, was not merely the agricultural development; raw silk production in the city with the mechanization in industrial production also necessitated the railway construction. Although silk textile was produced for the domestic market, Bursa produced raw silk for the European market.[164] Therefore, the increase in agricultural production and industrial raw silk reflected on the increase in the volume of Ottoman trade, which was also experienced in Bursa economy.

[163] Pamuk, 1987, p. 195; Karpat, 2008/2019, p. 144.

[164] Quataert, D. (1993/1999). *Sanayi Devrimi Çağında Osmanlı İmalat Sektörü.* (Trans.). T. Güney. İstanbul: İletişim Yayınları, pp. 41, 163, 168.

Table 2.1 The table showing Ottoman Foreign Commercial Volume, 1830-1913, in terms of million English sterlin.
Source: Pamuk, Ş. (1994/2017). *Osmanlı Ekonomisinde Bağımlılık ve Büyüme (1820-1913).* İstanbul: Türkiye İş Bankası Kültür Yayınları, p. 150.

Year	Export	Import	Year	Export	Import
1830	3,7	5,3	1870	17,4	22,5
1831	3,6	4,6	1871	20,7	21,4
1832	4,2	4,9	1872	20,2	23,2
1833	4,1	4,4	1873	19,2	22,4
1834	3,9	4,5	1874	21,1	23,3
1835	4,4	5,2	1875	19,0	22,1
1836	4,4	5,7	1876	23,0	19,7
1837	4,5	4,5	1877	17,4	16,4
1838	4,4	6,2	1878	13,6	18,0
1839	4,8	5,4	1879	15,0	18,9
1830-39	4,2	5,1	1870-79	18,6	20,8
1840	4,7	5,2	1880	14,3	15,8
1841	5,3	5,8	1881	15,3	15,2
1842	5,5	6,0	1882	15,9	15,2
1843	5,7	6,2	1883	16,3	15,3
1844	5,7	7,5	1884	16,7	15,0
1845	6,2	7,4	1885	16,9	15,8
1846	6,2	6,5	1886	16,3	16,5
1847	7,8	8,4	1887	14,0	16,6
1848	5,8	7,8	1888	13,2	16,0
1849	6,6	8,1	1889	16,3	18,5
1840-49	6,0	6,9	1880-89	15,5	16,0
1850	7,8	8,9	1890	17,1	19,4
1851	8,8	8,7	1891	17,6	18,7
1852	9,8	10,8	1892	19,1	19,4
1853	9,8	11,3	1893	17,7	19,3
1854	9,3	10,7	1894	15,7	20,5
1855	9,7	19,2	1895	17,1	17,4
1856	12,5	18,4	1896	17,6	16,3
1857	10,0	12,0	1897	19,9	17,7
1858	9,8	11,9	1898	17,3	19,8
1859	10,4	10,6	1899	17,6	18,0
1850-59	9,8	12,3	1890-99	17,7	18,6
1860	11,1	13,7	1900	19,5	18,4
1861	12,2	12,0	1901	20,1	21,9
1862	13,7	13,1	1902	21,2	20,6
1863	15,8	17,5	1903	22,5	21,6
1864	16,7	19,9	1904	22,3	27,6
1865	15,6	19,4	1905	24,1	26,1
1866	15,5	20,4	1906	26,1	30,8
1867	14,9	19,8	1907	26,6	28,8
1868	19,7	22,8	1908	23,1	18,8
1869	18,9	24,0	1909	24,5	33,3
1860-69	15,4	18,3	1900-09	23,0	26,0
			1910	26,0	39,2
			1911	27,1	40,4
			1912	27,6	35,2
			1913	28,4	39,4
			1910-13	27,3	38,6

2.3 The Urban and Architectural Context

In order to understand the spatial transformation of Bursa in these environmental and economic contexts of the late Ottoman period, the urban and architectural context of the Ottoman cities of the period will be analyzed in this part of the chapter. The analysis will initially present the urban formation of Bursa in the earlier centuries and then focus on its spatial development in the nineteenth century.

2.3.1 Early Modern Town of Bursa

Clark (1995/2002) argues that one of the factors contributing to the urban brittleness of small pre-modern European towns was their dependence on the hinterlands and the system of local markets since most towns were determined to serve as a market place for the agricultural surplus of the countryside.[165] Thus, pre-modern small towns were identified with regional hinterlands and rural economies.[166] Weber also highlights the economic character of cities, viewing them as "a settlement of the market" where the life of inhabitants depends on the relation between a city as an agent of trade and commerce and lands as food suppliers.[167] According to Sjoberg, an outstanding function of cities, aside from the administrative and relevant military functions, is the economic charge.[168] Considering the pre-Islamic Roman and Parthian Empires, since the economies of the Empires relied on trade and agriculture, the Islamic civilization was built on this structure, as well.[169] For instance, the market quarters of Cairo in the Mamluk Age also experienced an expansion with the concentration of numerous markets and caravanserais in a large area while other

[165] Clark, E. C. (1974). The Ottoman Industrial Revolution. *International Journal of Middle East Studies,* Vol. 5, No. 1, p. 7.

[166] Hohenberg, P., & Lees, L. (1985). *The Making of Urban Europe.* Cambridge: Harward University Press, p. 3.

[167] Weber, M. (1958). *The City.* United States of America: The Free Press, p. 72.

[168] Sjoberg, G. (1960). *The Preindustrial City, Past and Present.* Glencoe, Illinois: Free Press, p. 88.

[169] Gharipour, M. (2012). Introduction The Culture and Politics of Commerce Bazaars in the Islamic World. In Mohammad Gharipour (Ed.). *The Bazaar in the Islamic City Design, Culture, and History.* Cario, New York: The American University in Cario Press, p. 5.

specialized markets were situated towards the environs.[170] Raymond also defines Arab cities as market settlements.[171] The central economic zone was affected by expansion into the residential zones surrounding the core, which was resulted in the replacement of houses by suqs and caravanserais due to the growth of the central economic zone in the Ottoman cities of Tunis, Cario, and Aleppo.[172] Thus, as also highlightened by Cezar, "the earliest signs of change" in transformation of a pre-industrial city to an industrial city are observed in "the sphere of trade".[173]

The Ottoman cities differ from the Medieval cities in Europe as they initially and remarkably developed outside the defensive walls.[174] Accordingly, the citadels and city walls of Anatolian cities did not have an impact on controlling the movements of urban dwellers since the settlements were open areas without being surrounded by defensive walls until the Jelali period that caused insecurity and made defense necessary.[175] The settlements with diverse ethnic populations settled outside the fortified areas while the business centers were also located outside city walls.[176] The location of urban components in the economic core of the city and the settlements of dwellers, therefore, were not limited to the inside of a citadel.

Kuran (1996) sets forth the common components of Ottoman cities as follows: (1) a citadel in the urban core of a city, (2) a bazaar located a few hundred meters away from a citadel, and (3) neighborhoods formed around religious community centers.[177]

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[170] Ibid.

[171] Raymond, A. (2008). The Economy of the Traditional City. In S. K. Jayyusi (Ed.). *The City in the Islamic World,* Vol. 2. Leiden, Boston: Brill, p. 731.

[172] Ibid., p. 743.

[173] Cezar, M. (1983). *Typical Commercial Buildings of the Ottoman Classical Period and the Ottoman Construction System.* İstanbul: Türkiye İş Bankası Cultural Publications, p. 35.

[174] Koç, Y. (2005). Osmanlı'da Kent İskânı ve Demografisi (XV.-XVIII.Yüzyıllar). *Türkiye Araştırmaları Literatür Dergisi,* Vol. 3, No. 6, p. 168.

[175] Faroqhi, S. (1981). Urban Development in Ottoman Anatolia (16.-17. Centuries). *METU Journal of the Faculty of Architecture,* Vol. 7, No. 1, p. 41.

[176] Ibid.

[177] Kuran, A. (1996). Bursa, Edirne, Istanbul: A Spatial Study of Three Ottoman Capitals. *Muqarnas 13,* p. 114.

In this frame, Anatolian cities grew and developed around bazaars since marketing facilities formed the central part of cities as a natural outcome of urban growth.[178] The close proximity of the bazaar to the fortification walls was common in many cities, regardless of its position inside or outside the citadel.[179] Lowry also cites the location of most of the fourteenth century Ottoman monuments outside fortifications, and exemplifies the case of Bursa as the first example of this policy applied after the conquest of the city in 1326.[180] These initial complex buildings, and the later constructed connections between the ports and the hinterlands of cities encouraged the "unmaking of insular city form"[181] defined by fortifications.

The Seljuks and the Ottomans shared common tendencies when it came to the location of the bazaar as highlighted by non-commercial buildings such as mosques, *madrassah*s, tombs, and baths outside city walls.[182] Hans and *bedesten*s were also built in close proximity to the mosques, *madrassah*s, tombs, and baths.[183] The tendency to establish the bazaar area near the defensive walls dates back to the Seljuk period, which went on to become much more noticeable in the fourteenth and fifteenth centuries.[184] Kuban also states that there were shops outside the protective

[178] Cezar, 1983, p. 57.

[179] Cezar, 1983, p. 57. For instance, the bazaar area in Kayseri was located within the city walls unlike the ones in other most significant Anatolian Cities like Edirne and Bursa (Cezar, 1983, p. 44). As in Bursa, the complexes of mosques, madrassahs, imarets, and tekkes were all built to enlarge the city outside the Edirne Bazaar area (Ibid., p. 40). In cities like Tokat smaller than Edirne and Bursa, bedesten and numerous *han*s and shops were situated near the fortress areas (Ibid., pp. 41, 42). The tendecy to establish the bazaar area near the defensive walls dates back to the Seljuk period, which went on to become much more noticeable in the fourteenth and fifteenth centuries (Ibid., p. 58). This fourteenth century tendecy of expanding outside the ramparts, therefore, had a great impact on further specifying the city physiognomy (Kuban, 1968, p. 65).

[180] Lowry, H. W. (2012). Early Ottoman Period. In M. Heper & S. Sayarı (Eds.). *The Routledge Handbook of Modern Turkey*. London and New York: Routledge, Taylor & Francis Group, p. 9. The example given by Lowry (2012, p. 9): T-shaped mosque, the only building that survived as a part of Orhan's zawiya complex, was located below the fortifications in the commercial city center. Moreover, Murad I's the Hüdâvendigâr Complex in the west in Çekirge, Beyazid I's Yıldırım Complex in the east, the Emirhan and Bedestan, the commercial center, and Ulu Cami (Friday Mosque) in the north, all were located outside the walled city.

[181] Kostof, 1992. Kostof used "*unmaking of insular city form"* to describe the process of transending the city walls especially in the industrial era.

[182] Cezar,1983, p. 45.

[183] Ibid., p. 24.

[184] Ibid., p. 58.

city walls near the gates, referring to a fifteenth century charter[185] of an endowment.[186] This tendency of expanding outside the ramparts had a great impact on further specifying the city physiognomy.[187] In addition, the urban growth of the sixteenth-century Anatolian towns can not be explained only by the overall increase in population, a minor administrative role as a district center and associated marketing functions, but ever-growing international trade as well.[188] As Cezar explains, the location of the bazaar outside the city to form its central part was a way of the enlargement of the city under the Ottoman administration, which could be noticeable in the fourteenth and especially fifteenth century.[189] **(Figure 2.13, 2.14)** Although the Ottoman cities were deprived of a planned structure in the previous centuries, the bazaar that was situated in central parts of the cities due to the requirements for socio-economic factors made urban cores better planned areas.[190] The marketing places of Ottoman cities provided a spatial continuation from their inner parts towards surroundings and beyond by transcending the wall circuits.

By the fifteenth century, the Ottoman government, therefore, revised the policies of urbanization by establishing the covered markets, hans, and rows of shops, i.e. *çarşı* of many Anatolian towns.[191] An urban *çarşı* could not be developed without the supplementing facilities such as *han*s and other market places, which made Ottoman cities an active contributor to the outside world.[192] Cezar also emphasizes that urban character of cities could be gained by continuous commercial activities and buildings in the centers of urban environments.[193] Regarding an Anatolian sixteenth-century Ottoman cities as a religious and administrative center, Faroqhi points at the

[185] The document that explains the aims and responsibilities of an edowment.

[186] Kuban, D. (1968). Anadolu-Türk Şehri Tarihi Gelişmesi, Sosyal ve Fiziki Özellikleri Üzerinde Bazı Gelişmeler. *Vakıflar Dergisi 7,* pp. 64, 65.

[187] Ibid., p. 65.

[188] Faroqhi, 1981, p. 36.

[189] Cezar, 1983.

[190] Ibid., p. 31.

[191] Faroqhi, 1981, p. 37.

[192] Ibid., p. 40.

[193] Cezar, 1983, p. 19.

existence of Friday mosques in the centers of cities as opposed to the rarity of mosques in countryside as villagers preferred to attend communal prayers in cities when they went to urban markets held in the centers on Fridays.[194] Most of the Middle Eastern and North African bazaars were situated around a mosque or a citadel involved in a concentric zoning for various types of productions.[195] An urban bazaar with a more distinctive morphology compared to the rest of the city could be a collection of craft guilds that was an instrument protected by the state for an effective control of the population and economy.[196]

In short, the walled enclosure of city walls as a primary system of defense delimited the expansion of a city and controlled its boundaries. However, the outside of the citadel, where caravanserais, *tekke*s, *zaviye*s (zawiyas), and temporary trade activities took place in any Anatolian city from the Seljuk times on, grew in time, starting from the late fifteenth and early sixteenth century, in connection to the core of Ottoman cities with marketing facilities such as *bedestens* and other complexes of public institutions such as great mosques, *madrassah*s, public baths, etc. Even though administrative centers were only active in marketing facilities in the late fifteenth and early sixteenth century across Anatolia, the taxation system, which served as an extension of the Ottoman control in the hinterlands, also had an impact on marketing networks beyond the centers of cities.[197] Faroqhi also emphasizes that the established system of revenue collection was an attempt of the Ottoman administration to limit the urban expansion.[198]

[194] Faroqhi, 1981, pp. 40, 41.

[195] Costello, 1980, p. 143.

[196] Ibid.

[197] Faroqhi, 1981, p. 35.

[198] Ibid., p. 40.

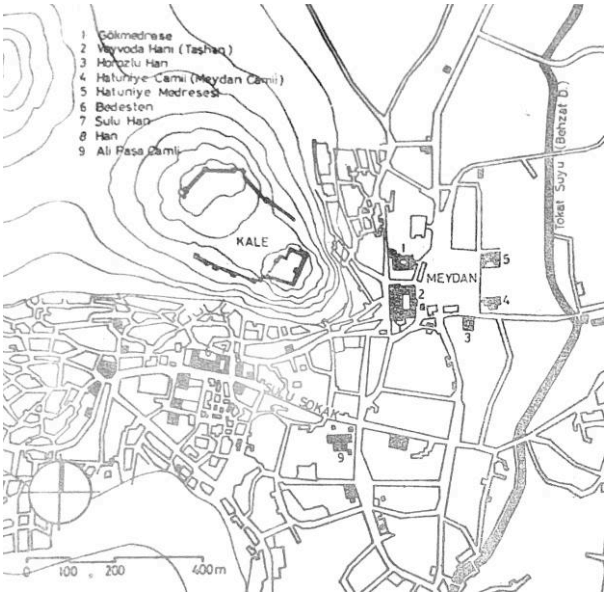


Figure 2.13 The location of the *bedesten* outside the city walls in the city of Tokat.
Source: Cezar, 1983, p. 41.



Figure 2.14 Bursa Covered Bazaar and Ulu Mosque outside the citadel.
Source: Cezar, 1983, p. 49.

The first Ottoman capital city of Bursa, a significant commercial center in terms of being located on important trade roads and having capital accumulation as a result of silk production, similarly developed towards the northern and western lands beyond the city walls through the construction of complexes with housing settlements built around them.[199] The two most significant features of these Ottoman complex buildings were their domination over the city silhouette, including houses, gardens,

[199] Dostoğlu & Oral, 1999, p. 234; Köprülü Bağbancı, Ö. (2012). Commerce in the Emerging Empire Formation of the Ottoman Trade Center in Bursa. In Mohammad Gharipour (Ed.). *The Bazaar in the Islamic City Design, Culture, and History*. Cario, New York: The American University in Cario Press.

and domes of mosques; and their location that drew the city boundaries and led the city to expand.[200] With the annexation of Bursa to the Ottoman Empire in 1326 by Sultan Orhan, the Palace, the governmental institution, was established in Bursa, and Orhan, Hüdâvendigâr, Yıldırım, Yeşil, and Muradiye *Külliye*s were constructed on the high hills of the city.[201] These complexes, madrassahs, *han*s, and bazaars were constructed by Sultan Orhan in the east of the walls; the Hüdâvendigâr Complex built by Murad I in Çekirge enhanced the city's expansion to the west; and the eastern boundary of the city was drawn by the Yıldırım Beyazid Complex by Çelebi Mehmed.[202] The early modern formation of Bursa, therefore, contributed its further development in terms of expanding towards its environs.

2.3.2 Spatial Development of Bursa in the Nineteenth Century

The period between the Napoleonic Wars and the First World War encountered the influence of the "Industrial Revolution" over the world.[203] The preceding periods had witnessed a gradual transformation of the Ottoman Empire with several dynamics at internal and external levels; however, this transformation was not as fast and effective as that of the nineteenth century.[204] What generated a systematic challenge and an ultimate renovation of fundamental matters of the imperial vision is the dominant European economic and political impacts on the emerging new world-system and the rapid expansion of the European external forces, therefore, gradually introduced the Empire into "a process of integration".[205]

After the Industrial Revolution, the Great Britain and the other European economies turned towards the areas beyond Europe to access raw materials and to establish

[200] Avcı, Y. (2016). *Osmanlı Hükümet Konakları Tanzimât Döneminde Kent Mekanında Devletin Erki ve Temsili.* İstanbul: Tarih Vakfı Yurt Yayınları, p. 51.

[201] Dostoğlu & Oral, 1999, p. 234; Bağbancı & Köprülü Bağbancı, 2010, p. 1129.

[202] Ergenç, Ö. (2014). *XVI. Yüzyıl Sonlarında Bursa Yerleşimi, Yönetimi, Ekonomik ve Sosyal Durumu Üzerine Bir Araştırma.* Ankara: Türk Tarih Kurumu; Avcı, 2016, p. 51; Güler, Vural Arslan, & Durak, 2016, p. 653; Köprülü Bağbancı, 2012, p. 101.

[203] Pamuk, 2009b, p. 199.

[204] Eldem, E. (1999). Istanbul: From Imperial to Peripheralized Capital. In E. Eldem, D. Goffman, & B. Masters (Eds.). *The Ottoman City Between East and West: Aleppo, Izmir, and Istanbul.* UK: Cambridge University Press, p. 196.

[205] Ibid.

markets for their products.[206] The urbanization process in the nineteenth century also relied on the industrialization process in Europe and the agricultural productivity of non-European countries as industrialization pushed rural population to move to the cities for employment and to continue to produce agricultural goods.

Thanks to the related expansion of trade, industrialization of Europe became a major determinant factor in the transformation of many Mediterranean seaports into international commercial and cultural channels with their harbors that led long-distance vessels and flows of capital, investors, and immigrant workers.[207] For instance, port cities such as Alexandria, Izmir, Thessaloniki, and Beirut opened to international networks of trade especially after the Anglo-Ottoman Commercial Treaty of 1838, which also had an impact on the acceleration of the urban growth and development.[208] As a result of such an interaction, large Ottoman cities, especially major port towns, acquired such standard facilities as the railway, tramway, a modernized harbor, and waterfront streets with shops and cafes, and suburbs inhabited by wealthy families.[209] The connection by modern transportation to the modern world enabled the citizens of such Ottoman cities to become an integral part of the modern world.[210] At the time, urban development projects were not only carried out by the finance of the Ottoman state, but also by local notables and European companies.[211] It is generally agreed that there were significant foreign impacts on the process of reshaping the Ottoman cities such as İstanbul, İzmir, Bursa, Damascus, and Beirut during the nineteenth century; however, this is not

[206] Pamuk, 2009b, p. 37.

[207] Zandi-Sayek, S. (2012). *Ottoman İzmir The Rise of a Cosmopolitan Port, 1840-1880.* Minneapolis London: University of Minnesota Press, p. 5.

[208] Ibid.

[209] Faroqhi, S. (1999). *Approaching Ottoman History, An Introduction to the Sources.* Cambridge: Cambridge University Press, p. 138.

[210] Weber, S. (2004). Reshaping Damascus: Social Change and Patterns of Architecture in Late Ottoman Times. In T. Philipp & C. Schumann (Eds.). *From the Syrian Land to the States of Syria and Lebanon.* Beirut: Ergon Verlag Würzburg in Kommisson, p. 58.

[211] Faroqhi, 1999, p. 139.

enough to understand the whole picture without considering the role of local urban societies and the Ottoman administration to modernize the cities.[212]

An expanding economy, population, and the development of transportation systems accelerated capitalistic forms in the further extension of ever-growing cities through the development of public horse-drawn coaches, railroads, steamboats, and bridges at different times throughout the nineteenth century.[213] Besides, railways were considered as the transporter of not only goods and materials but also economic, political, social, and intellectual ideas of societies.[214]

When European countries had become active by the second half of the nineteenth century in the Ottoman regions, the European presence became concrete not only with its political interventions but also the merchants in markets.[215] In this context, urban historians agree that political and economic conditions had an impact on the planning of cities and their architecture.[216] The reshaping of preindustrial forms in accordance with the needs of the emerging industrial urbanization can be discussed under the concepts of "a continuity", "an alteration," and "a disappearance of traditional forms" or "the emergence of new structures."[217] In addition to new buildings with new functions such as railway stations, government halls, and hotels, the construction of new boulevards, squares, and monuments and the design of private residences with an interior courtyard and façades with galleries were also introduced in the late Ottoman period.[218] The former was constructed as a

[212] Weber, 2004, p. 57.

[213] Mumford, L. (1961). *The City in History: Its Origins, Its Transformations and Its Prospects.* New York: Harcourt, Brace & World, p. 425.

[214] Özyüksel, M. (2014). *The Hejaz Railway and the Ottoman Empire Modernity, Industrialization and Ottoman Decline.* London and New York: I. B. Tauris, p. 1.

[215] Philipp, T. (2002). Acre, The First Instance of Changing Times. In J. Hanssen, T. Philipp, & S. Weber. (Eds.). *The Empire in the City: Arab Provincial Capitals in the Ottoman Empire.* Beirut and Würzburg: Orient-Institut der Deutschen Morgenländischen Gesellschaft, p. 82.

[216] Ibid.

[217] Sjoberg, G. (1965). Cities in Developing and in Industrial Societies: A Cross-cultural Analysis. In P. M. Hauser & L. F. Schnore (Eds.). *The Study of Urbanization.* New York, London, Sydney: John Wiley & Sons, Inc., p. 224.

[218] Philipp, 2002, p. 82.

representation of a new political sense of public space while the latter were designed as a new definition of public and private relations.[219]

Considering urban planning, the design of Paris by Baron Haussmann and of the Viennese Ringstrasse were the most prominent urban transformations during the nineteenth century.[220] The former was defined with its wide straight boulevards surrounded by multi-storey apartment buildings built for the rising middle class, while the latter was described by the emergence of cultural and political institutions located in a linear order along a circular boulevard that was established on the traces of pre-modern fortifications.[221] Napoleon III and Baron Haussmann reformed the city within new standards of "order," "cleanliness," "efficiency," and "beauty" at the end of the first half of the nineteenth century.[222] The aim behind the design of the Ringstrasse, on the other hand, was to form a monumental urban environment by concerning the association between political and cultural buildings such as parliament, town hall, museum, theatre, opera, and concert hall.[223] The main focus of administrations was to rationalize space in the nineteenth century European cities.[224]

When the capital and the peripheral cities of the Ottoman Empire encountered growing challenges in the late nineteenth century, the imperial attempts generated several strategies at different development levels as responses to the population increase and industrialization, searching for urban development.[225] Such regulations as restricting building heights and property lines were implemented throughout the

[219] Ibid.

[220] Conley, T. D. & Makas, E. G. (2010). Shaping Central and Southeastern European Capital Cities in the Age of Nationalism. In Tanja Damljanovic Conley & Emily Gınzburger Makas. (Eds.). *Capital Cities in the Aftermath of Empires: Planning in Central and Southeastern Europe.* USA: Routledge, p. 10.

[221] Ibid.

[222] Bergdoll, B. (2000). *European Architecture 1750-1890.* New York: Oxford University Press, pp. 241-268.

[223] Conley & Makas, 2010, p. 12.

[224] Prokopovych, M. (2009). *Architecture, Public Space, and Politics in the Galician Capital, 1772-1914.* United States of America: Purdue University Press, p. 21.

[225] Conley & Makas, 2010, p. 2.

central Europe after 1860.[226] Similarly, the Ottomans started to address regulations and planning laws under the Tanzimât reforms, initially in İstanbul. Then, the traditional Ottoman urban structure began to be regulated not only by widening, straightening, opening up, and paving the narrow and dead-end streets, but also by the regularization of buildings according to street lines.[227]

During the nineteenth century, Ottoman cities were transformed with modern buildings for new functions new districts, and a more regular urban pattern.[228] Accordingly, such organizations including the regularization of width and straightness of streets, the demolishment of fortification walls, and the cleanliness of public spaces were implemented with the goal of the establishment of sanitary and the construction of public buildings in this new urban pattern.[229]

New functions appeared in the built environment of the nineteenth century. Although public buildings had been few in number before 1800, a vast majority of these buildings were constructed in the nineteenth century for governmental and municipal functions besides later constructions of private office buildings, museums, galleries, libraries, universities and schools, theatre and concert halls, banks and stock exchanges, railway stations, department stores, hotels and hospitals.[230] Traditional urban structure of the Ottoman capital İstanbul, which had been formed by monumental mosques with surrounding wooden houses, was also transformed with the large-scale and multi-storey military, commercial, educational, industrial, administrative, and residential structures that were constructed in brick and stone in

[226] Ibid., p. 15.

[227] Conley & Makas, 2010, p. 15; Yeşilkaya Gurallar, N. (2007/1). From a Courtyard to a Square: Transformation of the Beyazıt Meydanı in the Early Nineteenth Century İstanbul. METU Journal of Faculty of Architecture, (24: 1), p. 72. Also see: Yeşilkaya Gurallar, N. (2003). Transformation of a Public Space in the Nineteenth Century İstanbul: Beyazıt Meydanı. PhD Thesis. METU, Department of Architecture.

[228] Dumont & Georgeon, 1999, p. xi.

[229] Conley & Makas, 2010, p. 15.

[230] Ching, F. D. K., Jarzombek, M. M. and Prakash, V. (2007). *A Global History of Architecture.* John Wiley & Sons, pp. 583-686.

eclectic style.[231] The buildings that defined the new centers were government halls, schools, and judicial courts as well as large hotels and banks that also had an impact on the organization of new quarters.[232] Connections between old and new quarters were ensured by opening up new roads and widening the old ones.[233] **(Figure 2.15)**

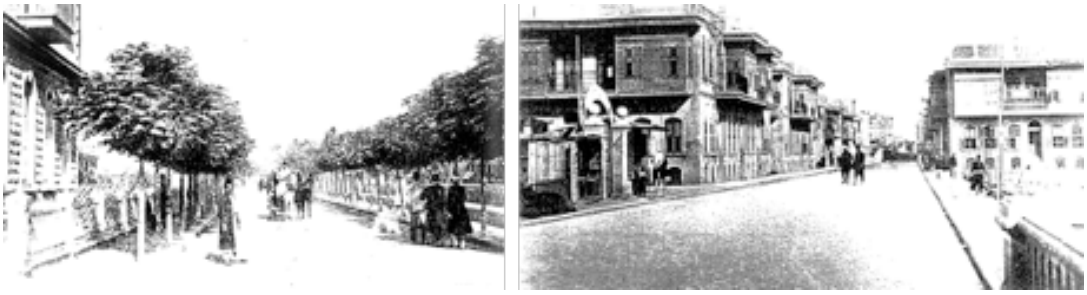


Figure 2.15 (a) A new street in Damascus; (b) A new street in the new extension, Aleppo, postcard.
Source: (a) *Servet-i Fünun*, no. 186, (1310/1894); (b) Fine Arts Library, Harward College Library; figures are accessed from: Çelik, Z. (2008). Empire, Architecture, and the City French-Ottoman Encounters, 1830-1914. Seattle and London: University of Washington Press, pp. 100, 108.

Due to the incorporation of the Ottoman Empire into the capitalist world economic system, apartment houses, passages, stores, hotels, entertainment places, theaters, art galleries, and schools influenced the inhabitants by new patterns of behavior and consumption.[234] In the Ottoman capital, the northern part of the Galata district started to be transformed by the construction of new embassies, commercial buildings, hotels, and entertainment buildings while the Grande Rue de Pera, the main boulevard of the district, underwent a construction process with the appearance of new shops, cafes, and patisseries after the fire in 1831.[235]

The nineteenth century building practices in the Ottoman cities still relied on an earlier tradition of the sixteenth century, in which façades were produced in diverse compositions using traditional methods while the interior designs were realized as

[231] Enginsoy, S. (1990). Use of Iron as a New Building Material in 19th Century Western and Ottoman Architecture. MA Thesis. September. Ankara: ODTÜ, p. 105.

[232] Arnaud, 2008, p. 970.

[233] Ibid., p. 971.

[234] Eldem, 1999, p. 203.

[235] Gül, 2009, p. 36.

faithful to the plans sent from the capital.[236] For instance, government halls and schools were built in similar plans, but diversified in elevations with the use of various local materials, forms, and decorative elements.[237] Despite the presence of similar attitudes to modernize the Ottoman cities in post-Tanzimât period through public architecture, the variety in specific architectural styles of regional parts of the Empire can also be observed. Regional differences among cities, on the other hand, relied on the rich variety in the Ottoman Empire,[238] in terms of climate, natural sources, and local materials. Çelik describes the architecture based on the modernization project of the Empire as regular, impressive in size with qualified materials, and nattily ornamented.[239] The buildings, which were responsible for transforming the society, were designed alongside some common principles. Such classical design principles as symmetric plans, with an emphasis on the center and the corners of the masses, as well as constructions with new building materials and technology made buildings peculiar to the nineteenth century.

In this context, the spatial development of Bursa in the nineteenth century can be outlined under five headings: (1) the planning of the city, (2) the improvements in infrastructure, (3) the construction of new building types, (4) the production of raw materials for international market, and (5) the change in the coastal edge of the city. All of these developments were related with the industrial, agricultural, and commercial developments of the period.

First, the planning of the city included the widening and straightening of streets, the removal of dead-end streets, the introduction of construction standards including building height, number of floors, the proscription of using timber especially in load-bearing structural elements, thickness of walls, which were all defined according to the European design principles. These regulations were attempts to provide a physical order in the city, which were brought as new ideas in city planning in the

[236] Çelik, Z. (2008). *Empire, Architecture, and the City French-Ottoman Encounters, 1830-1914.* Seattle and London: University of Washington Press, p. 207.

[237] Ibid.

[238] Ibid., p. 207.

[239] Ibid., p. 161.

nineteenth century. For instance, these new codes can be ideally observed in the immigrant districts built in Ottoman cities in that period.

In Bursa, the significant innovations on both road network and planning of new districts were introduced during the office of Ahmet Vefik Pasha as an inspector in the years between 1863 and 1864, and as the governor in the years between 1879 and 1882.[240] Meanwhile, when the government first decided to implement urban reforms of Tanzimât, Bursa was chosen as a pilot area.[241] According to St. Laurent (1999), there was no other city either as required to be reconstructed as urgently as possible or capable of reflecting the prosperous years of the Empire in that time.[242] Besides, the widening and straightening of streets later resulted in the improvement of peripheral roads to connect the city with its environs. Ahmet Vefik Pasha established a road network in the periphery of the city, widened streets in the city, opened new neighborhoods according to new planning principals based on right angles, and built several new buildings such as the government hall, hospital, theatre, and municipality.[243] The peripheral connection encouraged the city to produce goods in its hinterlands and to distribute them through these roads.

Second, the infrastructural improvements such as the railway system and port facilities were actualized through industrial and technological innovations. The process of industrialization, which had begun in the late eighteenth century in Europe, therefore, had an impact on the city of Bursa that had commercial relations with European countries with especially raw silk trade.[244] With these developments, Bursa became an industrial and commercial city in the nineteenth century. The

[240] Dostoğlu & Oral, 1999, pp. 237, 242.

[241] Saint-Laurent, B. (1999). Bir Tiyatro Amatörü: Ahmet Vefik Paşa ve 19. Yüzyılın Son Çeyreğinde Bursa'nın Yeniden Biçimlenmesi. In P. Dumont & G. François (Eds.). *Modernleşme Sürecinde Osmanlı Kentleri.* (Trans.). A. Berktay. Istanbul: Tarih Vakfı Yurt Yayınları, p. 84; Avcı, 2016, p. 63; Avcı (2006, p. 63) also states that Bursa and Edirne were chosen as pilot cities in the *Islahat* Reform, defining the cities as *usûl-ı cedîde numunesî* (BOA İrâde Meclis-i Mahsûs 8/350 16 Rebîü'l-âhir 1273/14 Aralık 1856 Islahat Reform). The reforms were formerly implemented in these model cities and then in other provinces (Ibid.).

[242] Saint-Laurent, 1999, p. 84.

[243] Dumont & Georgeon, 1999, p. ix.

[244] Secer, Durak, & Vural Arslan, 2016, p. 630.

construction of roads also facilitated the commerce of agricultural raw materials, as mentioned above.

Third, new building types, especially hotels, train stations, factories, government halls, municipality, and educational institutions, which were all constructed in many provinces of the Empire, contributed to the urban development and resulted in the change particularly in the state structure, financial system, and commercial activities. The urban core of Bursa was transformed with the construction of public buildings such as municipality, clock tower, and Government Hall while the peripheries were developed with the construction of filature factories in the vicinity of the streams of Bursa. The city also welcomed foreigners, merchants, and people coming for thermal springs, which necessitated the construction of hotels. The educational institutions were also constructed in the city not only for modernization of education but also for the development of industrial and agricultural production.

The change in the mode of production with the increase in the production of raw materials for the international market is the fourth dimension of the urban development. Several changes in the socio-economic structure of the Anatolian cities in parallel to the industrialization in Europe significantly affected the spatial characteristics of cities during the nineteenth century.[245] Correspondingly, in the second half of the nineteenth century, an increasing demand for raw materials and the search for new markets for factory products of industrial establishments of Europe triggered the provision of industrial raw materials and agricultural products in Anatolian cities for European countries.[246] In relation with the Industrial Revolution, the development of technology, transportation and communication systems as well as the mechanization of production, the cities all over the world witnessed distinctive changes in the second half of the eighteenth century and during the nineteenth century.[247] In Bursa, new filature factories were constructed, and raw silk produced in the city was transported to Mudanya Port through the railway. The mechanization was not initiated only in the industrial sector, but the introduction of

[245] Aktüre, 1978, p. ix.

[246] Ibid.

[247] Secer, Durak, & Vural Arslan, 2016, pp. 628, 629.

technology was also experienced in the agricultural hinterlands of Bursa through the immigrants and Agricultural School.

With the increasing European demand for raw materials, the development of railways and the ports became necessary. The agricultural goods produced in the hinterlands of the Ottoman Empire were transported through the roads and the railway to the ports to be transported to Europe. As the fifth major investment in architecture and urban space of Bursa, Mudanya-Bursa railway was established, and Mudanya port was improved by the construction of a new train station building, a new dock, and warehouses.

Therefore, the factors behind the urban development of Bursa were mainly dependent upon the industrialization process that provided factory-based production as well as increased agricultural productivity and export-oriented economy that facilitated commerce. In this context, the urban pattern of the city of Bursa was drastically transformed by the growth, and the expansion of urban areas were mainly facilitated by the construction of new factories. Generally, improved roads, railway, and steam-ship were considered as the indication of the basis of modern urbanism.[248] Thus, the fundamental determinants of the spatial transformation in Bursa during the late Ottoman period were industrial establishments, new functions, and developments in transport and long-distance communication, and productive hinterlands.

The construction of new streets and new arteries paved the way for the further spatial development of the city. Namely, the urban expansion of the nineteenth century city of Bursa was achieved initially by the regularization of roads and the development of the connection between the commercial center and the peripheral areas like Çekirge, Gemlik, and Mudanya, by the construction of subsequent neighborhoods, and later by the railroad construction and the establishment of factories.[249] For instance, main streets were ordered by the governor to link the commercial and religious center (the

[248] Dickinson, R. E. (1964). *City and Region. A Geographical Interpretation.* London: London Routledge & Kegan Paul Ltd., p. 24.

[249] See: **Figure 5.7** and **5.8** in Chapter 5.

bazaar and the great mosque) to the civil and military center in Bursa, following the 1855 earthquake.[250] After the fire that took place following the earthquake, new urban plans designed according to the right-angle principles were implemented for the reestablishment of districts. The Armenian Region in the east of the city in Setbaşı, for instance, was damaged from the fire and reconstructed.[251] The most important axis of the new plan, named as Sericulture (İpekçilik) Street, started from Setbaşı Bridge, passed by the Armenian Church, and ended with the Institute of Sericulture. The physical fabric of the city was no longer organic, differing from the narrow and dead-end streets of the traditional Ottoman city, and urban areas were organized according to certain geometric principles.[252]

Dickinson asserts that the more the nineteenth century city expanded from the core to outwards, the more the buildings got old in the city center.[253] Conversely, the old city center around *Hisar* (the citadel) was surrounded by new buildings instead of creating a new center.[254] Public buildings such as hospital, theatre, municipality, and post office, were constructed mainly after the 1880s.[255] The agenda for modernity and the increasing concern for public health shaped the construction of hospitals ranging from military to the civilian ones.[256] Two hotels and large commercial warehouses were also built on the edges of the citadel in Bursa.[257]

Çelik states that governmental buildings were a way of the expressions of the Ottoman state's political agenda.[258] The construction of governmental buildings did

[250] Arnaud, 2008, p. 970.

[251] Bağbancı & Köprülü Bağbancı, 2010, p. 1132.

[252] Secer, Durak, & Vural Arslan, 2016, p. 630.

[253] Dickinson, 1964, p. 42.

[254] Saint-Laurent, 1999.

[255] Ibid., p. 91.

[256] Çelik, 2008, p. 187. For instance, the Municipal Hospital in Damascus, built in 1897, was presented in *Servet-i Fünun* in photographical images not only to demonstrate opening ceremony but also to underline the contemporary standards that the hospital had (Çelik, 2008, p. 187).

[257] Saint-Laurent, 1999.

[258] Çelik, 2008, p. 175.

not only contribute to the remaking of the urban form with their symbolism, but also demonstrated a new form of administration and a new bureaucracy associated with the agenda of centralization and modernization.[259] After totally destroyed in the earthquake of 1855, Bursa Hükümet Konağı (Government Hall), was constructed in 1863 in the place of *Paşa Kapısı*, and the Municipality and a theatre building were also constructed in the same region later.[260] The reason behind the reconstruction of the government hall was apparent with a rational explanation that local government officers were working under unproper conditions after the earthquake and thus they had to move several mansions, which affirmed the necessity of a new building.[261]

After the establishment of the municipality in İstanbul in 1854, the municipalities started to be established all over Anatolia in 1866.[262] Therefore, a municipality was established in Bursa in 1867 to materialize the modern urban activities.[263] The municipal activities were first conducted in Bursa Government Hall. The building, which was allocated for the first time only for government duties not also for accommodation, was a rectangular planned, three-storey, and masonry construction and a modest building when compared to the other large-scale and ostentatious government halls built in the centers of the provinces *(vilayet)* and districts *(kazâ)*.[264] The Municipality was also constructed in 1879 as the symbol of local administration near the main road between the Government Hall, the symbol of provincial management, and Ulucami (great mosque), the symbol of the earlier grandeur of the city as former capital.[265] Besides, the aim of the widespread construction of clock towers in Ottoman cities in the late nineteenth century was to express the modernity

[259] Ibid.

[260] Avcı, 2016, pp. 66, 68; Secer, Durak, & Vural Arslan, 2016, p. 630.

[261] Avcı, 2016, p. 68.

[262] Secer, Durak, & Vural Arslan, 2016, p. 631.

[263] Ibid.

[264] Saint-Laurent, B. (1989). Ottomanization and Modernization: The Architectural and Urban Development of Bursa and the Genesis of Tradition, 1839-1914. PhD Dissertation, Harvard University, Michigan: Xerox University Microfilms, p. 111; Avcı, 2016, p. 68.

[265] Bağbancı & Köprülü Bağbancı, 2010, p. 1132; Saint-Laurent, 1989, p. 220.

of the post-Tanzimât period.[266] Standing as landmarks, clock towers were built to show the flow of time, and the clock tower as a symbol of urban modernization was built in the Abdülaziz era in a public square, *Meydan-î Osmanî,* in front of Osman and Orhan Tombs in the Hisar Neighborhood of Bursa.[267] **(Figure 2.16)**

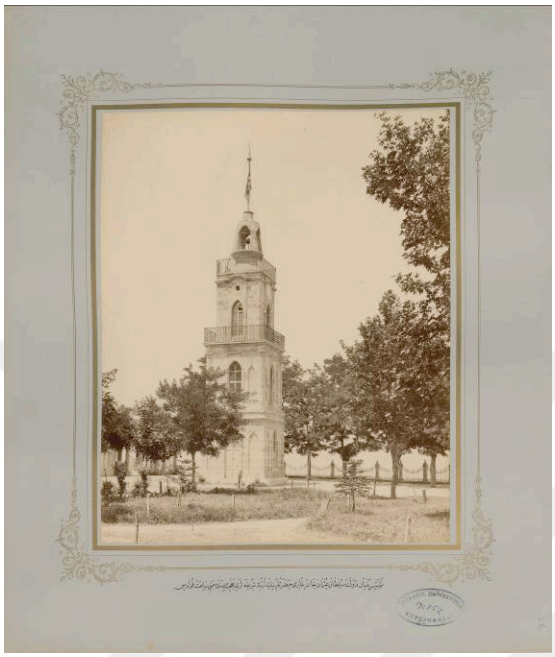


Figure 2.16 Clock Tower in the garden of Sultan Osman and Orhan tombs.
Source: İstanbul Rare Collections Library, 90752-28.

When the European-style theater was introduced to the Ottoman literature in the second half of the nineteenth century, municipal theaters were initially constructed in İstanbul and Bursa.[268] Although the theaters were especially in the Pera quarter of the capital and extended to the other major cities, the building type was not common at the peripheries of the Empire.[269] Following the integration of the Ottoman economy into the world capitalist system, Bursa experienced important social and economic transformations as a commercial center of the Empire. Since theatres, several cafes and restaurants started to serve in the nineteenth century; Ahmet Vefik Pasha also had an interest in theatre and constructed a theatre building in 1879 in the city

[266] Çelik, 2008, p. 146.

[267] Avcı, 2016, p. 61; Secer, Durak, & Vural Arslan, 2016, p. 630.

[268] Çelik, 2008, p. 202; Also see: Yazıcı, E. (2010). Theater in nineteenth century İstanbul: cases for the translation of an architectural type. METU, Department of History of Architecture. Msc Thesis.

[269] Çelik, 2008, p. 203.

center.[270] **(Figure 2.17)** Although *han*s and caravanserais had been significant accommodation services for travelers since the time of Anatolian Seljuks, with the change in socio-economic conditions in the nineteenth century, hotels as new building typology also emerged.[271] The first hotel in Bursa, Hotel D'Anatolei, was opened by foreigners, namely Madame Brotte, in the 1850s.[272] Hotels were mainly located especially in the region of Çekirge where there were many thermal baths. As seen in the historical photographs **(Figure 2.18, 2.19),** Murad I Compex was located at the top of a hill looking towards the plain *(Bursa Ovası)* outside the city and several mansions were used as house or hotel in the nineteenth century as the region included thermal springs.[273]



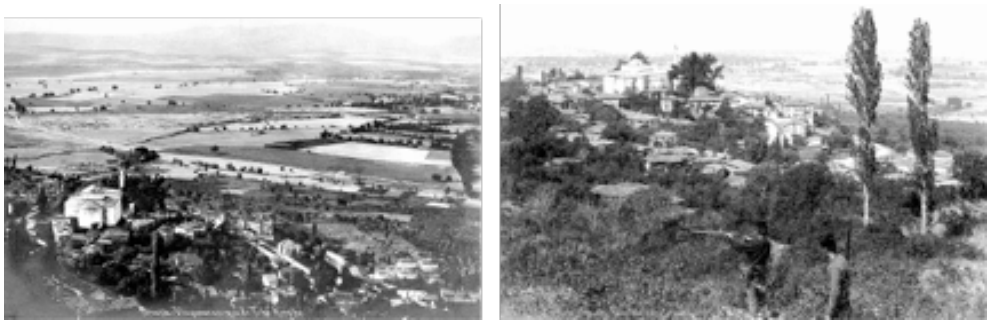
Figure 2.17 Ahmed Vefik Pasha Theater near Municipality.
Source: İstanbul Rare Collections Library, 90854-23.

[270] Secer, Durak, & Vural Arslan, 2016, p. 632.

[271] Secer, Durak, & Vural Arslan, 2016, p. 632; Ertuğrul, A. (2009). Different Types of Buildings Emerging in the 19th Century Ottoman Empire. *Türkiye Araştırmaları Literatür Dergisi 7,* No. 13, pp. 293–312.

[272] Ibid.

[273] Dostoğlu, 2001, pp. 61, 63.



(a) (b)

Figure 2.18 (a) Çekirge Neighborhood; (b) Murad I Complex.
Source: (a) Dostoğlu, 2001, p. 61; (b) Dostoğlu, 2001, p. 63.



Figure 2.19 The thermal springs in Çekirge, *Yeni Kaplıca* and *Kara Mustafa Kükürtlü Kaplıcaları*.
Source: İstanbul Rare Collections Library, 90752-27.

When the Ottoman ambassador Esad Saffet Pasha went to Paris in 1885-86, he had a chance to realize the power of architectural expression and its relation to modern civilization.[274] Accordingly, educational buildings started to be designed according

[274] Çelik, 2008, p. 194.

to the French design principles of "regularity," "symmetry," and "axiality."[275] One of the significant buildings of the modernization process was, therefore, educational institutions for the need of training more people. The education of girls was also a concern of modernization, and a teacher training school for girls was also opened in Bursa in 1901.[276] Schools for industrial and agricultural education, such as Hüdâvendigâr Agricultural School, the Institute of Sericulture,[277] and the Industrial School were also opened in Bursa in the late nineteenth century, which will be examined in detail in the following chapters. **(Figure 2.20)**



(a) (b) (c)

Figure 2.20 (a) Hüdâvendigâr Agricultural School; (b) Hamidiye Model Farm; (c) The Institute of Sericulture (c. 1900).
Source: Özendes, 1999, p. 101, 103, 106; Dostoğlu, 2001, p. 303, 305, 291.

To conclude, the spatial development of Bursa in the nineteenth century was shaped by "large-scale industry," "natural disasters," "a new population," and "new forms of urban architecture".[278] With the modernization process in the late Ottoman period, distinctive changes were witnessed in the urban and architectural context of the city with the construction of new administrative and cultural buildings and new trade centers that changed the spaces of the urban core of the city; and the construction of new wide roads and the Bursa-Mudanya railway that facilitated a simultaneous change in the spaces of the periphery and the hinterlands of the city until its edges in

[275] Ibid., pp. 194, 195.

[276] Secer, Durak, & Vural Arslan, 2016, p. 632.

[277] For detailed interpretations about the Institute of Sericulture, see: Saint Laurent, B. (1994). Ottoman Power and Westernization: The Architecture and Urban Development of Nineteenth and Early Twentieth Century Bursa. *Anatolia Moderna Yeni Anadolu V.* Institut Français d'Etudes Anatoliennes d'Istanbul, p. 224; Aydın, E. Ö. (2007). Bursa'da İpekçilikle İlgili Mimari Mirasın Korunması. In C. Çiftçi (Ed.). *Bursa'nın Kentsel ve Mimari Gelişimi.* Bursa: Osmangazi Belediyesi Yayınları, p. 232; Secer, Durak, & Vural Arslan, 2016, p. 632.

[278] Erder, 1976, pp. 203, 209.

relation to the industrial, agricultural, and commercial developments that will be the focus of analyses in the following chapters.

CHAPTER 3

TRANSFORMATION OF THE URBAN CORE AND ITS PERIPHERY VIA INDUSTRIAL PRODUCTION

This chapter analyzes the spaces of industrial production in the urban core and its periphery by examining sites and architecture of industrial buildings. The neighborhoods of factory workers are also studied in order to understand the wider effect of industrial production in spatial transformation.

The main aim of this chapter is to explore how spatial developments in the urban core of Bursa and its periphery were influenced in the nineteenth century by the new modes of industrial production through new developments in technology and new regulations as accompanied by the standardization of traditional silk yarns and the adaptation of immigrants. It thus questions how rapid developments in technology and the resultant increased production affected the spatial transformation of the city. In this frame of analysis, the essential question is whether the contemporary spatial transformation in the urban core and its periphery can be regarded as haphazardly evolving on its own or it was the result of an intentional urban restructuring aligned with industrial developments. Rather than a slight change in the city, a complete structural transformation not only in the modes of production, but also in the emergence of new building types, especially filature factories, can be observed at the time. The size and construction method of new buildings were not totally different from the existing buildings. Besides, the new buildings were well fitted into the neighboring scale, which made them urban structures. Before the nineteenth century, the urban development was structured in the form of complex buildings as nuclei and their peripheral extension through the surrounding neighborhoods. During the nineteenth century, the filature factories were added as industrial buildings among these previous forms of urban structures, which also contributed to the peripheral

extension of the city. For instance, when the map of 1767 drawn by German traveler Carlsten Niebuhr is compared to the map of 1862 by Suphi Bey, there seems to be no considerable change in the urban expansion of the city.[279] Therefore, what actually changed during the nineteenth century was not the boundaries of the city, but the functions of buildings that led the city to gain an industrial character.

Considering the urban core and its periphery, although the city did not expand, the periphery of the city was transformed by the construction of factories as new building type. The industrialization process and the mechanization of silk production in Bursa in the nineteenth century will be examined with a focus on two significant issues of industrial production. First of all, after proto-industrialization process of Bursa is specified, the shift from household silk production to factory-based steam reeling is discussed. Secondly, the institutionalization of industrial production through the use of new technology and its introduction through education is explained. On the other hand, although the industrial school in Bursa did not take a role in the introduction of new technology of silk production, it was one of the agents of industrial development at the time. Furthermore, the Institute of Sericulture was constructed to improve silk production while factories were spaces not only of production but also space of the introduction of new technology for raw silk production. Thus, the change in the modes of industrial production affected the spatial transformation of the city beyond the urban core in the periphery of the city. The spatial transformation is examined in this chapter also by investigating industrial building in terms of their location, scale and site arrangements at an urban scale as well as the architectural features of these buildings. In addition, planned neighborhoods are also examined as new sites where immigrants as potential workforces might have settled, which were also influential in the spatial transformation of the city.

[279] Kaplanoğlu, R. (2008). Kent Haritalarına Göre Bursa'nın Kentsel Gelişmesi. In Yusuf Oğuzoğlu (Prep.). *Bursa Şehrinin Gelişmesi ve Kentsel Planlama Kültürü.* Bursa: Osmangazi Belediyesi Yayınları, pp. 72-81. (quoted from, Avcı, Y. (2016). *Osmanlı Hükümet Konakları Tanzimat Döneminde Kent Mekanında Devletin Erki ve Temsili.* İstanbul: Tarih Vakfı Yurt Yayınları, p. 54); for maps, see Appendix D (Bursa Maps).

3.1 Industrial Production

According to many historians studying economy and social life, Bursa has a special place among other Ottoman cities since it was largely familiar with its role in production and commerce from its foundation to the late years of the Empire.[280] Apart from the silk industry as the most significant among others, small scale industries serving for the local market included saddle production, carpentry, tinning, shoemaking, and torch-cutting, while dairy production and silk spinning were the household industries.[281]

As an international exchange material, silk was the most fundamental source for European countries in the period between the thirteenth and the eighteenth centuries.[282] The silk industry in such cities as Amasya, Bursa, İstanbul, Mardin, and Diyarbakır was totally dependent on the import of Iranian raw silk, which had been exported from China to Europe before the end of the thirteenth century.[283] Thanks to its geographical location between Europe and the Middle East, Bursa became a pivotal international trade center at the intersection of trade routes from the fourteenth century onwards.[284] In the middle of the fourteenth century, Bursa was the international market[285] between the East and the West for Iranian raw silk as well as spices and other Asian goods.[286] Bursa, as an international trade center, was a meeting place both for merchants coming from the Middle East such as Iran, Arabia,

[280] Faroqhi, S. (2008). At the Ottoman Empire's Industrious Core: The Story of Bursa. In S. K. Jayyusi (Ed.). *The City in the Islamic World,* Vol. 1. Leiden, Boston: Brill, p. 358.

[281] Stotz, C. L. (1939). The Bursa Region of Turkey. *Geographical Review,* Vol. 29. No. 1, p. 98.

[282] İnalcık, H. (1994). The Ottoman State, Economy, and Society, 1300-1600. In H. İnalcık & D. Quataert (Eds.). *An Economic and Social History of the Ottoman Empire, 1300-1914.* Cambridge: Cambridge University Press, p. 218.

[283] Ibid., pp. 218-219.

[284] Yazıcı, M. (2015). *Mudanya-Bursa Demiryolu Yapımı ve İşletmesi (1873-1908).* Bursa: AKMAT Akınoğlu Matbaacılık San. Tic. A. Ş., p. 95.

[285] Similar to the importance of Tabriz-Bursa silk caravan route, Western Anatolian ports such as Ephesus and Miletus were also significant centers for the export of Iranian raw silk (İnalcık, 1994, p. 223). In addition, a caravan route from Bursa to Çeşme provided a link between the Bursa market and Chios while another route from Bursa through Mudanya to Pera was the main route for the export of Iranian raw silk (Ibid., p. 225).

[286] İnalcık, 1994, pp. 219, 223, 224.

and India to sell goods to Europeans and merchants coming from Europe such as Venezia, Genoa, and Florence to buy Middle Eastern goods.[287] Furthermore, Iranian silk merchants were mainly active in the Bursa market in the fifteenth and sixteenth centuries.[288] In the sixteenth century, the silk was imported from Iran to Bursa and was manufactured in local workshops by using almost 1000 looms under the control of Muslims.[289] Additionally, despite its considerable size, the city played a role as one of "service towns" with its links to the palace by sea transportation in order to deliver its goods to İstanbul in the fifteenth and sixteenth centuries.[290]

In the nineteenth century, Bursa continued to produce raw silk and also maintained silk weaving. While raw silk was produced for exporting to European factories, the production of silk textile was limited to domestic market.[291] Despite adverse conditions such as the loss of the significance of silk textile in the European market, negative impacts of the earthquake of 1855 and silkworm diseases between 1860-80s as well as economic troubles during war years in 1877-78 and 1897-98, both raw silk and silk textile production increased from the middle of the 1890s onwards.[292] In addition to the reputation of the success of the city in raw silk production, the city also continued textile production.[293] **(Table 3.1)**

[287] Dörtok Abacı, Z. (2006/2). İngiliz Konsolosluk Belgeleri Işığında Bursa Ekonomisi (1848-1896). *Uludağ Üniversitesi Fen-Edebiyat Fakültesi Sosyal Bilgiler Dergisi.* Year: 7, No: 11, p. 162.

[288] İnalcık, 1994, p. 226.

[289] Dumper, M., Thomas, R., & Stanley, B. (Eds.) (2007). *Cities of the Middle East and North Africa: A Historical Encyclopedia.* The United States of America: ABC-CLIO, Inc.; İnalcık, 1994, p. 227.

[290] Faroqhi, 2008, p. 358.

[291] Quataert, D. (1993). *Ottoman Manufacturing in the Age of the Industrial Revolution.* İstanbul: İletişim Yayınları, pp. 17, 92, 95; Faroqhi, Suraiya. (2003/2018). *Osmanlı Dünyasında Üretmek, Pazarlamak, Yaşamak.* İstanbul: YKY Yayın, pp. 99, 100.

[292] Quataert, Donald. (1993/1999). *Sanayi Devrimi Çağında Osmanlı İmalat Sektörü*. (Trans.). T. Güney. İstanbul: İletişim Yayınları, pp. 205, 206, 209.

[293] Quataert, 1993/1999, pp. 41, 107. In *Guide for Bursa Exhibition* edited by *Ahmed Muhtar* in 1339 (1920/21), the kind of textile, the amount of production, and the number of workers were demonstrated (Hacıbeyzade Ahmed Muhtar. (Ed.). (1920/21). *Guide for Bursa Exhibition (1920/21 Bursa Sergisi Rehberi)*. İstanbul: Ahmed İhsan Matbaası, 1339, pp. 46-49).

Table 3.1 The ateliers weaving different kinds of textile in Bursa.
Source: *Guide for Bursa Exhibition* edited by *Ahmed Muhtar* in 1339 (1920/21), pp. 46-49.

Kind of textile	**Establishment date (Hijri)**	**Owner**	**Address**	**Number of Workers**
Towel	[1]338	Kaya Ali Çavuş	Meydancık Neighborhood, next to coffeehouse	6
Towel	[1]339	Köse İsmail oğlu Hüseyin	Meydancık Neighborhood, inside *han*	7
Loin cloth	[1]339	Salih oğlu K[ö]r Ali	Meydancık Neighborhood, inside *han*	1
Loin cloth	[1]339	Halil oğlu İbrahim	Meydancık Neighborhood, inside *han*	1
Loin cloth	[1]339	İskender oğlu Mustafa	Meydancık Neighborhood, inside *han*	1
Towel	[1]339	Ali Osman oğlu Mahmud	Meydancık Neighborhood, inside *han*	1
Loin cloth	[1]339	Abdullah oğlu Mahmud	Meydancık Neighborhood, inside *han*	1
Towel	[1]322	İsmail oğlu Kamil Efendi	Meydancık Neighborhood, inside *han*	23
A kind of silk shawl *(kefiye)*	[1]338	Râif oğlu Râgıb Efendi	Meydancık Neighborhood, in mekteb on the street	3
A kind of silk shawl *(kefiye)*	[1]338	Batpazarlı Ahmed Efendi	Meydancık Neighborhood, in mekteb on the street	2
A kind of silk shawl *(kefiye))*	[1]338	Haymacı	Meydancık Neighborhood, in mekteb on the street	1
A kind of silk shawl *(kefiye)*	[1]338	Lütfü Efendi	Meydancık Neighborhood, in mekteb on the street	1
Silk cover	[1]338	Yusuf oğlu Mehmed	Meydancık Neighborhood, next to coffeehouse	2
Towel	[1]337	İsmail oğlu Mustafa	Meydancık Neighborhood, next to coffeehouse	3
Towel	[1]338	Hacı Ahmed Ağa	Meydancık Neighborhood, next to coffeehouse	1
Loin cloth	[1]339	Hasan Çavuş	Meydancık Neighborhood, next to coffeehouse	1
Towel	[1]336	Ali oğlu İbrahim Efendi	Meydancık Neighborhood, next to coffeehouse	9
Towel	[1]339	Terzioğlu Mustafa Efendi	Meydancık Neighborhood, next to coffeehouse	3
Towel	[1]339	Topal Hasan oğlu Hasan	Tatarlar Neighborhood, next to mosque	4
Towel	[1]338	Mehmed oğlu Kadri	Tatarlar Neighborhood, next to mosque	2
A kind of silk shawl *(kefiye)*	[1]339	Hoca Zâid Efendi	Tatarlar Neighborhood, on the street	2
A kind of silk shawl *(kefiye)*	[1]338	Mehmed oğlu Rıza	İncirli Neighborhood, on the street	2

Table 3.1 cont'd.

A kind of silk shawl *(kefiye)*	[1]339	Haymacı	İncirli Neighborhood, on the street	3
A kind of silk shawl *(kefiye)*	[1]338	Ragıb Efendi	Çınarönü Neighborhood, on the street	5
A kind of silk shawl *(kefiye)*	[1]330	Batpazarlı Ahmed Efendi	in the vicinity of Yıldırım, Çukur Neighborhood,	1
A kind of silk shawl *(kefiye)*	[1]331	Habri	in the vicinity of Yıldırım, Çukur Neighborhood,	3
A kind of silk shawl *(kefiye)*	[1]337	Lütfi Efendi	in the vicinity of Yıldırım, Çukur Neighborhood,	2
A kind of silk shawl *(kefiye)*	[1]331	Batpazarlı Ahmed Efendi	Yıldırım Neighborhood	2
A kind of silk shawl *(kefiye)*	[1]331	Ömer Efendi	Yıldırım Neighborhood	4
A kind of silk shawl *(kefiye)*	[1]331	Habri	Yıldırım Neighborhood	1
A kind of silk shawl *(kefiye)*	[1]339	Haymacı	Emir Sultan Neighborhood	1
Towel	[1]336	Abdi Usta	Yolgeçen	15
Towel	[1]338	Hüseyin Çavuş	Emir Sultan Neighborhood, in the vicinity of mosque	1
Loin cloth	[1]338	Mustafa oğlu Mehmed	Emir Sultan Neighborhood, in the vicinity of mosque	1
Loin cloth	[1]338	Mustafa oğlu Ömer	Emir Sultan Neighborhood, in the vicinity of mosque	1
Loin cloth	[1]338	Amuca Mustafa	Emir Sultan Neighborhood, in the vicinity of mosque	1
Loin cloth	[1]338	Behcet Kalfa	Emir Sultan Neighborhood, in the vicinity of mosque	1
Loin cloth	[1]338	Osman oğlu Fâik	Emir Sultan Neighborhood, in the vicinity of mosque	1
Loin cloth	[1]338	Nazif oğlu İsmail	Emir Sultan Neighborhood, in the vicinity of mosque	1
Linen *(Çarşaf)*	[1]338	İbrahim oğlu Mehmed	Emir Sultan Neighborhood, in the vicinity of mosque	1
Loin cloth	[1]338	Ali Beyzâde Ali Bey	Şile Neighborhood, on Yeşil Street	1
Linen	[1]338	Berber Ali oğlu Mehmed	Şile Neighborhood, on Yeşil Street	1
Linen	[1]338	Mustafa oğlu Mehmed	Şile Neighborhood, on Yeşil Street	1
Linen	[1]338	Yakub oğlu İsmail	Şile Neighborhood, on Yeşil Street	1
Linen	[1]338	Çömez Mehmed oğlu Ahmed	Şile Neighborhood, on Yeşil Street	1

Table 3.1 cont'd.

Linen	[1]338	Yusuf oğlu Mehmed	Şile Neighborhood, on Yeşil Street	1
A kind of silk shawl *(kefiye)*	[1]330	Lütfü Efendi	Namâzgâh	1
A kind of silk shawl *(kefiye)*	[1]330	Râgıb Efendi	Namâzgâh	4
A kind of silk shawl *(kefiye)*	[1]338	Hacı Abdullah	Namâzgâh	1
A kind of silk shawl *(kefiye)*	[1]338	Haymacı	Namâzgâh	1
Loin cloth	[1]338	Kağıdcızâde Ömer Efendi	Namâzgâh	1
Crepe	[1]339	Hacı Hakkızâde Bekir Efendi	Namâzgâh	2
Weaver *(Çulha)* and Loin cloth	[1]334	Hacı Hakkızâde Bekir Efendi	Namâzgâh	25
(Çakar) towel	[1]336	Mehmed oğlu Tevfik Efendi	Namâzgâh	5
Towel, loin cloth *(Havlu ma'a peştemal)*	[1]336	Mehmed oğlu Tevfik Efendi	Namâzgâh	13
Towel	[1]333	Mehmed oğlu İlhami Efendi	Under Yeşil coffeehouses	2
A kind of silk shawl *(kefiye)*	[1]338	Halil İbrahim Ağa	Across Meydancık Bridge	3
kind of tibet *(Mûtâf)*	[1]338	Hakkı oğlu Mustafa	Karakadı Street	2
kind of tibet *(Mûtâf)*	[1]335	Salih oğlu Hasan	Karakadı Street	2
kind of tibet *(Mûtâf)*	[1]309	İsmail oğlu Süleyman	Karakadı Street	2
kind of tibet *(Mûtâf)*	[1]337	İlyas oğlu Ahmed	Karakadı Street	1
Towel	[1]338	Tahir oğlu İbrahim	Karakadı Street	1
Towel	[1]338	Kara Ahmed Ağa	Yolgeçen	10
Towel	[1]338	Mehmed Efendi	Yolgeçen	5
Loin cloth	[1]338	Mehmed Efendi	Yolgeçen	1
Towel	[1]338	Ahmed ve şeriki Mustafa	Yolgeçen	12
Towel	[1]339	Hacı Kadri oğlu Hakkı	Yolgeçen	3
Towel	[1]336	Cebrail oğlu Süleyman	Yolgeçen	15
(Çakar) towel	[1]337	Feyzullah Efendi	Yolgeçen	7
Loin cloth	[1]330	Yusuf oğlu İbrahim	Aşağı Hanlar	2
Towel	[1]339	Mehmed oğlu İbrahim	Aşağı Hanlar	1
Towel	[1]338	Kara İbrahim	Aşağı Hanlar	30
Towel	[1]338	Dağıstanlı Kadri	Aşağı Hanlar	9

Table 3.1 cont'd.

Towel	[1]339	Faik Usta	Aşağı Hanlar	3
Towel	[1]334	Hacı Kudret	Aşağı Hanlar	12
Towel	[1]338	Hasan Şevket	Aşağı Hanlar	3
Towel	[1]338	Bedri Efendi	Aşağı Hanlar	10
Towel	[1]338	Hacı Arif oğlu Mustafa	Aşağı Hanlar	11
Loin cloth and belt *(kuşak)*	[1]339	Hüseyin oğlu Ali ve şeriki Mustafa	Aşağı Hanlar	1
Towel	[1]339	Çırpanlıoğlu Halil	Aşağı Hanlar	3
Towel	[1]339	Gebeş Hakkı Usta	Aşağı Hanlar	3
Loin cloth	[1]339	Abdullah ve şeriki Hacı Ali	Yolgeçen	3
Towel	[1]339	Şükrü Monla	Yolgeçen	1
Loin cloth	[1]339	Ahmed oğlu İbrahim	Yolgeçen	2
Cover	[1]339	Efe Mustaa	Yolgeçen	1
Loin cloth	[1]339	Vahid oğlu İsmail	Yolgeçen	1
Towel	[1]339	Mustafa oğlu Safa	Yolgeçen	1
Loin cloth	[1]339	Rıfat oğlu Mürsel	Yolgeçen	1
Mottled *(Alaca)*	[1]339	Yahudi	Yolgeçen	3
Crepe *döşin*	[1]339	Hasan Efendi	Yolgeçen	1
Velvet	[1]339	Hasan Efendi	Yolgeçen	1
Loin cloth	[1]339	Hasan Efendi	Yolgeçen	1
Loin cloth and towel	[1]339	Raşid oğlu Rıfat	Yolgeçen	5
Mûtâf	[1]334	Şerif oğlu İsmail Efendi	Bakırcılar *Çarşı,* on the street	1
Crepe *döşin*	[1]335	Hacı Sabri Efendi	Umur Bey Neighborhood	25
Crepe *döşin*	[1]337	Hacı Sabri Efendi	Sedbaşı	27
Crepe *döşin*	[1]338	Bekir Sıdkı Efendi	Bayezid Paşa Neighborhood	22
A kind of silk shawl *(kefiye)*	[1]339	Haymacı	Bayezid Paşa Neighborhood, Yeşil Street	3
A kind of shawl *(kefiye)*	[1]339	Râgıb Efendi	in the vicinity of Yeşil, Bayezid Neighborhood	1
A kind of shawl *(kefiye)*	[1]339	Osman Efendi	in the vicinity of Yeşil, Bayezid Neighborhood	1
A kind of silk shawl *(kefiye)*	[1]339	Fabrikatör Yusuf Efendi	in the vicinity of Yeşil, Bayezid Neighborhood	1

3.1.1 Using Water for Industrial Production

Water was the main natural source for silk production regardless of its modes of production which was traditional or modern. Cilimboz and Gökdere Streams were two significant water sources in Bursa. **(Figure 3.1)**

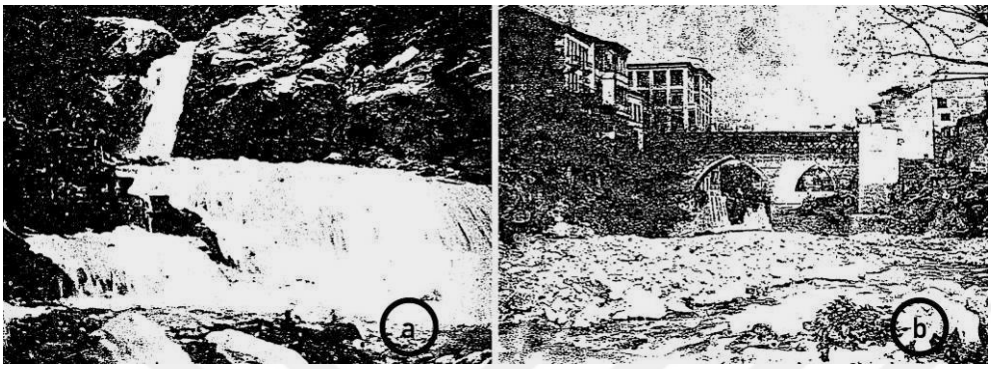


Figure 3.1 (a) Gökdere Stream[294] (b) Sedbaşı Bridge passing over Gökdere Stream.
Source: *Bursa Vilâyeti Salnâmesi,* 1927, *Bursa Vilâyeti Matbaası,* pp. 94, 48.

Quataert states that there were eight factories in the city in 1851, four of which were operated by water-power, and the rest was operated by steam-power.[295] The proximity of filature factories to the water sources was a significant strategy in locating a building for the utilization of water. This point is also emphasized while discussing the factories in terms of their location, scale and site arrangement. Before discussing urban and architectural details of factories as well as the institutionalization of industry, the shift from household silk production to factory-based manufacturing is discussed in this section.

3.1.1.1 From Transporting to Producing Raw Silk

In the late fifteenth and early sixteenth centuries, the strong ties between Bursa and the İstanbul market also opened a way for slaves to work in houses and be employed in commerce and crafts.[296] In addition to its production of silk textiles, Bursa was the

[294] Another view of the stream is also available in the archive of Turkish History Association, Ankara (OFS-71-1-32).

[295] Quataert, 1993, p. 119.

[296] Ibid., p. 359.

center for import and export of Iranian raw silk until the mid sixteenth century. According to Dalsar (1960), Bursa was not a center of raw silk production before the mid-sixteenth century, but it was rather a place of silk textile production as well as the center of silk exportation and commerce.[297] Meanwhile, the luxurious silk textiles were sent to the Ottoman palace and Europe. However, the war between the Ottoman Empire and Iran led to the cessation of the silk weaving in Bursa.[298] In addition, Ottoman weavers exposed to high prices of raw silk due to selling of Iranian raw silk by English merchants to Europe, which consolidated this difficult period.[299] With the temporal extension of the Ottoman-Iranian wars to the seventeenth century, silk culture was locally practiced mainly by women and children, and raw silk was commonly produced from the seventeenth century onwards, and starting from the mid-sixteenth century, raw silk production superseded silk weaving especially because of Iranian wars and the increasing demand of European countries for raw silk.[300]

The varying occurrences such as the growth in European economy, the emergence of capitalist powers, the change in caravan routes, gaining the control of Iranian silk trade and Far Eastern trade by the Dutch (*Flemenk*) and the British, the conflicts between Iran and the Ottoman state, and the Jelali Revolts in Anatolia[301] all resulted in the loss of raw materials and income, downfall in domestic trade, and population decrease in rural areas. Therefore, a shift from silk weaving to raw silk production took place from the seventeenth century onwards. In other words, the silk industry was reactivated thanks to the ending of the *Jelali* revolts, which continued in the seventeenth century, and to the increasing demand by Europe for raw material.[302] Faroqhi also confirms that Bursa industry underwent a different recovery process

[297] Dalsar, F. (1960). *Türk Sanayi ve Ticaret Tarihinde Bursa'da İpekçilik.* İstanbul: İstanbul Üniversitesi Yayınları, pp. 18, 19.

[298] İnalcık, 1994, p. 229; Faroqhi, 2003/2018, pp. 104, 106.

[299] Faroqhi, 2003/2018, p. 10. The shortage of workforce was also another reason behind the cessation in the silk industry at the beginning of the seventeenth century (Faroqhi, 2003/2018, p. 123).

[300] Dalsar, 1960, pp. 18, 19.

[301] Avcı, Y. (2016). *Osmanlı Hükümet Konakları Tanzimat Döneminde Kent Mekanında Devletin Erki ve Temsili.* İstanbul: Tarih Vakfı Yurt Yayınları, p. 55.

[302] Faroqhi, 2003/2018, p. 121.

after the Iranian wars as raw silk started to be produced locally after the crisis in silk production due to the discontinuity of the import of alternative raw materials coming from Iran.[303] The Bursa looms produced less luxurious textiles and served less for the palace but for wealthy clientele in a modest size and in a mixed form of cotton and silk[304] from the seventeenth century onwards[305] when compared to the sixteenth century textile productions.[306] Briefly, they were produced for the local market as well as the inhabitants of the capital but less for the Ottoman court.

Therefore, it should be emphasized that the role of Bursa shifted from transporting raw silk, i.e. being a center for import and export of Iranian raw silk, until the mid-sixteenth century to producing it, i.e. being a center for raw silk production for export and also for textile production for domestic market. Thus, the shift from the traditional way of silk production, i.e. hand-reeled household production, **(Figure 3.2)** to the modern way of silk production, i.e. factory-based steam reeling by using new technology is discussed in the following part. The fluctuations during this process are also stated to demonstrate how industrial silk producers struggled to survive through adverse conditions. During this process, the Institute of Sericulture was a modern way of the improvement of silk production, and the factories, on the other hand, were the main agents of the introduction of new technology. The accommodation of workforce in the factories are also taken into consideration since the planned neighborhoods constructed for the immigrants close to the factories were

[303] Faroqhi, 2008, p. 360.

[304] Faroqhi, 2008, p. 360. Parallel to these arguments, Faroqhi (2008) also asserts that Bursa was a central place in the textile production largely for the domestic market, and relatively lesser a source of raw material for European factories until the early years of the nineteenth century (p. 379). However, this position of Bursa as a "textile manufacturing center" of the Empire turned into a new phase in its own history with a decrease in local request for silk cloth especially after the 1820s (Ibid.). This, notwithstanding, does not mean an end in silk cloth production during the 1800s, but rather a replacement of silk by the available "machine-made English cotton" in textile sector (Ibid.).

[305] With respect to its importance in economy and silk trade, although Bursa had been a former international trade center beginning from the fifteenth century, a gradual decline took place in its importance as a trade center beginning from the seventeenth century (Dörtok Abacı, 2006/2, p. 160). The city lost its importance in the seventeenth century giving its place to the İzmir port, which was preferred as a point of intersection for providing a commercial interaction between England-Holland and Iran-China (İnalcık, H. (2000). Bursa ve İpek Ticareti. In H. İnalcık & D. Quataert (Eds.). *Osmanlı İmparatorluğu'nun Ekonomik ve Sosyal Tarihi,* Vol. I. (Trans.). H. Berktay. İstanbul: Eren Yay., p. 306; Dörtok Abacı, 2006/2, p. 162).

[306] Faroqhi, 2008, p. 360.

also the places where the workers could easily accommodate due to their proximity to the factories.

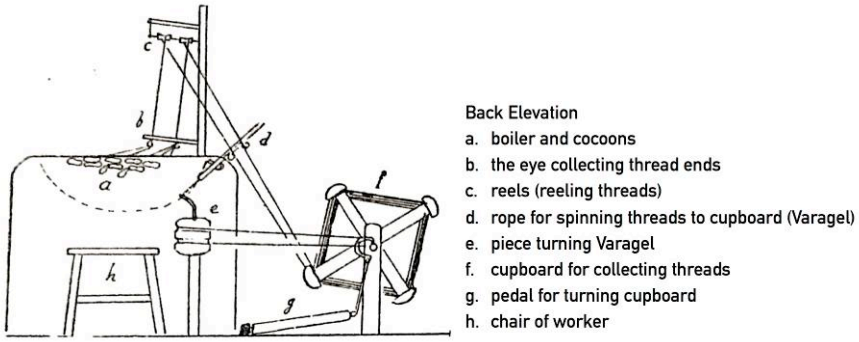


Figure 3.2 Traditional way of production; silk reeling equipment operated by hands and foot *(tepme mancınık)*.
Source: Dalsar, 1960; the legend (original in Turkish) is translated by the author.

3.1.1.2 From Household Production to Factory-Based Manufacturing

In the pre-industrial period, silk was produced in houses in and around Bursa. There were some houses dealing with sericulture to produce silk from cocoon, and there were some others weaving silk.[307] The sericulture was a significant income also in Bilecik during the seventeenth century, as it was in Bursa. Since Bilecik is located near Bursa in the Marmara Region, the city most probably had fertile mulberry groves in the villages surrounding the city, which allowed its people to engage in sericulture. This activity could be traced in the design of houses. **(Figure 3.3)** While the upper floors of houses were all reserved for raising silkworms, the ground floors were used as barns and storage places for goods and mulberry leaves to feed silkworms. The upper floors were a total unit without any separator. Namely, cocoon producers devoted a unit for breeding silkworms in their houses; and these units included wooden bedstead (*kerevet*) for laying silkworm seeds, a process followed by spinning cocoons.[308] After the cocoon was produced, walls, doors, and shelves in

[307] Some houses engaged in sericulture in Osmaneli, Bilecik have been registered by *Bursa Koruma Kurulu* (Conservation Board) recently. On the other hand, many houses producing silk, like those in Mudanya, have not remained until today. The main reason behind the loss of houses is humidity resulting from silkworm breeding (Dayıgil, F. & Orgun, Z. (1939). Mudanya'da Tahir Paşa Köşkü ve Eski Evler. *Arkitekt,* No:1-2, p. 121).

[308] Aydın, E. Ö. (2007). Bursa'da İpekçilikle İlgili Mimari Mirasın Korunması. In C. Çiftçi (Ed.). *Bursa'nın Kentsel ve Mimari Gelişimi.* Bursa: Osmangazi Belediyesi Yayınları, p. 231.

houses were cleaned with hot mineral water, which led to the destruction of wooden components.[309]



Figure 3.3 One of traditional houses where cocoons were produced in Bilecik.
Source: The author's photo, 2018.

The silk weaving industry and the trade of silk fabric lost its significance since raw silk produced mainly in factories replaced its place in the European market, which resulted in the emergence of factories, the increase in their constructions, and the structural transformation of the Ottoman Empire that began to be integrated into the European economic system through its ports. On the other hand, due to the import of the factory-based industrial production from European cities, local producers were obliged to change their production techniques, introducing new patterns of industrial work combined with connections of rural workers. The advent of new technology into industry accelerated in the second half of the nineteenth century.[310] The four different channels promoting industrial developments were: (1) the initiatives of the state to meet the requirements of the army and the palace, (2) the small industries established by foreigners to manufacture agricultural products primarily for the foreign market, (3) the industrial facilities and small workshop industries established by the commercial capital to complement household production, and (4) the emergence of an industry for the repair and manufacturing of machines.[311] With the impacts of the capitalist world economy on the Ottoman cities at the beginning of the

[309] Ibid.

[310] Tekeli, İ. & İlkin, S. (1993). Osmanlı İmparatorluğu'nda 19. Yüzyıl'ın İkinci Yarısında Nafia Programları ve Teknoloji Gelişimi Üzerine. *Dünü ve Bugünüyle Toplum ve Ekonomi,* No: 3, p. 135.

[311] Ibid.

nineteenth century, the city of Bursa also began to be an open commercial space for imported goods and a center of silk and cocoon.

Referring to *Salnâme* of 1838, there were almost 50 factories comprising 2.500 spinning wheels *(mancınık),*[312] and therefore, silk was continued to be produced by traditional methods.[313] Since silk was appropriated in terms of its quality, the required amount of silk for the advanced industry in Lyon, Milano, and England, high demand for raw silk by Europe could not be met only by using primitive spinning wheels, and the establishment of filature factories including steam powered spinning wheels in high numbers thus became an urgent necessity.[314] The first silk factory was constructed in 1837 in Bursa by the French family Glaizal, although it soon became bankrupt.[315] The Austrian consulate, Falkeisen, established the silk factory in 1845, taking over the management of this factory.[316] The city in the 1860s largely underwent a transformation from central and scattered spaces of silk production carried out in households and workshops **(Figure 3.4)** under the guidance of guild organizations in *han* complexes to the expansion of industrial production in factories. From the mid-nineteenth century onwards, the mechanization in silk production became widespread and the city continued to function as the center of raw silk production in parallel with the increasing demand for raw silk as a result of the mechanization process in Europe.

[312] Operated by the spinner's hands and foot.

[313] Yetmen, T. E. (1948). Bursa'da İpekçilik. Vedat Nedim Tör & Şevket Rado (Prep.). *Bursa.* İstanbul: Doğan Kardeş Yayınları, p. 63.

[314] Ibid.

[315] Quataert, 1993/1999; Çiftçi, C. (2013/1). 1837-1908 Sürecinde Bursa'da Koza Üreticiliği ve İpekli Dokumacılık Sektörü. *University of Uludağ, The Social Sciences Review of the Faculty of Sciences and Letters.* Vol. 24, Year: 14, No: 24, p. 3; Bilenser, Erdoğan. (Prep.). (2014). *Prusia'dan Bursa'ya: 8500 Yıldır Üreten Kent.* Yapı Kredi Yayınları, p. 188.

[316] Çiftçi, 2013/1, p. 3; Bilenser, 2014, p. 188.

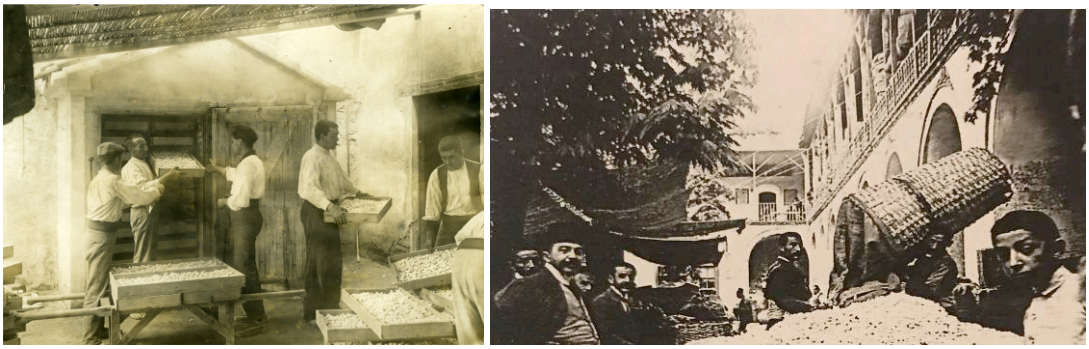


Figure 3.4 Workshop During the Process of Manufacture of Silk, 1908 (left); commerce of silk in Koza *Han* (right).
Source: Archive of Barcelona, Author Gómez Durán, AFB3-117; provided by Maria Pi Maymó, the director of Fundació Agbar in Barcelona (left); Kaplanoğlu, R. (2013). Bursa'da Balkan Göçmenleri (Balkan Immigrants in Bursa). In A. F. Örenç & İ. Mazgaltepe (Eds.). *Balkanlar ve Göç – The Balkans and Mass Migration*. Bursa: Bursa Kültür A.Ş. (right).

When it was realized that Bursa was a source of raw material for silk industrialists from Lyon and Great Britain, the 1830s became a "turning point" in the economic fortune of the city, leading to a factory-based expansion, and it started to serve for the world-market instead of providing only for İstanbul.[317] Because of the higher quality of silk in Bursa than the one produced in Syria, it supplied raw silk for the manufacturing industry of Aleppo and Damascus.[318] In the 1840s, the silk production in Anatolia could not be compared by any production, continued to grow up with the advantage of the proximity of Anatolia to Europe.[319] In 1844, factory-based steam reeling replaced the hand-reeled silk production in homes and workshops, and the construction of filature factories increased and gained importance.[320] **(Table 3.2, 3.3)** The growth in mechanization of Europe led to the growth in considerable need of raw material in the beginning years of the nineteenth century. Besides, the shortage in cocoon harvests due to silkworm disease that caused a rise in the prices of raw silk after 1855, and the American civil war of 1860, which resulted in the elimination of American market for Lyon, also necessitated the import of Asiatic cocoon and thread

[317] Faroqhi, 2008, p. 361.

[318] Dalsar, 1960, p. 402.

[319] Ibid., p. 403.

[320] Quataert, 1993/1999, p. 211 (quoted from FO 195/208, 24/2/1844, Sandison, Bursa).

and the establishment of new commercial connections with raw silk suppliers.[321] With the advent of silk industrialists from France and Great Britain, mulberry groves[322] around Bursa were noticed as a source of raw material, and factory-based silk production came to the forefront in the 1830s, as mentioned beforehand.[323] Gardens and groves of mulberry, olive almond, and chesnut also occupied the periphery of the city around the urban core, as indicated in the Suphi Bey Map.

Factories produced silk not only for the French silk industry, but also for the other European manufactures.[324] While carrying silk of Iran, Turkestan, and Caucasus to Europe through Turkey, European merchants encouraged Anatolian population to produce silk.[325] As described by Richard Pockokke in his travel notes dated 1740, the town of Mihaliç[326] was a large silk bazaar with its wealthy mulberry groves.[327] A document[328] dated 1319 (1901) was about the establishment of a factory for raw silk production in the towns of Mihaliç and Bandırma with a concession given to Muhyiddin Pasha while another document[329] dated 1323 (1905) was on the exemption of tariffs for the equipment used in a factory in the town of Gemlik built

[321] Sheridan, G. J. (1980). Household and Craft in an Industrializing Economy: The Case of the Silk Weavers of Lyon. In J. M. Merriman (Ed.). *Consciousness and Class Experiences in Nineteenth Century Europe.* New York, London: Homes & Meier Publishers. p. 110; Sheridan, G. J. (1984). Family and Enterprise in the Silk Shops of Lyon: The Place of Labor in the Domestic Weaving Economy, 1840–1870, In G. Saxonhouse & G. Wright (Eds.). *Technique, Spirit and Form in the Making of the Modern Economies: Essays in Honor of William N. Parker.* Research in Economic History Suppl. 3, Greenwich/London: JAI Press, p. 40.

[322] Silkworms feed on the leaves of mulberry trees.

[323] Çadırcı, M. (1991). *Tanzimat Döneminde Anadolu Kentlerinin Sosyal ve Ekonomik Yapısı.* Ankara: Türk Tarih Kurumu Yayınları, p. 369; Faroqhi, 2008, p. 361; Güler, F. B., Vural Arslan, T., & Durak, S. (2016). Socio-Cultural Structure and Space that Transformed under the Influence of Population Movements (Migration) in Bursa. *International Journal of Social Science and Humanity,* Vol. 6, No. 8, p. 654.

[324] Faroqhi, 2008, p. 361.

[325] Dalsar, 1960, pp. 401, 402.

[326] The French transported some of the wool produced in the towns of Mihaliç, Bandırma, and Karaboğaz to İstanbul and İzmir, and some to the Marseilles port (Yalazı, Ş. (2016). *Nüfus ve Temettuat Defterlerine Göre 19. Yüzyılda Karacabey'in Toplumsal ve Ekonomik Yapısı.* Avrasya Etnoğrafya Vakfı Yayınları. No: 28, p. 290).

[327] Quoted from: Yalazı, 2016, p. 290.

[328] BEO 1773 132956.

[329] BEO 2610 195704.

by Abdüllatif Efendi. The dates of the documents mentioning about factories demonstrated that their construction became more widespread not only in the city but also in the region especially after the 1900s.

As mentioned before, from the mid-nineteenth century onwards, Bursa became the center of raw silk production in parallel with an increasing demand for raw silk as a result of the mechanization process in Europe.[330] This process of industrialization was also accelerated by foreign investments due to new administrative and judicial regulations supporting foreign investors in the country.

Table 3.2 The list of silk factories in Bursa[331]

Date of Construction	Administrator/Owner of Factories
-	Boduryan Akpos ve Karnik
-	Fabrikâ-î Hûmâyun
-	Gülmezyan Serviçin ve Nişan
-	Köleyan Mihran
1843	Boduryan Karnik ve Madam Guma
1847	Konstan Bay
1847	Konstan Bay
1848	Emirza Artin
1848	Boduryan Akpos ve Karnik
1848	Dağıstanlı Hacı Abdullah
1848	Köleyan Mihran
1852	Balaban İstefan Veresesi
1853	Emirza Artin
1853	Bay Biraderler
1853	Gama Lui Veresesi
1854	Simkeşyan Eznif
1858	Bahari
1860	Bay Onnik
1860	Köleyan Diran

[330] Dörtok Abacı (2006) also examines British consular reports written between the years 1848 and 1896 by comparing them to *Hüdâvendigâr Vilâyeti Salnâme*s printed since 1870s and the information based on the observations of several travelers (p. 162).

[331] The data produced by 1913-1915 industrial census is taken from: Oral, E. Ö. (2004). Bursa'da İpek Fabrikaları ve İpekçilikle İlgili Endüstri Mirasının Korunması. PhD Thesis. ITU. The Institute of Applied Sciences, p. 71. For other lists, see for example: Kaygalak, S. (2008). *Kapitalizmin Taşrası 16. Yüzyıldan 19. Yüzyıla Bursa'da Toplumsal Süreçler ve Mekânsal Değişim.* İstanbul: İletişim (Kaygalak refers to 1906 Notes of Regis Delbeuf); Akkuş, T. (2010). *Meşrutiyet'ten Cumhuriyet'e Bursa Kent Tarihinde Gayrimüslimler.* İstanbul: Libra Kitapçılık ve Yayıncılık; Kağıtçıbaşı, E. & Yaşar, E. (2014). *Bursa'nın Ekonomik Tarihi 1900-1960.* 2nd Volume. Bursa: Uludağ Üniversitesi. Akkuş and Kağıtçıbaşı & Yaşar refer to: Ökçün, G. (1984). 1913-1915 Osmanli Sanayi Istatistikleri. İstanbul: Hil Yayın. The list is reorganized according to the chronological order of construction dates.

Table 3.2 cont'd.

1863	Birut Mari Luiz
1863	Sandık Emini Ahmet Efendi Veresesi
1863	Birut Mari Luiz
1863	Sandık Emini Ahmet Efendi Veresesi
1863	Gama Pol Veresesi
1863	Kurdikyan Hacı Onnik
1865	Osman Fevzi
1868	Silukizade Hakkı
1868	Varsilyadi Zevcesi
1876	Emirza Rafik
1876	Belar-Lans
1876	Dervişyan Karabet Zevcesi
1877	Balaban Manuk
1877	Bıdıkyan Osib
1877	Osman Fevzi
1878	Seftiyan İstefan ve Zevcesi
1884	Ayıneli Yorgaki
1892	Balaban Agop Veresesi
1898	Bay Greguvar Zevcesi
1907	Simkeşyan Eznif
1909	Instasyadis Odesif
1911	Tevfik
1911	Fabrikâ-î Hûmâyun

Table 3.3 The silk factories in Bursa.
Source: *Guide for Bursa Exhibition* edited by *Ahmed Muhtar* in 1339 (1920/21), pp. 46-49.

Silk Factories in Bursa						
Owner / Name of Company	**Number of Looms (Destgâh)**	**Daily production (kilo)**	**Power of engine horsepower (Bârgîr)**	**Number of Workers**		**Address**
				Men	**Women**	
Jol Balar	92	45	5	160	4	Demirkapı, Çınarönü Neighborhood
Memduh Bey	80	40	5	97	4	Yolgeçen, on the street
David Saban	73	32	3	107	5	Umur Bey Neighborhood
Mösyö Romangal	60	30	3	72	4	Çoban Bey Neighborhood
Mösyö Romangal	60	26	3	110	4	Muradiye, Kayabaşı Neighborhood
Lui Bavariye ve Aleksan Brot	64	25	3	110	4	Demirkapı Neighborhood
Mösyö Tamuras	54	25	4	125	4	Demirkapı, Çınarönü Neighborhood
Hamidli Yusuf Efendi	52	25	2	95	3	Sedbaşı, Karaağaç Neighborhood
Mösyö Romangal	52	23	2	90	4	Sedbaşı, next to Kurdoğlu Graveyard

Table 3.3 cont'd.

Mösyö Romangal	52	22	3	80	4	Muradiye, Kayabaşı Neighborhood
Hamidli Yusuf Efendi	48	20	2	86	3	Umur Bey Neighborhood
Fazlı ve şürekâsı	40	18	2	75	5	Umur Bey Neighborhood
İsak Kohen Efendi	40	17	2	74	3	Arabayatağı Neighborhood
Aleksan Berut ve Luy Bavariye	28	13	2	48	3	Demirkapı
İsak Eskinazi	30	13	2	57	3	Muradiye, Kayabaşı Neighborhood

3.1.2 Institutionalizing Industry: Industrial Schools and the Institute of Sericulture

With the Anglo-Ottoman Trade Treaty of 1838, European industrial products reached cities at lower prices than the products of local craftsmen.[332] Therefore, a general decline in craft sector occurred especially due to the development of maritime, land transportation, and thereby a resulting decrease in costs.[333] The process of the destruction of the previous local industry by trade treatises during the nineteenth century instigated the Ottoman government to put an institutionalization program into practice, which appeared in two stages. The first stage encompassed the years between 1840 and 1860 when filature factories were established by the initiatives of state and foreign investors, and construction activities were continued by foreign companies. When a decline appeared in "domestic weaving" due to cheaper manufactures in Europe and a growing tendency to consume industrially manufactured goods, in the nineteenth century, an increase in demand for raw material in European countries led the Ottoman Empire to produce raw silk and promote trade, particularly in Bursa. Thus, significant efforts were devoted to the organization and renovation for raw silk production, which required the institutionalization of sericulture in Bursa.

The establishment of *Islah-ı Sanayi Komisyonu* (Commission for the Improvement of Industry) was the second stage of the institutionalization program in the industrial

[332] Arnaud, J. (2008). Tradition and Modernity in the Nineteenth Century Modernization of the Cities of the Ottoman Empire (1800–1920). In S. K. Jayyusi (Ed.). *The City in the Islamic World,* Vol. 2. Leiden, Boston: Brill, p. 963.

[333] Ibid.

field. The commission was established under the reign of Sultan Abdülaziz[334] and became active in order to revive craft and small-scale industry in Anatolian cities in 1864.[335] Increasing customs in order to limit the entrance of European products into the Anatolian market; opening exhibitions to present local products and machines produced by foreign companies as well as encouraging local industry; opening industrial *mekteb*s (schools) to provide employment in industrial centers; and establishing firms to assemble several tradesmen were the precautions taken by the state by organizing this commission.[336] Small-scale industry was highly affected from the Anglo-Ottoman Trade Treatise due to its defeat in the competition with free trade and European products, but the establishment of the Commission for the Improvement of Industry led to the renovation of traditional crafts under small companies.[337] In order to reactivate industry, the state also encouraged peasants by enabling mulberry trees and awarding prizes for the production of worm, egg, and cocoon. For the same purpose, the Institute of Sericulture was also established.[338]

As a result, the contribution of the state to the improvement of industry after the 1860s was mainly achieved by the enactment of regulations and the establishment of industrial schools instead of the construction of factories as it was used to be in the previous decades. Among the industrial schools of the period, some advanced examples of *Hamidiye Sanayi Mektebi Âli*(s) (schools opened by Sultan Abdülhamid), were established in İzmir, İstanbul, Beirut, Selânik, and Bursa. **(Figure 3.5)**

Bursa Industrial School had formerly been established as a workhouse (*ıslâhhâne*). Workhouses in the late Ottoman period were structured in order to protect and educate abandoned children. The workhouse was established in 1869 in Filiboz

[334] Martal, A. (1999). Osmanlı Sanayileşme Çabaları (XIX. Yüzyıl). In G. Eren (Ed.). *Osmanlı 3, İktisat.* Ankara: Yeni Türkiye Yayınları, p. 279.

[335] Martal, 1999, p. 282; Aktüre, S. (1978). 19. Yüzyıl Sonunda Anadolu Kenti Mekansal Yapı Çözümlemesi. İstanbul Teknik Üniversitesi, Mimarlık Fakültesi, Doktora Tezi. Ankara: ODTÜ Mimarlık Fakültesi Baskı Atölyesi, p. 61.

[336] Aktüre, 1978, p. 61.

[337] Tekeli & İlkin, 1993, pp. 146, 147.

[338] Stotz, 1939, p. 98.

Neighborhood by the governor İzzet Paşa in Bursa, and the students in the institution did not only accommodate but also take education in industrial fields such as tailoring, shoemaking, carpentry, and leatherwork.[339] **(Figure 3.6)** As seen in historical photographs, artworks and furniture of the school were all presented in the Industrial Exhibition in 1926.[340] **(Figure 3.7)** Although several mansions were used for the school (*mekteb*), in 1885, the school was moved to *Temaşahane*.[341] The governor Mahmut Celaleddin Paşa constructed a new building for the students in 1890 in Tophane, and several components of the school complex were constructed in time.[342].



Figure 3.5 Bursa Industrial School, a view from interior courtyard of the school.
Source: *Bursa Vilâyeti Salnâmesi,* 1927, *Bursa Vilâyeti Matbaası,* p. 219.

[339] Kağıtçıbaşı & Yaşar, 2014, p. 56; Elbas, A. & Erdönmez, A. (Project Coordinators). (2011). *Bursa'nın Köklü Eğitim Kurumları Tophane Teknik ve Endüstri Meslek Lisesi (Hamidiye Sınai Mektebi).* Bursa: Bursa Büyükşehir Kitaplığı, p. 11.

[340] *Hüdâvendigâr Vilâyeti Salnâmesi,* 1907, *Bursa Vilâyeti Matbaası,* p. 89.

[341] Elbas & Erdönmez, 2011, pp. 12, 13.

[342] Elbas & Erdönmez, 2011, pp. 13, 45; the school was called as Bursa Hamidiye Sanayi Mekteb in 1899 (Bilenser, 2014; quoted from: BOA., Y.PRK.UM., 17/49).



Figure 3.6 Woodshop in Bursa Industrial School.
Source: *Hüdâvendigâr Vilâyeti Salnâmesi,* 1907, *Bursa Vilâyeti Matbaası,* p. 89.

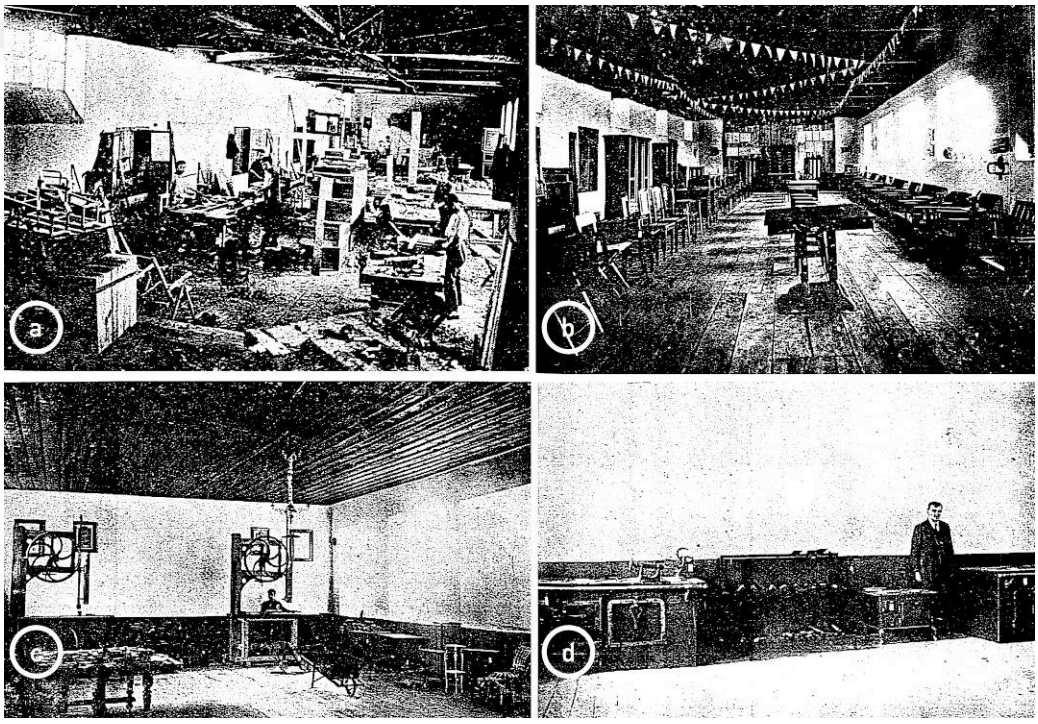


Figure 3.7 Bursa Industrial School; (a) preparation for Industrial Exhibition in 1926 (b) the furniture of the school which were presented in the exhibition;(c) exhibited ironwork; (d) exhibited furnaces.
Source: *Bursa Vilâyeti Salnâmesi,* 1927, *Bursa Vilâyeti Matbaası,* p. 226.

In addition to the contribution of Industrial School to the improvement of industry, the establishment of the Institute of Silkculture was also a significant attempt to improve silk industry. For this reason, the story of raw silk production is illustrated. The first mechanical system for reeling silk from cocoon was developed in 1824 in Lyon, France, and standardization in thickness and quality was initiated by silk

weavers of Lyon.[343] Among European cities, Lyon was endowed with the most advanced weaving looms in the nineteenth century. The reputation of Lyon lies in its richness and excellence in fabric design and its manufacture for a long time.[344] Raw materials were produced in houses in the eighteenth century; however, raw silk consumption arose between 1815 and 1849, and the export of silk fabric enormously increased by 1870.[345] With the widespread use of handlooms, there were also 100.000-120.000 power looms in the Lyon region in 1877, and silk weaving via factory production in the surrounding countryside of Lyon came into foreground especially during the second half of the nineteenth century.[346] However, the supply of a large amount of raw silk via traditional methods for that number of power looms was quite difficult.[347] The raw silk production in Bursa, therefore, was one of significant sources for weaving factories especially in Lyon. Meanwhile, silk producers in Lyon contributed to the process through two fundamental innovations: (1) reeling silk using steam-powered machines to produce strength raw materials of same quality, and (2) heating and softening cocoons in steam to provide quick reeling.[348] The raw silk produced by steam-powered machines spread over almost all European cities in five years owing to the straightness of silk and the low cost provided by the mechanization of silk production.[349] The reflection of this development in Bursa was observed ten years later through the establishment of the first filature factory, and Bursa became an industrializing city through the production of silk and cocoon for European bazaars.[350] Although there was an active factory

[343] Erder, L. T. (1976). The Making of Industrial Bursa: Economic Activity and Population in a Turkish City 1835-1975. PhD Dissertation. Princeton University, p. 96; Sheridan, 1980, p. 108; Dörtok Abacı, 2006/2, p. 162.

[344] Sheridan, G. J. (2006). Craft Technique, Association and Guild History: The Silk Weavers of Nineteenth Century Lyon. In I. A. Gadd & P. Wallis (Eds.). *Guilds and Association in Europe, 900-1900.* London: Centre for Metropolitan History, Institute of Historical Research, p. 149.

[345] Ibid.

[346] Sheridan, 1980, p. 108.

[347] Ibid.

[348] Aktar, A. (1996). Bursa'da Devlet ve Ekonomi. In Engin Yenal. (Prep.). *Bir Masaldı Bursa.* Istanbul: Yapı Kredi Yayınları, p. 121.

[349] Erder, 1976, p. 96; Aktar, 1996, p. 121.

[350] Dörtok Abacı, 2006/2, p. 162; Bursa earned a fame for being a bazaar of raw material and imported goods for Europe as a consequence of the establishment of factories and the use of machines for spinning silk from the year 1838 onwards (Dörtok Abacı, 2006/2, p. 161).

construction process by the state from the 1830s onwards in Ottoman cities, factory building process by the state decelerated from the 1850s onwards especially with the influence of the Crimean War of 1854.[351] However, the state continued to improve industry through the establishment of industrial schools and the regulations in the field of industry.[352] In Bursa, private companies also continued to construct filature factories.

The state factory opened in the city was *Fabrikâ-î Hûmâyun,* the "Imperial factory" or the factory of the state, which was also followed by other filature factories. Thus, the state acted as stimulator and regulator in this process. It did not only launch an overall industrialization policy by encouraging factory constructions but also built model farms and schools for agricultural institutionalization. The first stage of the institutionalization process, when *Fabrikâ-î Hûmâyun* was also run by the state in 1852, was a significant attempt to open a way to private companies to build and operate filature factories in the city. Most of the filature factories constructed in Bursa were built by Europeans, especially the French coming from Lyon.

The economic depressions in 1846-47 as well as the European Revolution of 1848 negatively affected European weaving factories, which resulted in the decrease in raw silk demand by Europe.[353] The earthquake of 1855 also affected this process, leading the destruction of many factories. Nevertheless, the investors, standing up to these negative situations, reconstructed the demolished factories and led to the increase in silk production.[354] However, due to the omissions and inefficiency in the process of producing cocoons, silkworm diseases such as *pebrine* and *muscardine* that appeared at the end of the 1850s[355] led to a crisis in silk production in the years

[351] Tekeli & İlkin, 1993, pp. 138-141; Genç, M. (2004/2005). Reform Sürecinde Devlet ve Ekonomi: Osmanlı İktisadî Dünya Görüşünde Değişmeler. In Kemal H. Karpat (Comp.). *Osmanlı Geçmişi ve Bugünün Türkiye'si.* (Trans.). S. Taner. İstanbul: İstanbul Bilgi Üniversitesi Yayınları, pp. 300-302.

[352] Tekeli & İlkin, 1993, p. 141.

[353] Quataert, 1993, p. 119.

[354] Ibid., p. 121.

[355] Aydın, 2007, p. 232.

between 1857 and 1862.[356] Therefore, the production of raw silk was undergoing a serious competitive process not only because of the diseases but also the easy access of Japanese and Chinese silk to European bazaars due to the opening of the Suez Canal in 1869 that shortened the distance of sea trade route.[357]

The factory owners in Bursa took some precautions against the disease; for instance, they started to import Japanese cocoon in 1864, which led to the reduction in the quality of raw silk.[358] In spite of rising cocoon prices, a downfall in the quality of silk was observed. The worries about rising prices can also be followed in an archival document.[359] According to the document written by the administrator of Hereke Weaving Factory, Mehmet Aşir to *Hazîne-i Hâssa-i Şâhâne Nezareti* (the Ministry of Imperial Treasury) in 1877, 283 kıyye silk was reeled in a filature factory in Bursa and delivered to a warehouse with the approval of *Hazîne-i Celile* (the Ministry of Finance). As stated in the same document, the administrator was worried about that the price of the silk produced by Japanese cocoon in Bursa was to be increased recently according to the news he received from Osman Efendi, one of the silk merchants. For this reason, the administrator expected a permission from the sultan to purchase an extra *300 kıyye* silk from the factory in Bursa as soon as possible.

With the establishment of *Düyun-u Umumiye İdaresi* (Administration of Public Debts) in 1881, the administration fundamentally aimed to increase agricultural production, especially sericulture.[360] Since the administration took tithes for cocoons, the administration attempted to take all the precautions for the remedy of disease and to import healthy silkworms, and the main aim of the administration beyond its

[356] Dalsar, 1960, p. 411; Çadırcı, M. (1991). Tanzimat Döneminde Anadolu Kentlerinin Sosyal ve Ekonomik Yapısı. Ankara: Türk Tarih Kurumu Yayınları, p. 370; Quataert, 1993/1999, p. 222.

[357] Erder, 1976, p. 116; Quataert, 1993/1999, p. 223; Quataert, D. (2005). *The Ottoman Empire, 1700-1922.* Cambridge: Cambridge University Press, p. 120; Akkuş, 2010, p. 142.

[358] Quataert, 1993/1999, pp. 222, 223.

[359] TSMA-E 1321/16.

[360] Tekeli & İlkin, 1993, p. 126; Quataert, D. (1987). The silk industry of Bursa, 1880-1914. In H. İslamoğlu-İnan (Ed.). *The Ottoman Empire and the World Economy.* Cambridge: Cambridge University Press, pp. 288, 289.

efforts was to increase tithe to be taken from cocoon.[361] The state also subsidized this process by not collecting taxes for three years and distributing healthy seeds.[362]

When Amasyan Efendi, who graduated from Grinyon Agricultural College in France, came to Anatolia, he advised the government to send students to France, and a total of eight students were sent to receive agricultural education.[363] For example, Kevork Trokomyan, who studied agriculture in Montpellier Agricultural School, graduated in 1883 and turned back to Anatolia to teach sericulture in a newly established institute, Harir Darü't-Talimi (Institute of Sericulture), was one of these students.[364]

Bursa was one of the places where the educational institution for sericulture was built. The establishment of the Institute of Sericulture, therefore, was another stage of the institutionalization process in the field. The institute was initially founded in 1888 in a rent house in Şehreküstü Neighborhood and a building for the Institution was constructed in 1894[365] on İpekçilik Street below the kiosk of Abdülaziz to increase silk quality based on Pasteur's principles.[366] Besides, according to an

[361] Quataert, 1993/1999, p. 223. For the story of silk in the nineteenth century, including the silk dieases and the process of the improvement of silk production, also see: Yetmen, 1948, p. 64; Dalsar, 1960; Erder, 1976; Quataert, 1987, p. 286; Aktar, 1996, pp. 119-43; Dörtok Abacı, 2006, pp. 159-171; Faroqhi, 2008; Akkuş, 2010; Kaygalak, 2008; Ciftçi, 2013/1, 1-18; Boykov, S. (2013/1). 1908-1923 Sürecinde Bursa'da Koza Üreticiliği ve İpekli Dokumacılık sektörü. *U.Ü. Fen-Edebiyat Fakültesi Sosyal Bilimler Dergisi,* Yıl: 14, Sayı: 24, 2013/1, 19-44; Dörtok Abacı, Z. (2013). Araf'taki Osmanlı Şehri. *Bursa'da Zaman Dergisi,* No: 7; Ciftçi, Cafer. (2017). Bursa'da İpekçilik. *Bursa'da Zaman Dergisi.*

[362] Akkuş, 2010, p. 146.

[363] Dalsar, 1960, p. 428; Akkuş, 2010.

[364] Quataert, 1987, pp. 289, 290; Yetmen, 1948, p. 64; Akkuş, 2010.

[365] According to a document (Y.A.HUS.301-4-1-1), since the construction of the Institute of Sericulture was about to be completed, the issue of an opening ceremony was on the agenda of the council of the government (*Meclis-i Mahsus-ı Vükela).* As a result of the efforts of the Sultan, the attempts for the improvement of silkculture in the Ottoman lands, and an increase in silk production were observed. To this end, the establishment of such an institute would be beneficial, and it was necessary to take a permission for the opening ceremony. Eventually, this demand was notified to the governor's office, as seen in the document dated June, 25, 1894.

[366] Saint Laurent, B. (1994). Ottoman Power and Westernization: The Architecture and Urban Development of Nineteenth and Early Twentieth Century Bursa. *Anatolia Moderna Yeni Anadolu V.* Institut Français d'Etudes Anatoliennes d'Istanbul, p. 224; Aydın, 2007, p. 232. The establishment of the Sericulture Institute and mulberry groves in Amasya would be funded by Agriculture (*Ziraat*)

archival document, the 500 *arşın* land situated beside Bursa Institute of Sericulture was planned to be used as a model land of mulberry groves and and a space for raising silkworms and to establish a science unit for preserving the silk worms in winters.[367] As mentioned in the same document, for this reason, a fund for the purchase of the land was to be provided by *Düyun-i Umumiye İdaresi,* and the administration decided to give the fund obtaining it from *Maliye Nezareti* (Ministry of Finance).

The building of the Institute of Sericulture resembles a French school, Montpellier Agricultural School and Trokomyan Efendi, who had graduated from that school, must have played a role in taking it as a model.[368] **(Figure 3.8, 3.9)** Moreover, a teacher and a master, İstefân Canef, was commissioned[369] in order to get an idea about the industry and production of silk and sericulture in the Ottoman lands, especially Edirne, İstanbul, Bursa, Bilecik, Gemlik, Demirtaş, Bandırma, Mudanya, Hereke, and Adapazarı.[370] Considering this document written by *Dersaadet,* the capital İstanbul, addressing Bulgaristan Hariciye Nezareti (the Bulgarian Ministry of Foreign Affairs) in 1908, it can be inferred that the industry and production of silk and sericulture constituted a significant aspect of urban economy in the Marmara region around Bursa even in the very early years of the twentieth century. By following other relevant documents, it is seen that İstefân Canef[371] visited Bursa and the silk factories in the city in order to make a detailed investigation on sericulture as well as the production of silk and its industry.[372]

Bank in order to improve sericulture (ŞD, 526-26-2-1, 2). For this purpose, the bank allocated some money each year for *Hazîne-i Hâssa* from 1896/97 on (Ibid.).

[367] ŞD.382-20-1-1.

[368] Çiftçi, 2013/1, p. 9.

[369] Canef was from the Institute of Silkculture in İslimye. Replying to *Dahiliye Nezareti* in 1908, *Hey'et-i Tahkikiye (Yazı İşleri Kurulu)* declared the notice about their visit to examine the silk industry in the country to all the factories and relevant public institutions before he had arrived in the country (DH. MKT.1258-10-3-1).

[370] DH. MKT. 1258-10-1-1.

[371] During his visit, he stayed at Bomonti Hotel in Sedbaşı and left the city on the 28th of July, 1908 (DH. MKT.1258-10-3-1).

[372] DH. MKT. 1258-10-4-1.



Figure 3.8 Montpeiller College of Agriculture *(École Nationale Supérieure Agronomique de Montpellier)*.
Source: https://en.montpellier-supagro.fr/montpellier-supagro.



Figure 3.9 The Institute of Sericulture.[373]
Source: İstanbul University Rare Collections Library, 90422-1.

[373] Another view of the building was also published in 1927 *Hüdâvendigâr Vilâyeti Salnâmesi, Bursa Vilâyeti Matbaası,* p. 250.

Since the Institute of Sericulture established in Bursa a few years ago was very beneficial in teaching the Pasteur method and related issues for raising of healthy silkworms, the establishment of similar institutions in Selânik, Antakya, and Amasya was also demanded.[374] The tables and charts showing probable costs for the construction and teaching process were also presented in the document. As understood from the same archival document, although this issue was handled by the Public Debt Administration, and it was declared to the Ministry of Finance many times, it could not be solved. For this reason, an official writing, this time, was produced to inform the Ministry of Forestry, Mining, and Agriculture *(Orman, Maadin, ve Ziraat Nezareti)*. As a reply to this document, addressing the Ministry of Finance, the minister of Foresty, Mining, and Agriculture Selim Bey took an interest in this issue and wrote to the sultan.[375] As Selim Bey highlighted, it was an urgent necessity to specify the benefits of teaching the methods of sericulture **(Figure 3.10)** and growing substantial silkworms in the Institute of Sericulture and to establish this kind of institutes for the improvement and proliferation of the sericulture in the afore-mentioned cities. As understood from another archival document, it was decided to construct three similar sericulture institutions in Selânik, Amasya, and Ankara as well as to form mulberry groves in those places.[376]

The use of new technology was the shared characteristics of both factory owners and the graduates of the Institute of Sericulture. The graduates were implementing the newly developed Pasteur method in the cocoon production while factory owners were reeling silk from cocoons by using the new steam-power technology.[377] Therefore, the awareness of scientific methods and new technology as well as the implementation of new methods and technology facilitated the institutionalization process of industry. Furthermore, the establishment of factories to produce silk from cocoon, the development of scientific techniques against silkworm diseases, and the

[374] A.MKT.MHM, 727-17-1-2. The document written by a government ministry (*müsteşar*) to the Ministry of Finance (*Maliye Nezareti*).

[375] A.MKT.MHM, 727-17-2-1.

[376] ŞD. 526:26 (All the costs and bills were listed in this document).

[377] Quataert, 1987, pp. 294, 295.

organization of new regulations for cocoon production[378] contributed to the overall improvement of industry, more importantly the institutionalization of industry. The industrial schools were also constructed not only for production but also for education, including laboratories and ateliers, and the schools all aimed to consolidate the institutionalization of industry in the nineteenth century.

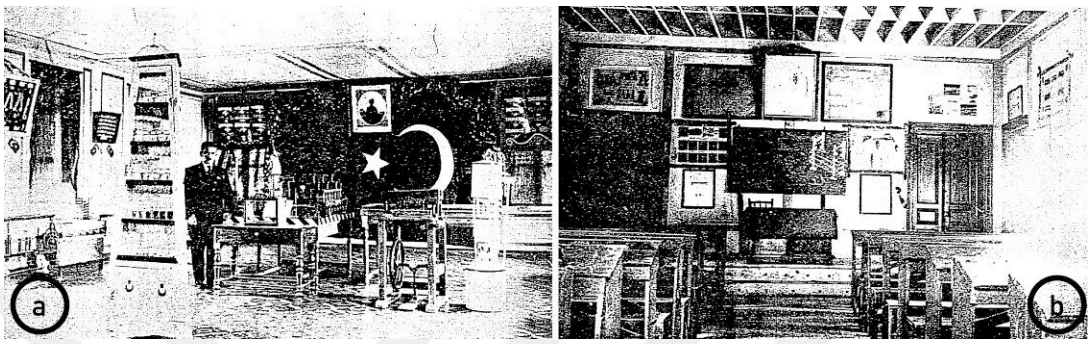


Figure 3.10 The Institute of Sericulture; (a) the institute converted into a museum; (b) classroom.
Source: *Bursa Vilâyeti Salnâmesi,* 1927, *Bursa Vilâyeti Matbaası,* p. 184.

3.2 Spaces of Industrial Production in the Urban Core and Its Periphery

The time period starting from the *Tanzîmât* Reform going through the Crimean War witnessed a comprehensive array of industrialization ventures.[379] Large scale factory buildings were then constructed to implement the new methods of industrial production as seen in Europe. The period included the construction of gun powder, cast iron, and weaving factories in İstanbul and *Fabrikâ-î Hûmâyun* buildings by the state in the Ottoman provinces of İzmit, Hereke, and Bursa.[380] These factory buildings were significant evidences of the development of not only industrial production but also building technologies.

[378] Çiftçi, 2013/1, p. 2.

[379] Enginsoy, S. (2006). Fairbairn İstanbul'da: 19. Yüzyıl Osmanlı Endüstri Yapılarından İki Örnek Üzerine Notlar. *Mimarlar Odası Dosya 03 Endüstri Mirası.* Ankara: TMMOB Mimarlar Odası Ankara Şubesi, p. 7.

[380] Yücel, A. (1999). Bursa, Fabrikâ-î Hûmâyun Yapılarının Kentsel Anlamı ve Bunların "Muradiye Külliyesi"ne Dönüştürülmesi Hakkında. *Bursa Defteri Üç Aylık Kent Kültürü ve Düşün Dergisi,* Aralık 1999- Ocak/Şubat 2000, No: 4, p. 21.

The factory-based silk production had the least share among various modes of production such as hand-reeled household production, "putting out networks" as well as urban ateliers and factory-based steam reeling in the Ottoman Empire in the nineteenth century.[381] Only sixteen per cent of silk production in Bursa region was provided by factories in between 1846-57,[382] and therefore, there seems to be a continuation of household silk production as well. Nevertheless, the number of filature factories increased from 29 to 83 between 1855-60; and by the 1860s, ninety filature factories had been constructed in the city.[383] Factories, therefore, were the determinant spaces in the urban pattern, which led the city undergo a remarkable spatial transformation beyond the urban core in the periphery of the city. With a special focus on historical photographs and architectural plans derived from the Ottoman archives as well as Suphi Bey Map of 1862, location, scale, and site arrangement as well as architecture of factories are interpreted. Furthermore, considering that the periphery of the city was defined not only by factories but also by planned neighborhoods, the neighborhoods are also discussed, some of which were designed for immigrants, some were planned after fires, and some might have been inhabited by factory workers.

3.2.1 Sites of Industrial Buildings

In Britain, the country that initially experienced industrialization, production spaces such as households and workshops had been scattered as small-scale structures before the Industrial Revolution.[384] From the mid-eighteenth century onwards, new buildings such as earlier water-driven textile factories as well as transportation buildings and steam-powered factories at a later stage, became more common in specific areas.[385] The choice of the site for factory settlements largely depended on several criteria such as source of power, ease of transportation of raw material or

[381] Quataert, 1993/1999, p. 301.

[382] Ibid., p. 214.

[383] Ibid., p. 219.

[384] Powell, K. (1984). I. Industrial Building in Retrospect. *Journal of the Royal Society of Arts,* Vol. 133, No. 5341, p. 17.

[385] Ibid.

finished product, the accessibility of workers from their homes to factories, relationship between houses and factories, weather conditions and air circulation in buildings, wind effects, adequate lighting, designing larger spaces for working and provision of seats for workers.[386]

The main urban components of the new urban image of nineteenth century cities were the railroad, and the factories. Factories were always located at waterfront areas because water was a necessity to cater the steam boiler and to cool hot surfaces during the process of industrial production.[387] Since there were no attempts to seclude factory buildings from the centers of European cities by concentrating them at the surroundings in a particular area, the factories were still located near the rivers and the railroads constructed parallel to the rivers.[388]

Similarly, in Bursa, the railroad was constructed near Cilimboz and Gökdere Streams but perpendicularly. Moreover, the Streams became significant places for the construction of filature factories by supplying water and hosting the productive activities.[389] The proximity of the complex to the water source, Cilimboz Stream, indicates that they had a tendency to construct factories close to streams in a zoning understanding of urban morphology.[390] Raw materials produced in factories was transferred by the railroad line linking Bursa to Mudanya Port, and then to Lyon through Marseille Port.[391] Besides, the settlement of the Greek population in the vicinity of Cilimboz Stream and the Armenian population in the vicinity of Gökdere Stream also influenced these regions in becoming significant places by providing the

[386] Bucknell, L. H. (1935). Introduction. In C. G. Holme (Ed.). *Industrial Architecture.* London: The Studio Ltd., New York: The Studio Publications Inc., p. 13.

[387] Mumford, L. (1961). *The City in History: Its Origins, Its Transformations and Its Prospects.* New York: Harcourt, Brace & World, p. 459.

[388] Ibid., p. 460.

[389] Tekeli, İ. (2007). Anadolu'da Kent Tarihi Yazıcılığı Üzerine Bir Yöntem Önerisi. In C. Çiftçi (Ed.). *Bursa'nın Kentsel ve Mimari Gelişimi.* Bursa: Osmangazi Belediyesi Yayınları, p. 84.

[390] Yücel, 1999, p. 22.

[391] Secer, E., Durak, S., & Vural Arslan, T. (2016). Reflections of Socio-Cultural Changes on Urban Space in the 19th Century: The Case of Bursa. *International Journal of Social Science and Humanity,* Vol. 6, No. 8, August, p. 629.

workforce of minority women for the production of raw silk reeling from silkworm cocoons.[392]

In Bursa during the nineteenth century, industrial production depended mainly upon silk production. Although there is a consensus in the literature on the larger density of raw silk production compared to silk fabric manufactures, the weaving sector was in fact active as understood from archival documents, one of which, dated 1851 (1268), shows that the expenditures of the construction and restoration of the buildings including the filature factory *(Hârîr Mancınık)* and silk weaving factory would be met by imperial treasury, *Hazîne-i Hâssa.*[393] Therefore, silk weavers and merchants were still active in the very heart of the city, the commercial *han* district. Although mechanization developed and filature factories were built, the cottage industry in textile production was still in effect in Bursa during the nineteenth century.[394] Some *çulha odaları* (weavers' cottages) were clustered around a mosque in the Hamzabey Neighborhood of the Cilimboz District and in the small workshops of Irgandı Bridge and another cluster of workshops was found near the *hamam* of the *Muradiye* Complex.[395] **(Figure 3.11, 3.12)** Therefore, silk weaving still continued in the workshops in the city. Despite the loss of European bazaars in terms of the commerce of silk fabric, the resistance of weavers against the mechanization of raw silk production eventuated in the endurance of silk weaving.

Despite the continuing presence of production in cottages, as mentioned above, raw silk production in European methods realized in filature factories with the contribution of workers was the main industrial engagement in Bursa especially in the second half of the nineteenth century. Filature factories as the most distinctive urban components of contemporary production concentrated mainly in the vicinity of the streams, some of them were located near the citadel close to the commercial *han* district in the urban core, and some were located in the periphery of the city, defining city boundaries together with previous urban components such as complexes,

[392] Erder, 1976, pp. 222-225; Tekeli, 2007, p. 84; Kaygalak, 2008, pp. 170, 171.

[393] HHİ 4 37.

[394] Saint Laurent, 1994, p. 213.

[395] Ibid.

cemeteries, and chestnut groves. The proximity to the water sources was not the mere factor behind the location of factories; factory owners had another strategy in the location of factories. They constructed factories near Greek and Armenian Neighborhoods where potential workforce would be provided, which also provided the integration of household and factory production.[396] The local minorities were living in the traditional houses located through the banks of Gökdere Stream, and their proximity to the streams and the existence of the houses where local minorities were inhabiting were the main reasons that made a location suitable for filature factories.[397] **(Figure 3.13)** On the other hand, some other foreign investors constructed dormitories or sheds for the accommodation of workers who were coming from agricultural hinterlands.[398]



Figure 3.11 Partial section (B1)[399] of Suphi Bey Map of 1862, showing the weavers' cottages *(çulha odaları)* in Hamza Bey Neighborhood.
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research (Ottoman Bank) Archive; marked by the author.

[396] Quataert, 1993/1999, p. 229.

[397] Dostoğlu, N. T. (2001). *Osmanlı Döneminde Bursa: 19. Yüzyıl Ortalarından 20. Yüzyıla Bursa Fotoğrafları* (Bursa a l'epoque Ottomane: Photographies de Bursa du milieu du XIXeme au XXeme siecle: Bursa in the Ottoman Period: Photographs of Bursa from Mid 19th to the 20th century). Antalya: AKMED, p. 122.

[398] Quataert, 1993/1999, p. 229.

[399] In order to detect the location of *çulha odaları* in the whole map, see Suphi Bey Map of 1862 in the appendicies.

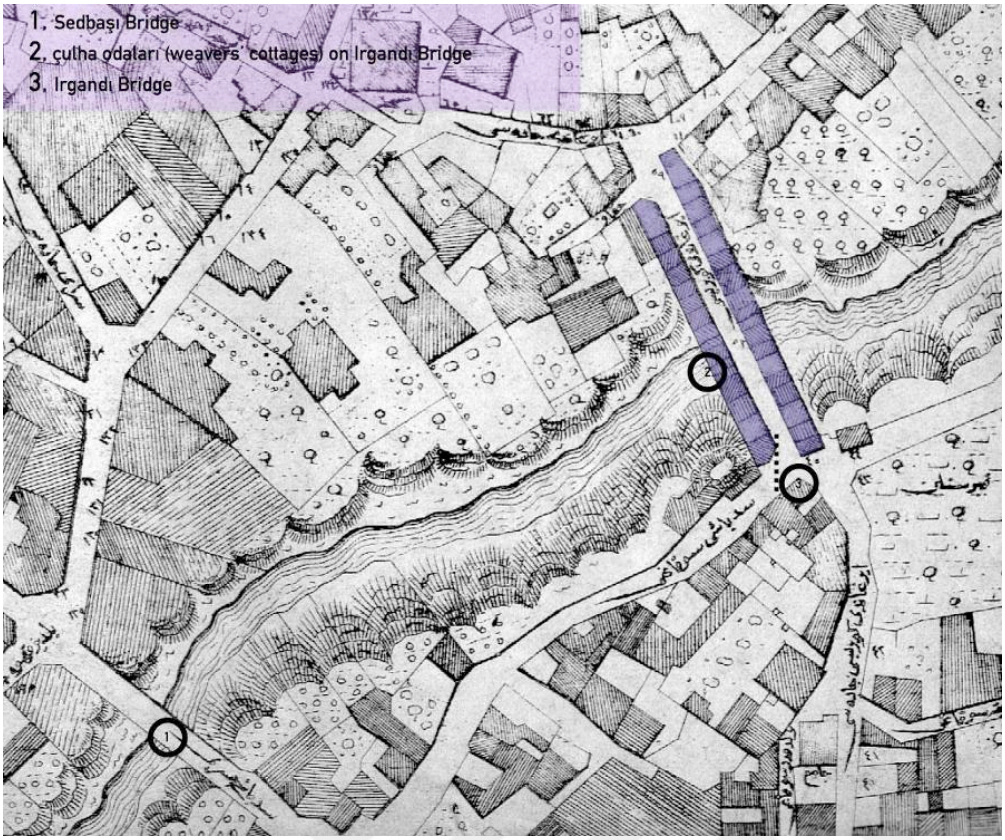


Figure 3.12 Partial section (E5) of Suphi Bey Map of 1862, showing the weavers' cottages *(çulha odaları)* on Irgandı Bridge.
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research (Ottoman Bank) Archive; marked by the author.



Figure 3.13 Traditional houses, where local minorities were living, were located through the banks of Gökdere Stream.
Source: Dostoğlu, 2001, p. 122.

Spaces of industrial production were not limited with factories, but there were also small-scale mills in the city. By the early 1850s, hydraulically operated mills (*değirmen)* appeared in Bursa, and *değirmen*s, operating with European imported technology were located along the rivers and labelled on the Suphi Bey Map.[400] **(Figure 3.14)** The documents on the construction of mills show that building mills was not new in the nineteenth century since mills had already been constructed in the previous centuries. For instance, a document dated 1678 (1089) mentions about the negative impacts of the construction of a mill on agricultural activities in the villages of Bursa.[401] As seen, mills were not only constructed in the city as seen in 1862 Suphi Bey Map, but existed as a part of agricultural buildings around farms in the environs of Bursa. Some other documents also indicate how grains or provisions for the mills were provided.[402] The difference of the nineteenth century mills was that they worked with hydraulic power.



Figure 3.14 The location of mills in the vicinity of the streams; the buildings close to the mills are also specified in the map; partial sections of the Map (C2), (E6), (G4).
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research Archive; marked by the author.

Despite sizeable industrial complexes in Europe, the city of Bursa grew dense with middle-size factories, houses, and guilds. The location of the factories built in the town can be evaluated together as they shared common features and functions. The strategic position of factories in urban environment as places of economic growth

[400] Saint Laurent, 1994, p. 213.

[401] DVN S MHM.d 96 244.

[402] MKT UM 213 5.

and production promoted the city to enlarge towards its peripheries. **(Figure 3.15)** The land with water source was preferable to establish a factory settlement in Bursa. Many factories were confined by Cilimboz and Gökdere Streams, which supplied waterpower to the mills. The sites of the factories built in Bursa were planned in the form of detached blocks composed of three units serving for different functions, i.e. *istimhane* (steam room)*, kozaklık* (space for drying cocoons), and *mancınıkhane* (space for reeling silk). These buildings[403] were located amidst planned greenery. **(Figure 3.16-22)** Housing fabric and industrial buildings were not detached. Each unit of *Fabrikâ-î Hûmâyun,* for example, was designed separately and situated on a sloping hill at different levels. Resembling the factories established in Europe, the buildings of this complex were significant examples also with their urban architectural features such as scale, organization, and urban relations.[404]



Figure 3.15 The approximate locations of filature factories in the vicinity of Cilimboz and Gökdere Streams (in red circles).
Source: Base Map: 1862 Suphi Bey Map; redrawn by hand and marked by the author, 2017.

[403] Some factories included in the Suphi Bey Map of 1862 were especially specified as hârir (silk) factory.

[404] Yücel, 1999, p.22.



Figure 3.16 The maps showing site arrangements of filature factories; partial section (B2) of Suphi Bey Map of 1862 (left); partial section (C1) of the Map (right).
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research Archive; marked by the author.

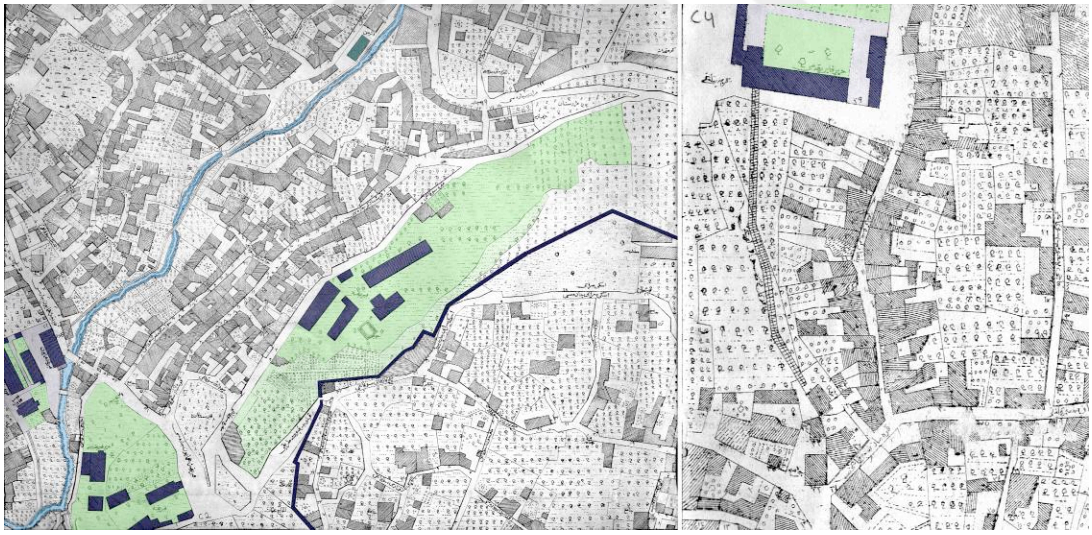


Figure 3.17 Partial section (C2) of Suphi Bey Map of 1862 (left); partial section (C4) of the Map (right).
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research Archive; marked by the author.



Figure 3.18 Partial section (C5) of Suphi Bey Map of 1862 (left); partial section (D1) of the Map (right).
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research Archive; marked by the author.

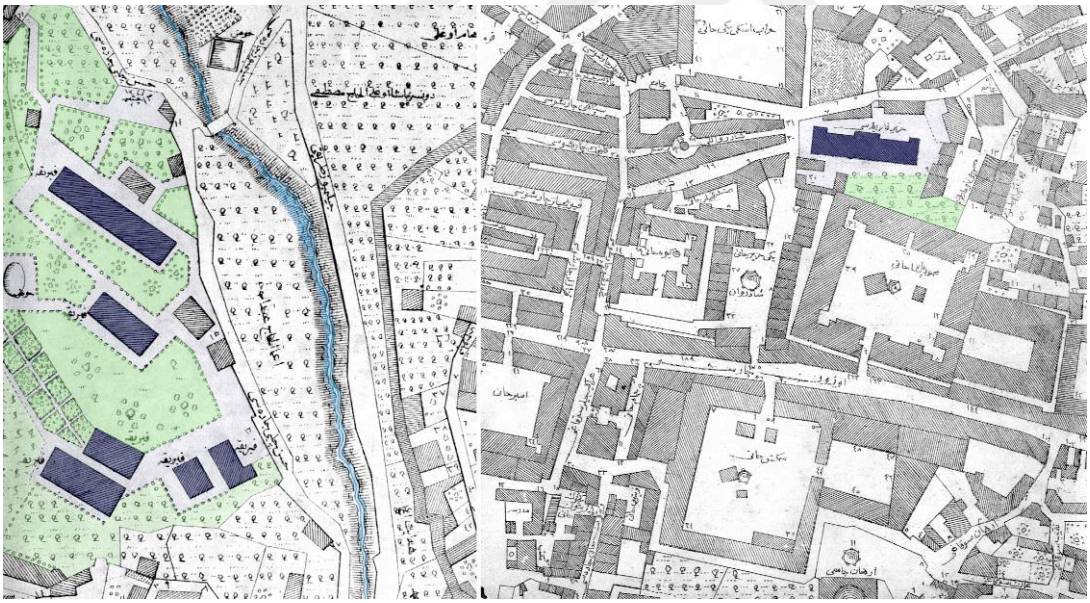


Figure 3.19 Partial section (D2) of Suphi Bey Map of 1862 (left); partial section (D4) of the Map (right).
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research Archive; marked by the author.



Figure 3.20 Partial section (F5) of Suphi Bey Map of 1862 (left); partial section (G6) of the Map (right).
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research Archive; marked by the author.

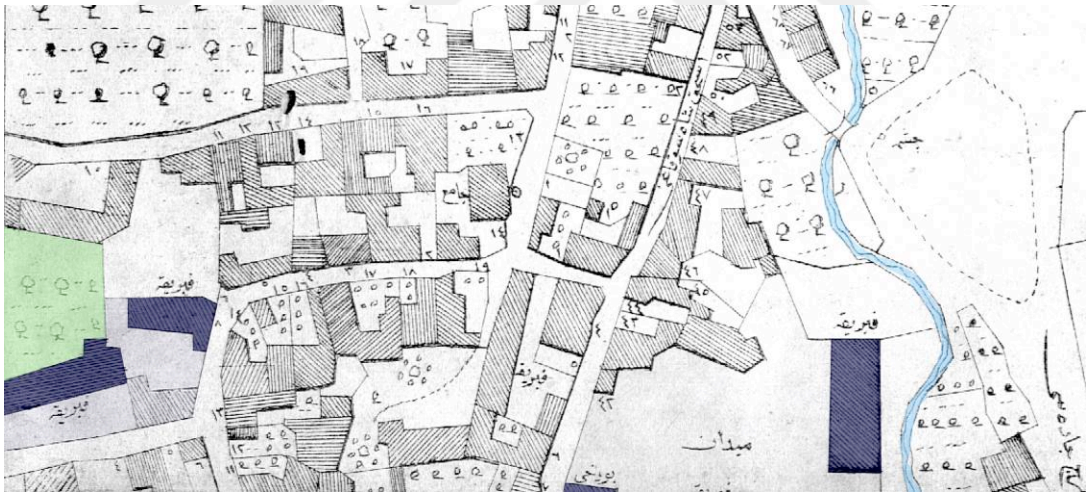


Figure 3.21 Partial section (F6) of Suphi Bey Map of 1862.
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research Archive; marked by the author.



Figure 3.22 Partial section (G5) of Suphi Bey Map of 1862.
Source: Base Map: 1862 Suphi Bey Map; APLMUHBUR001, SALT Research Archive; marked by the author.

As the buildings were allocated for special function, the idea of specialization and functionality in the design of these industrial buildings came to the forefront. The buildings, especially the ones serving for production, were designed with a focus on functional necessities rather than aesthetic considerations. The construction of filature factories necessitated the technical expertise of architects and engineers for the design of spatial configuration of buildings and site planning as well as necessary equipment and their mechanical efficiency. As understood from the archival documents, foreign companies and local citizens took an essential part during this process. For instance, the construction of a silk factory in a garden of mulberry groves by an Ottoman citizen and a merchant, Agop, was confirmed by the state.[405] Since the process from purchasing and storing raw materials to marketing of the finished products should be coordinated considering each phase of the commercial chain, there were some reservations by the state about keeping silk in that factory illegally and silk smuggling[406]. As understood from another document,[407] the area where the silk factory would be constructed carried possibilities of being a place for

[405] A.MKT., 91-53-1-1.

[406] A.MKT., 91-53-1-1. Taking certain precautions was offered by the authorities and the Sultan warned the officers about possible illegality. This issue was notified to *Evkaf Nazırı* and *Maliye Nezareti.*

[407] A.MKT.UM., 427-58-1-1.

keeping silk that could be illegally obtained from the customs. Another document also mentions that the construction of a factory in Bursa started in a vegetable garden, *bostan,* known as Tophane*,* by men called İspiro and Yorgi with their sisters Anastasiye and Eftehime.[408]

According to another document, since a large amount of silk had to be exported expensively, and the production of silk fabric was also costly, the construction of a new filature factory for reeling silk became necessary.[409] This issue was offered to the sultan on December 10, 1851. Therefore, although the construction of silk factories started in the late 1830s, the trade still relied on the export of raw silk even in the 1850s. However, this situation changed in the 1880s when too many factories were densely constructed, which reduced the trade's reliance on exported raw silk. Rather than constructing new filature factories, renting the factories[410] was also widespread in the nineteenth century. The factories were rented not only by Ottoman citizens, but also by foreigners. According to a document dated 1860, for example, a foreigner stated as "Mösyö Gavetzâde" rented a factory.[411] As seen in another document dated 1886, another foreigner "Mösyö Lupe" rented a factory and paid the hiring purchase to the governmental office, *Emlak-ı Hümayun Dairesi* (The Reel Estate Imperial Office), in *Hazîne-i Hâssa* (The Imperial Treasury). This also showed that the Ottoman government had the authority in the field of industry.

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[408] A.MKT.UM., 427-58-1-1. However, the building was constructed without an official allowance, as understood from the document (A.MKT.UM., 427-58-1-1). Based on the same document: The owners insisted on taking permission for the construction and having an official license considering their efforts and the expenditures for the construction. Since there were no examples for the factory construction in Hisar, the construction was not allowed by the government. The government's order was that the land would only be used for vegetable garden *(bostan)* and bakery, and if there was an attempt to build the factory without license, the construction would be stopped. Although there was no sign of whether the government provided the owners with an official license or not in the documents in the archive, it was obvious if the owners demanded an official license, the government could allow them to construct a factory by providing a license. According to the document, it would not be acceptable to built a factory without license. There were various reasons behind the refusal of the government for the factory construction in Hisar. First, the area was the focal point for fortification. Secondly, it was allocated for Tophane. And thirdly, the area was covered by mosques ad tombs of the sultans.

[409] HH.İ., 4-37-1.

[410] *Hazîne-i Hâssa* was also responsible for renting factories. A document written by *Hazîne-i Hâssa, Emlak-i Hümayun İdaresi,* dated 17 October 1893 (HH.THR., 1229-34-1-1), announced that a telegraph was to be sent to Trokomyan Efendi to notify that the rent, 135 liras, for the silk factory would be taken from the renter.

[411] HH.THR., 1229-31-1-2.

The factories where raw silk was obtained from cocoons, served not for the traditional weaving looms in the city, but for the European weaving industry, especially those in Lyon.[412] With a view to connecting the filature factories in the vicinity of Cilimboz and Gökdere Streams with the train stations, the roads on the north-south axis of the city and Bursa-Mudanya Road was opened in 1881 in parallel to the railway.[413] Although the proposal for the railway construction aimed to link Bursa with İstanbul, İzmit and the southern regions, it could not be realized. However, the construction was limited to the service mainly for the silk export from Bursa to Lyon and culminated in the urban expansion to the north.[414] According to the estimates, it can be claimed that raw silk reeling in the filature factories in the vicinity of Cilimboz Stream was transmitted to Muradiye (Merinos) Train Station through Muradiye Station Street (Stadyum) while raw silk reeling in the filature factories in the vicinity of Gökdere Stream was transmitted to Bursa Station through Gemlik Street, and then to Mudanya Port through the railway.[415]

Industrial development started in the urban core and periphery of Bursa, in the fabric of houses. Through the process, as factory buildings started to be constructed as separate structures, they required an autonomous position clearly expressed in the layout of their sites, including greenery used as a separator from the fabric of the city. Industrial buildings, especially factories, were characterized by the use of attached buildings designed in different spatial combinations. Thus, factories were not single buildings but formed in two, three or more buildings as a complex integrating the topography. Topographical features differentiated architecture and configuration of spaces on the site plans.

In the nineteenth century, the main aims of drawing city maps were to demonstrate the current situation and prepare development plans. Suphi Bey Bursa Map of 1862 was one of the maps drawn for the provinces in the Ottoman Empire. It seems that

[412] Akkuş, 2010, p. 146; Çiftçi, 2013/1, p. 2.

[413] Durak, Selen. (2007). Bursa-Mudanya Demiryolu Hattı ve İstasyon Binaları. In C. Çiftçi (Ed.). *Bursa'nın Kentsel ve Mimari Gelişimi.* Bursa: Osmangazi Belediyesi Yayınları, p. 200.

[414] Saint Laurent, 1994, p. 222; Mudanya-Bursa railroad was opened in 1893 (Saint Laurent, 1994, p. 222).

[415] Durak, 2007, p. 201. Also see: **Figure 2.10** in Chapter 2.

there are several key points to be emphasized while analyzing the demonstrative and cadastral maps of the Ottoman cities, specifically Bursa. For the purposes of this study, the conspicuous elements to focus on the Suphi Bey Map were the signification of industrial buildings rather than historical buildings, which shows how important the industrial buildings were in defining the city boundaries. Although it is not exactly known whether these significant points were consciously aimed to be displayed or not, it is worth laying emphasis on the representation of these buildings on the map.

The map is also significant to imagine the city and its periphery. The map involving farther districts of the city of Bursa indicated not only buildings but also agricultural gardening of houses. The districts such as Yıldırım on the east side, and Muradiye and Çekirge on the west side were included in the map, while the graveyards in the south and the Mudanya road in the North, which would become a reference for later construction of railway, defined the boundaries of the map. With reference to the map of Suphi Bey,[416] one can see the changes and transformations in the city. The city was comprised of larger and smaller buildings and open spaces including agricultural gardens, graveyards covered by cypresses. Warehouses and factories were larger components of the city, while houses were smaller components. While the city indicated an organic growth and a multi-central urban form through the multi-functional mosque complexes built before the nineteenth century, the intermediation provided between the urban core and the waterfront by railway construction determined an extension towards the urban edge of the city as well as the development of the city on east-west direction.

The Suphi Bey Map of 1862 also gives critical information about the site organizations of factory buildings. The size, scale, location, and landscape design of factories in the city varied. Most of them were located in the urban core and periphery of Bursa rather than being located beyond the peripheries of the city. The buildings can easily be recognized in the Suphi Bey Map with their distinctive landscape designs. Since these factory buildings were located in the city center, some measures were taken. For instance, the buildings were not physically integrated with

[416] For the comparison with further maps of Bursa, see: Appendix D.

the housing pattern of the city so that houses were not exposed to the undesirable conditions of factories. A measure must have been taken to effectively provide green areas as transition zones between factories and houses.

The buildings were constructed in different scales. While larger complexes were located near Cilimboz Stream, smaller and some single ones were situated near Gökdere Stream. As seen, the proximity to water sources was one of the criteria to locate factory buildings. The multiple buildings involving different functions in a green landscape were connected to a wider road in the city through the shorter and narrower roads in the factory site. The relationship with topography was also significant. Since there was a necessity to carry cocoons between buildings with different functions, flat topography was preferred. In a particular example, the buildings of Fabrikâ-î Hûmâyun were situated on different levels due to the natural slope in the site. Since the complex was constructed by the state, it included a building called Kasr-i Hümayun[417] (kiosk), which was not seen in other filature factories in the city. In general, the streets lying towards the huge complexes of factory buildings were called "*fabrika sokağı,"* and *"fabrika caddesi*" (factory street), or "*fabrika-i hümâyun sokağı*" (Imperial factory street). These streets were also wider than the usual dead-end streets between houses. However, these streets did not have the special characteristics of wider streets lying towards a mosque, a *hamam,* or a *meydan* in front of such public buildings; on the other hand, they were directly connected to the roads inside the factory sites.

3.2.2 Architecture of Industrial Buildings

There is a difference between practical and artistic values in architecture of industry. For instance, the earliest water-driven cotton and silk mills were found around Cheshire and Derbyshire in England.[418] These buildings constructed by local craftsmen, builders, or engineers were inspired by larger country houses[419] in terms

[417] Kiosk for the accommodation of the administrator or visitors.

[418] Harvey, B. H. (1959). Early Industrial Architecture. *Official Architecture and Planning,* Vol. 22, No. 5, p. 223.

[419] Lyme Park at Disley and Chatsworth can be given as examples (Harvey, 1959).

of "size," "complexity," and "external appearance", representing shared classical details such as round top windows and segmental arches, and "square windows surmounted by stone lintels" were also widely used in these structures.[420] **(Figure 3.23)** As another example, the historical factory buildings in the Rotermann Quarter[421] carry architectural components of European factories such as chimneys, dormer windows and linear forms. **(Figure 3.24)** The lintels on rectangular windows together with a round top window could also be observed in architectural composition on the façade of *Fabrika-i Hümayun*. **(Figure 3.25)** The building was equipped with qualified architectural features with frontal Baroque details, and it was built of masonry, standing four stories in height.[422]

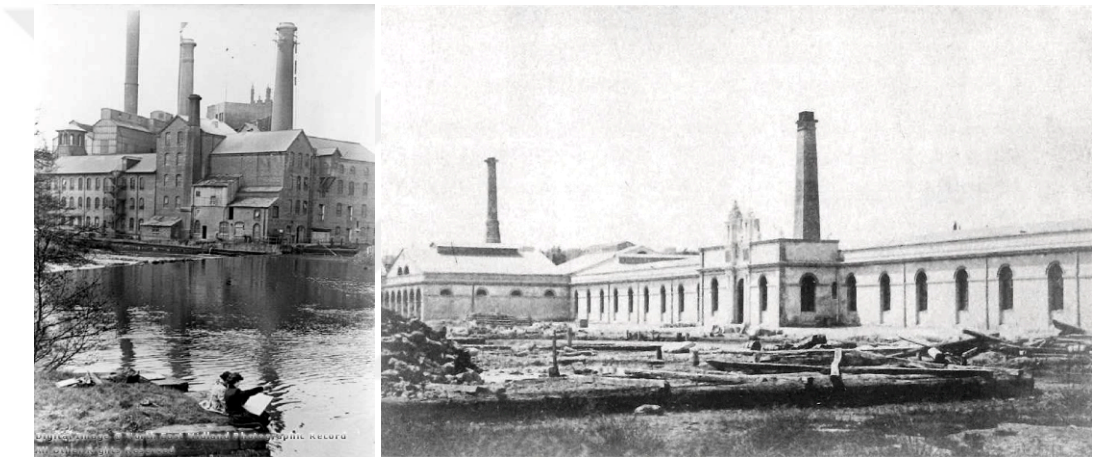


Figure 3.23 Derbyshrine, England (left); *Feshane-i Amire* (right).
Source: Harvey, 1959, p. 223 (left); İstanbul University Rare Collections Library 90874-2, accessed from: Boyacıoğlu, D. (2013). Osmanlı Fabrika Yapılarının Kentsel ve Mimari Analizi. PhD Thesis. Architecture, Restoration Program, İTÜ, The Institute of Science and Technology, p. 150 (right).

[420] Harvey, 1959, p. 223.

[421] The Rotermann Quarter is a former industrial zone located in the heart of Tallinn, which has been constructed for new functions over the last decade (Väljas, M. & C. Lige. (Eds.) (2015). *Space in Motion: A Century of Estonian Architecture.* (Trans.). A. Cullen, T. Köller, & A&A Lingua. Tallinn: Museum of Estonian Architecture, p. 203).

[422] Yücel, 1999, p. 24.



Figure 3.24 Historical factory buildings in Rotermann Quarter in Tallinn.
Source: The author's photos, 2018.



Figure 3.25 The building was reconstructed in 1926[423] in the place of *İstimhane* unit of *Fabrikâ-î Hûmâyun* (today Faruk Saraç Vocational School of Design).
Source: The author's photo, 2017.

On the other hand, a new perspective to design industrial buildings emerged with the functional needs for production and spaces for machines varying in size .[424] The correlation between interior and exterior spaces depended upon the functional requirements of factories.[425] For instance, size and shape of windows were designed for efficient lighting rather than artistic concerns such as solid-void composition and

[423] The construction date is specified in an inventory document derived from *Kültür ve Tabiat Varlıklarını Koruma Genel Müdürlüğü*. Inventory No: 254A. The inventory document is accessed from: Oral, E. Ö. (2004). Bursa'daki İpek Fabrikaları ve İpekçilikle İlgili Endüstri Mirasının Korunması. PhD Thesis. Architecture, Restoration Program, İTÜ, The Institute of Science and Technology.

[424] Powell, 1984, p. 17.

[425] Bucknell, 1935, p. 11.

rhythmic organization on the façades.[426] In the Bursa case, large windows can also be seen in the design of filature factories and even in houses that had been used for sericulture. The size of these windows depended not only on lighting but also on ventilation since cocoons were exposed to steam in high temperatures, and they had to be ventilated. Similarly, the cocoons were also distributed in a large and empty room for the same reason. Larger spans of beams and floors were also fundamental necessities to design large areas for labor.[427] Since raw material went through a series of processes to produce a finished product in factories, the spatial formation must be designed by allowing an unobstructed flow of movement.[428] The master, the servant of the machine, architect and engineer all took specific roles to improve the industrial conditions efficiently and economically. As time went on, a break away from "strict functionalism" can be seen in the later designs of factories and warehouses in the twentieth century.[429] When the Ottoman factory buildings are considered, similar technological and formal characteristics were observed at an urban and architectural scale in the nineteenth century. Large open areas without any columns in the space were also designed in filature factories in Bursa in order to provide an efficient working area for machines and workers. **(Figure 3.26)**



Figure 3.26 Silk workshop belonging to Bay Brothers; photo: Sebah & Joaillier, 1890**.**
Source: Özendes, E. (1999). The First Ottoman Capital Bursa, A Photographic History. İstanbul: YEM Yayın, p. 151.

[426] Ibid.

[427] Ibid., p. 12.

[428] Ibid., p. 16.

[429] Powell, 1984.

Although substantial variations in size, special configuration, and location occurred, certain architectural characteristics are commonly seen in industrial buildings of the period. The basic shared architectural components of factories were the sloping roofs, modular rows of fenestration, and rectangular plan. These features should not be regarded as uniform and typical elements, but as a way of design that allowed for variations and spread across the Ottoman provinces.

The filature factories established in the nineteenth century Bursa consisted of three units: *istimhane, kozaklık,* and *mancınıkhane*.[430] The process of the production of silk was initiated in the units called *istimhane*s. Silkworms were exposed to steam and killed in order to produce silkworm cocoons. Rectangular planned single-storey buildings were built as masonry constructions with the annex of rails in front of them to carry cocoons to steam-rooms through the instrument of wheeled carriers.[431] The *kozaklık*s were special buildings designed for drying wet cocoons that were taken from *istimhane*s. Rectangular planned three or four-storey buildings were timber-frame constructions with brick infill to provide humid-free environments.[432] For this reason, these buildings had also large rectangular windows to take daily light. The *kozaklık*s were also distinctive with their symmetrical plan and fenestration pattern of numerous windows placed in an ordered symmetrical design on façades. The *mancınıkhane*s were rectangular planned single-storey buildings. They were timber-frame constructions used for reeling raw silk from dried cocoon. Market places, *han*s,[433] houses where silkworms were bred, *istimhane*s where silkworms in cocoons were killed, *kozaklık*s where wet cocoons were dried, and *mancınıkhane*s for reeling raw silk were all the places related to silk production.

[430] Aydın, 2007, p. 233; Also see: Oral, E. Ö. (2004). Bursa'daki İpek Fabrikaları ve İpekçilikle İlgili Endüstri Mirasının Korunması. PhD Thesis. Architecture, Restoration Program, İTÜ, The Institute of Science and Technology.

[431] Aydın, 2007, p. 234.

[432] Ibid.

[433] Hans were not only the places of silk production, but also the place of accommodation.

In order to provide raw silk for silk weaving in the Hereke Factory in İzmit, *Hârir* Hüdâvendigâr *Fabrikâ-î Hûmâyun*[434] was built in the Çınardibi district in the Murad-i Sani (Muradiye) Neighborhood of Bursa in 1851/52, which had 78 spinning wheels (1268H.).[435] This building was constructed by the state as an initial attempt to instigate sericulture.[436] The official report *(ilmühaber),* presented to *Hazîne-i Hâssa-i Şâhâne* (the Imperial Treasury), displays the expenses for the repair and construction of *Fabrikâ-î Hûmâyun* and weaving factories in Bursa.[437] The tables attached to the report **(Table 3.4)**[438] show the wages of workers working for the construction of buildings in the Silk Factory in Bursa, the kinds of timber used for the factory construction, the prices of building materials, and the equipment necessary for the industrial production in these buildings. In detail, the wages of the administrator, clerk, director, janitor, assistant of the captain, storekeeper, foreman, mill owner, storekeeper for cocoon warehouse, storekeeper for silk warehouse, and other officers working in *Fabrikâ-î Hûmâyun* in Bursa as well as the construction of waterways were all specified in this document that was to be presented to the director of *Fabrikâ-î Hûmâyun* and *Hazîne-i Hâssa-i Şâhâne* in 1852. According to the document, even though all the expenses were demanded to be provided by the factories such as Iron *Fabrikâ-î Hûmâyun* and *Akmeşe Fabrikâ-î Hûmâyun,* which had been constructed by the Sultan, some of the expenses could not still be met. Besides, the request from *Fabrikâ-î Hûmâyunlar Mal Sandığı* (the Property Chest of *Fabrikâ-î Hûmâyun*s) would not also be proper since this might lead to a decrease in the capital of the Property Chest. For all these reasons, the expenses were demanded from the Imperial Treasury. Besides, as understood from the conclusion part of the report, the *Fabrikâ-î Hûmâyun* was an innovation, and there was an emphasis on a similarity between the factory and numerous monuments by the Ottoman Sultans in the sense that these buildings were all beneficial to the public. What made the

[434] Quataert, 1993/1999, pp. 41, 163, 168; Faroqhi, 2003/2018, p. 161.

[435] Yücel, 1999, p. 21; Tekeli, 2007, p. 77.

[436] Avcı, 2016, p. 57.

[437] HH.D.260. The report also shows the repair and construction of new buildings constructed in *Çiftlikât-i Şahane* in Mihaliç and the income of industrial and agricultural buildings.

[438] At the end of the chapter.

administrator glad was not only the the initiation of silk reeling from cocoon but also the completion of the construction of the factory.

Hârir Fabrikâ-î Hûmâyun (the Imperial Silk Factory) in Bursa was the most uniform and ostentatious building among many other factories in the city.[439] **(Figure 3.27)** Producing silk by using new industrial methods, this factory became a model for other factories of different scales, which would be established by foreign entrepreneurs later on.[440] Besides, the prominence of the factory is due to its establishment by the state *Hazîne-i Hâssa-i Şâhâne* (The Imperial Treasury) in 1852 to implement steam-power technology and European methods of silk production.[441]

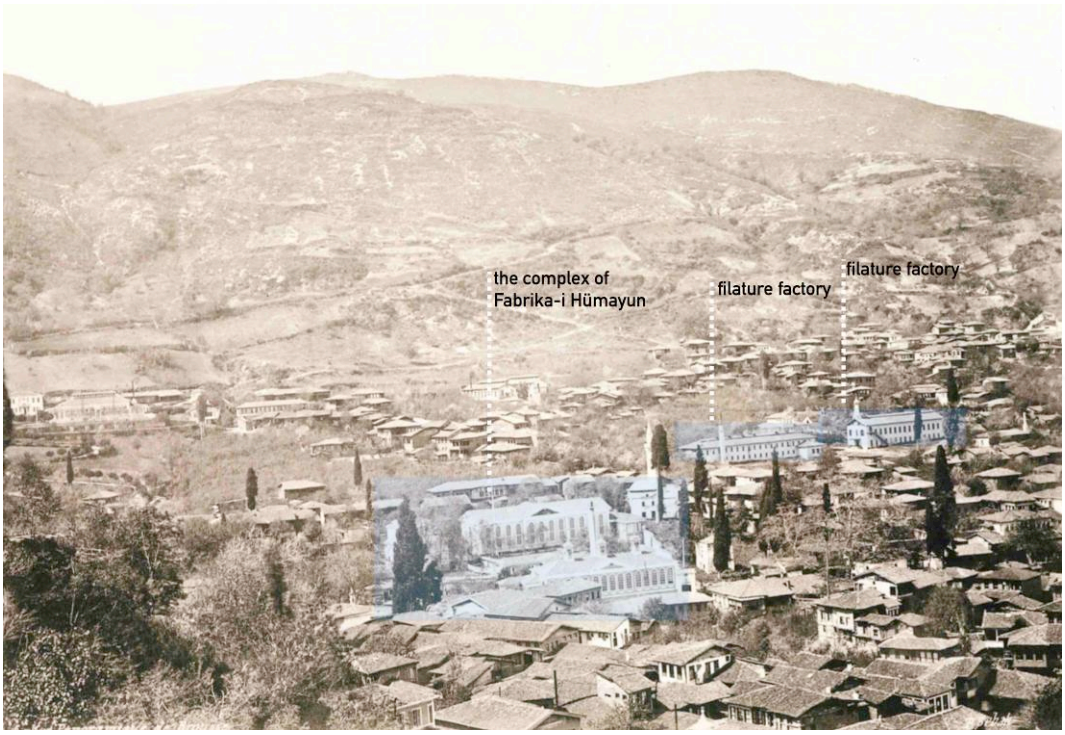


Figure 3.27. *Fabrikâ-î Hûmâyun* in Muradiye; photo: P. Sebah, c. 1865
Source: Dostoğlu, 2001, p. 287; marked by the author.

Like many other factories, the buildings were located to take advantage of the river and the railway for transport of silk. Since the complex was established as an institution to produce silk yarn*, istimhane, kozaklık,* and *mancınıkhane* were main

[439] *Hüdâvendigâr Vilâyet Salnâmesi*, 1325H., p. 259 (quoted from: Yücel, 1999).

[440] Yücel, 1999, p. 21.

[441] Dostoğlu, 2001, p. 286.

units of this complex. In the literature, it was predicted that the tall buildings with numerous windows located on south and north part of the site (units 1 and 3 at **Figure 3.28)** must have probably served for silk reeling, storage, and marketing. As understood from an archival schematic plan **(Figure 3.29)**, the unit 1 was used as *kozaklık*, and the unit 3 was used as *mancınıkhane*. **(Figure 3.28, 3.29)** These buildings were constructed by timber-frame construction system,[442] featuring numerous windows on the façade to obtain light and ventilation. The middle building (noted as 2 at **Figure 3.28),** which was built in between these two buildings, functioned as *istimhane,* consisting of steam rooms. Situated on a high level, overlooking the city, *Kasr-ı Hümayun* (noted as 4 at **Figure 3.28)** must probably have been used as the head office or as a guest house.

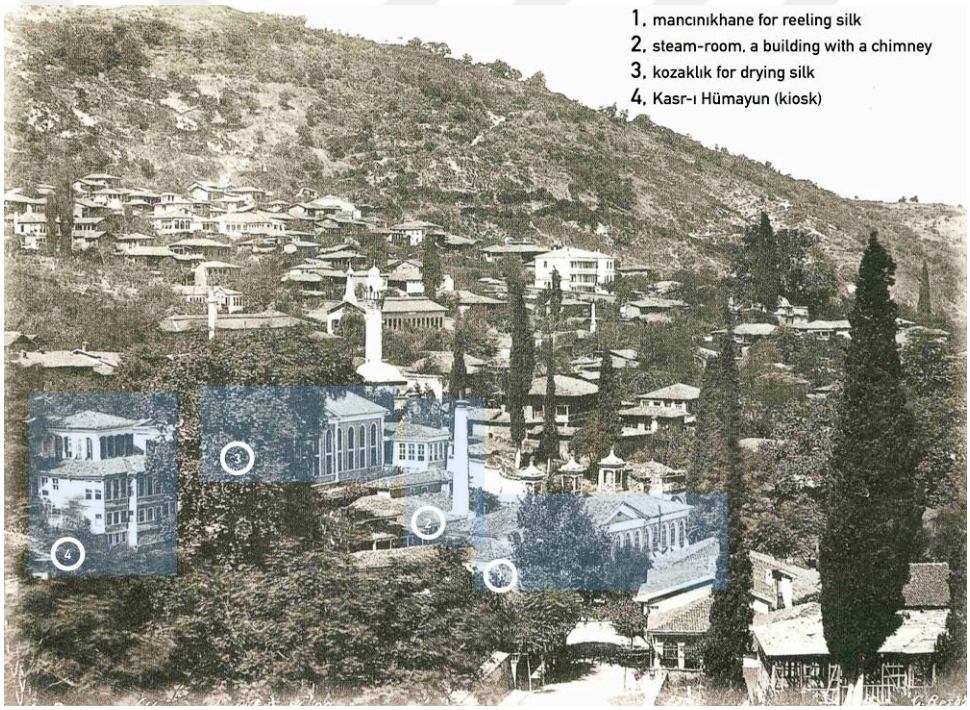


Figure 3.28 The factory units in the complex of *Fabrikâ-î Hûmâyun* in Muradiye; photo: P. Sebah, c. 1865.
Source: Dostoğlu, 2001, p. 289; marked by the author.

The complex of *Fabrikâ-î Hûmâyun* was constructed in the vicinity of Cilimboz Stream in Muradiye Neighborhood and the use of stream water in the unit of *mancınıkhane* can be seen in a schematic plan derived from the Ottoman archive. **(Figure 3.29)**

[442] Aydın, 2007, p. 214.

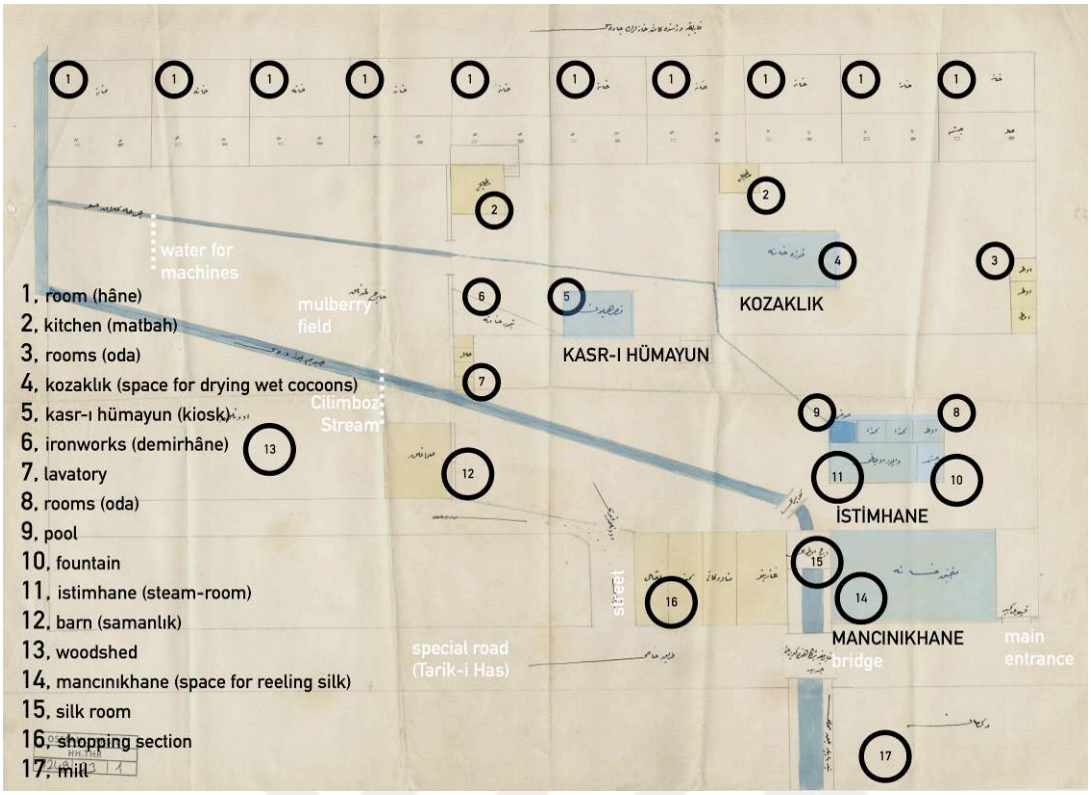


Figure 3.29 Schematic plan showing the use of water in the silk production in *Fabrikâ-î Hûmâyun*
Source: Presidential Ottoman Archive, HH-THR-01249-23-1-1; marked by the author.

The factories became parts of the traditional housing structure of the city, and one of these factories is prominent (in the middle of **Figure 3.30)** with its tall façade and fenestrations close to one another on the façade.[443] As Saint-Laurent (1994) argues, traditional techniques and building materials were always employed in restoration and re-building of houses destroyed by natural disasters.[444] For instance, as known, Bursa houses had pitched roofs, and were two or three-storey, timber-framed, adobe infilled, and stucco covered buildings.[445] The units of factory buildings especially integrated into the housing pattern in the city were constructed in a scale fitting the neighborhood and urban housing fabric and were built by traditional techniques and materials resembling Bursa's vernacular architecture that was formed of timber-framed structures, infilled by adobe and reveted by colored stucco, **(Figure 3.31,**

[443] Dostoğlu, 2001, p. 193.

[444] Saint Laurent, 1994, p. 218.

[445] Ibid.

3.32) although European architectural features also utilized.[446] There were some special characteristic elements of the factories in their façades such as horizontal bands and rows of windows, which recall European factories. They also featured other architectural components of factories as seen in Europe such as chimneys, dormer windows, and linear forms. **(Figure 3.24, 3.33,** and **3.34)**

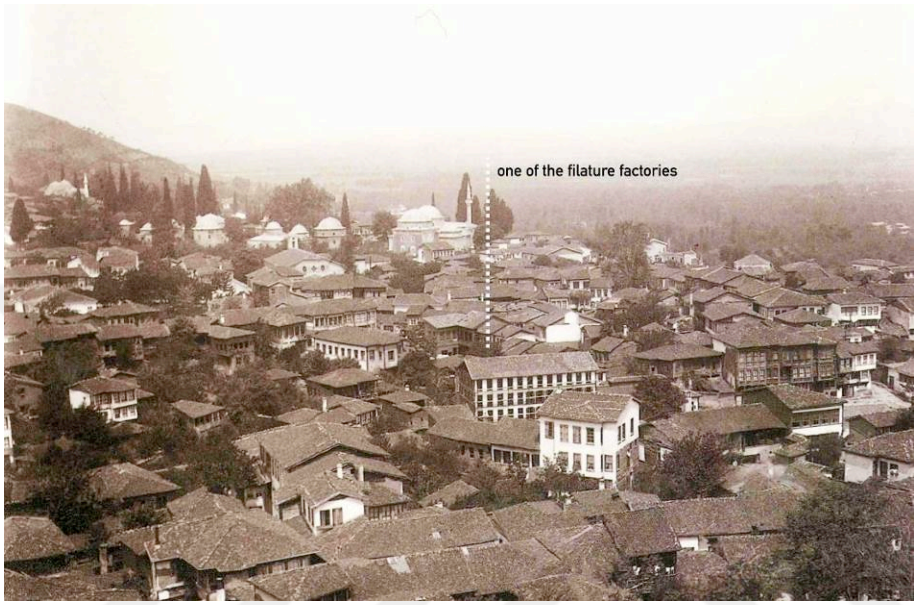


Figure 3.30 General view of Muradiye where filature factories were mainly located; photo: Anonym, 1895.
Source: Dostoğlu, 2001, p. 193; marked by the author.

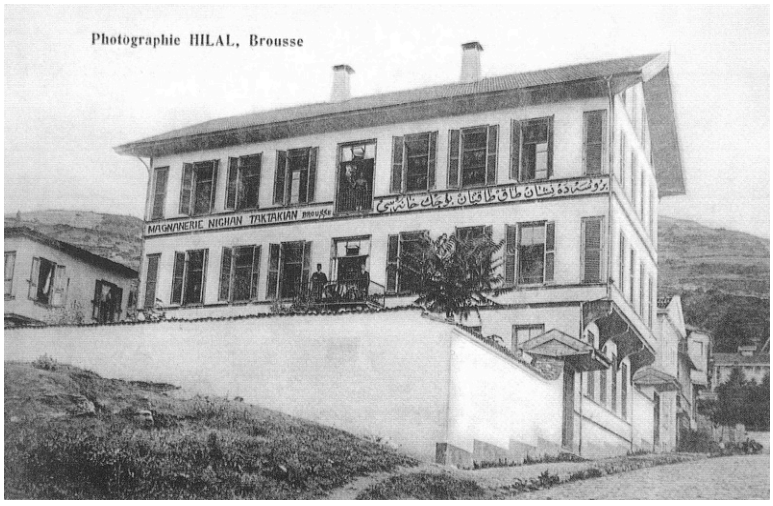


Figure 3.31 *Böcekhâne* (space for raising silkworms).
Source: Bursa Provincial Directorate of Culture and Tourism Online Photograph Archive, bursakulturturizm.gov.tr.

[446] Ibid.



Figure 3.32 A factory building in Muradiye.
Source: Saint-Laurent, 1994, p. 207.



Figure 3.33 A Factory *(Fons La Seda de Barcelona)* producing artificial fibres in Barcelona in the early twentieth century.
Source: El Prat Archive, CAT AMEP 03; provided by Maria Pi Maymó, the director of Fundació Agbar in Barcelona.



Figure 3.34 A factory building in Tallinn.
Source: The author's photo, 2018.

In the large geographical area including Central Asia, Iran, North Africa, Southern Anatolia, Eastern Anatolia and Cappadocia that had dry climatic features, domestic architecture necessitated roofs to be constructed as flat through history. However, sloping roofs can be observed in Northern and Western Anatolia and the Balkans of the Ottoman territory due to rainy and snowy climate. Since the material is light and elastic and building of timber has an earthquake resistance, the timber-frame based construction technique was used in this region as a way of building houses, and this technique had three stages of masonry base, timber frame section and timber roof.[447] The timber-frame construction technique was also used in the construction of some public buildings, such as municipality building or schools, and even in factories in Bursa in the nineteenth century. A reason behind the use of this technique in public architecture of Bursa may be a preference in order to construct buildings in a speedy and familiar way of construction in order to open factories quickly to catch the technological progress of the modernization process. The municipality building was a typical example for carrying similar architectural features of many public buildings built in the nineteenth century. The Municipality had an Ottoman mansion plan

[447] Şahin Güçhan, N. (2018). History and Characteristics of Construction Techniques Used in Traditional Timber Ottoman Houses. *International Journal of Archietctural Heritage,* 12:1, pp. 1-20; Cerasi, M. (1999). *Osmanli Kenti Osmanlı İmparatorluğu'nda 18. ve 19. Yüzyıllarda Kent Uygarlığı ve Mimarisi.* (Trans.). Aslı Atatöv. İstanbul: Yapı Kredi Yayınları.

layout with a rectangular scheme, and it was a two-storey building constructed with a timber-frame construction technique on a masonry base.[448] **(Figure 3.35)** Meanwhile, the building was constructed in 1879 by *Kütahyalı* Şehbender although it started to serve in 1867, most probably in Government House, and the building with large eaves, wooden arched windows, and tile coverings on the roof represented Baroque influenced architecture in the nineteenth century.[449]



Figure 3.35 Bursa Municipality Building.[450]
Source: Turkish History Association, Ankara, OFS-71-1-30.

[448] Yazıcı, N. & Kaya, Ş. (2009). Municipal Buildings From Tanzimat To Republic: Bursa Province. In G. David & I. Gerelyes (Eds.). *Thirteenth International Congress of Turkish Art,* Proceedings. Hungarian National Museum, Budapest, p. 717; Avcı, 2016, p. 68. The idea of flexibility in traditional design of houses was utilized in the design of civic buildings in the nineteenth century (For the interpretation of the idea of flexibility in the literature, see: Peker, A. U. (2019). Anadolu Selçuklu Mimarisi IV. In . (Eds.) E. Altan & S. Enginsoy Ekinci. *İnci Aslanoğlu İçin Bir Mimarlık Tarihi Dizimi.* Ankara: ODTÜ Yayıncılık; Şenyurt, O. (2015). *Osmanlı Mimarisinin Temel İlkeleri Resim ve İnşâ Üzerinden Geliştirilen Farklı Bir Yaklaşım.* İstanbul: Doğu Kitabevi.

[449] Dostoğlu & Oral, 1999, p. 238; Avcı, 2016, pp. 68, 78, 79.

[450] For another view, also see: Hacıbeyzade Ahmed Muhtar. (Ed.). (1920/21). *Guide for Bursa Exhibition (1920/21 Bursa Sergisi Rehberi).* İstanbul: Ahmed İhsan Matbaası, 1339.

The timber-framed construction system was also implemented in the buildings such as the kiosk, *Kasr-ı Hûmâyun,* built for the visit of Abdülaziz in 1862, the Municipality, the French Consulate, and the Institute of Sericulture **(Figure 3.36, 3.37)** As for the details of the kiosk, a two-storey, timber-framed, and adobe-infilled building covered by stucco with a pitched roof was built above İpekçilik Street.[451] The French Consulate, a fired brick and timber made building similar to the Governmental House, was located between a French-owned factory and the Imperial Silk Factory in the Muradiye Neighborhood in 1851.[452]

Examining the architecture of nineteenth century buildings in the urban core and periphery of Bursa, Saint-Laurent (1994) rightfully observes a balance between the efforts for modernization and the protection and maintenance of the traditional values of the Ottoman cultural heritage.[453] The reason behind this approach is the utilization of traditional construction methods together with European details on the façades of some buildings, considering also the general modernization efforts of the Ottoman state. As seen, timber was still widely used as a significant building material during the nineteenth century, and timber merchants[454] were always active during the period. Although Bursa Hamidiye Gurebâ Hospital and the Industrial School might have been constructed as masonry structures, the timber as a traditional building material was also used in the construction of these buildings.[455] **(Figure 3.38, 3.39)**

[451] Saint Laurent, 1994, p. 221.

[452] Ibid.

[453] Ibid., p. 201.

[454] DH.MKT., 1121-30-1-2. The telegram, attached to this document, was about the complaints of timber merchants who could not receive their money although they provided timber for the construction of buildings in Bursa they employed. Besides, according to some other archival documents on the supply of timber, transportation of materials, and workers responsible for the construction of ships, timber was provided by Gemlik and Gönen mountains for the construction of ships in *Tersane-i Amire,* which would be used in İzmir and Gemlik ports (MKT.MKM., 126 95, 87 32, 92 56).

[455] DH.MKT., 1121-30-1-2. The archival document with its attachment was written to the province of Hüdâvendigâr in 1906.

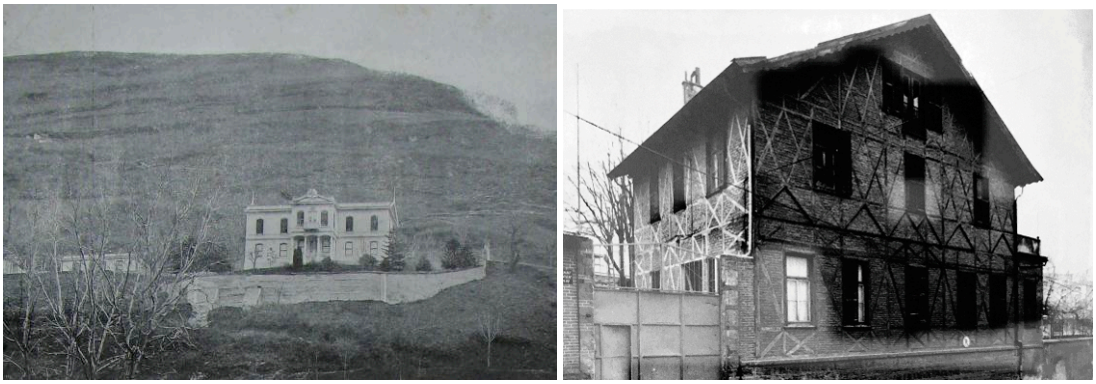


Figure 3.36 *Kasr-ı Hûmâyun* (kiosk built for the visit of Abdülaziz (left); the French Consulate, Muradiye Neighborhood (right), photo by St. Laurent.
Source: *Hüdâvendigâr Vilâyeti Salnâmesi,* 1906, *Bursa Vilâyeti Matbaası,* p. 57 (left); Saint-Laurent, 1994, p. 214 (right).

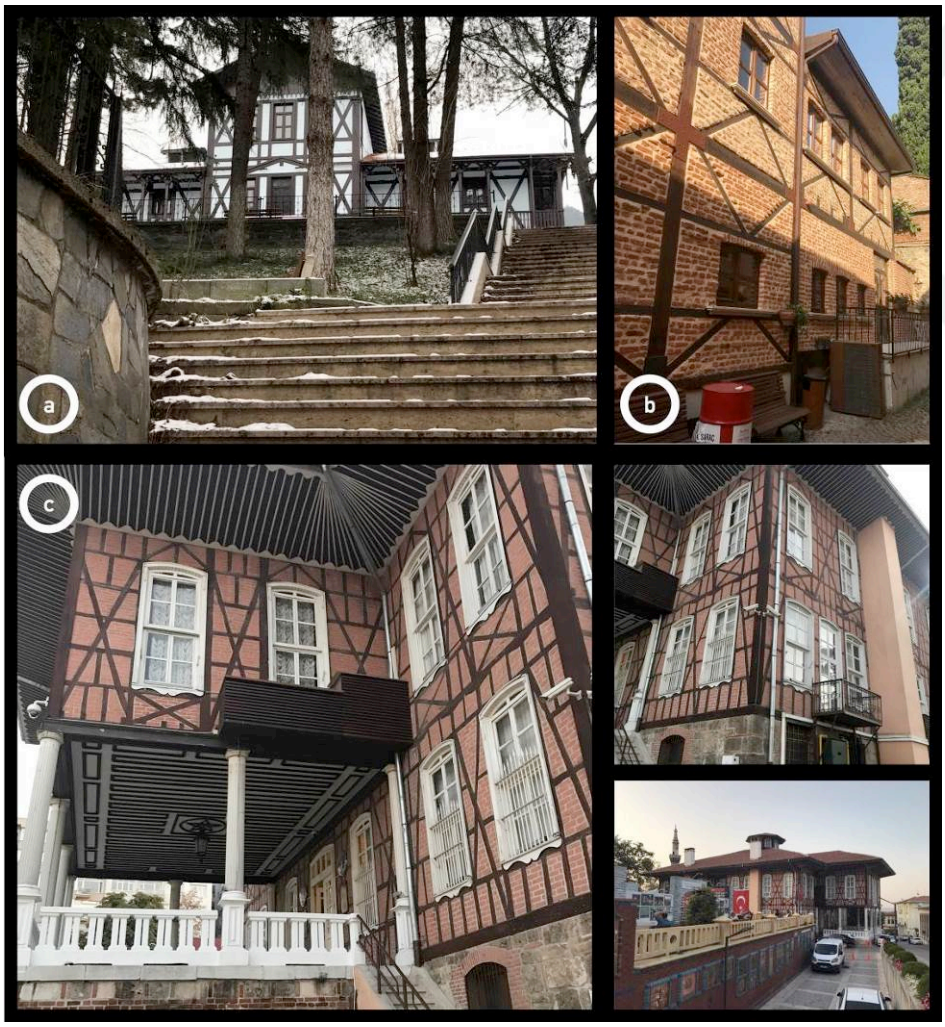


Figure 3.37 The expression of timber-framed structures on the façades (a) the Institute of Sericulture, (b) *Kozaklık* unit of *Fabrikâ-î Hûmâyun* (this building was later reconstructed with a timber frame structure) (c) Municipality Building.
Source: The author's photos, 2017; photos are also collaged by the author, 2017.



Figure 3.38 (a, b). Bursa Hamidiye Gurebâ Hospital.
Source: (a) Dostoğlu, 2001, p. 333; (b) *Guide for Bursa Exhibition* edited by *Ahmed Muhtar* in 1339 (1920/21), p. 33.

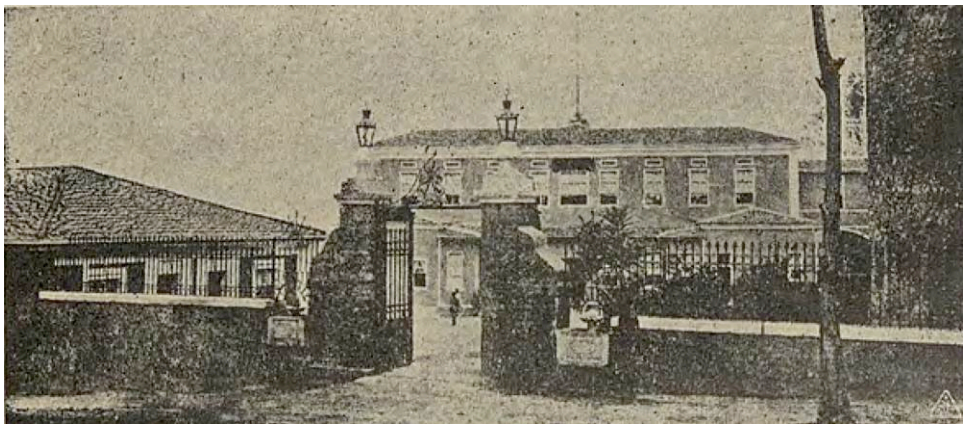


Figure 3.39 Bursa Industrial School.
Source: *Guide for Bursa Exhibition* edited by *Ahmed Muhtar* in 1339 1339 (1920/21), p. 24.

Monumental buildings lost their importance in the later centuries of the Ottoman Empire; even mosques were no longer built as signs of monumentality, and public

buildings were constructed in a modest scale in the eighteenth and nineteenth centuries. Industrial buildings of the nineteenth century, including warehouses, port-related buildings and factories, were also not monumental structures. These were designed in accordance with a modest scale, as one- or two-storey buildings. In Ottoman towns, large scale monumental buildings of previous centuries had been palaces, mosques, and *han*s. New building types constructed in the nineteenth century such as municipalities, factories, and hotels were not as monumental as the predecessors and differed from the earlier public buildings in their basis on technology, form, scale, and function.

As exemplified in Bursa, large scale factories built in the middle of the nineteenth century became the sign of industrialization of the late Ottoman period after the initial attempts that had started in the eighteenth century by the construction of few smaller-scale factories in some towns. As discussed above, despite stylistic and formal similarities with the factories built in the European, British, and American cities, the ones constructed in the Ottoman geography had unique features due to local circumstances, natural sources, topography, and technological possibilities of the Empire in the nineteenth century. Furthermore, although common features were implemented in these structures constructed in different provinces of the Empire, there were various local considerations in the building materials, construction technology, façade design, and the choice of location, depending on the speed of modernization, technological possibilities, and the town assets.

3.2.3 Neighborhoods of Factory Workers

Despite the decrease in population of Bursa due to the earthquake of 1855, a steady increase in its population was observed in the second half of the nineteenth century with the arrival of Armenian immigrants from the east and immigrants from Thrace, Romania, and Bulgaria after the Russo-Ottoman War of 1877-78.[456] In that period, the municipal attempts included the encouragement of the use of stone and brick to

[456] Uğur, Y. (2009). Bursa. In G. Agoston & B. Masters (Eds.). *Encyclopedia of the Ottoman Empire.* United States of America: Facts On File, Inc., An imprint of Infobase Publishing, p. 106; Dostoğlu, N. T. and Oral, E. Ö. (1999). The Physical Transformation of the Ottoman Capital of Bursa from Tanzimat to Republic. In A. Batur and N. Akın (Eds.). *7 Centuries of the Ottoman Architecture.* İstanbul: YEM Yayınları, p. 237.

avoid widespread damages due to fires, the enlargement of the roads to meet new traffic necessities, the removal of dead-end streets to ease the circulation, and the construction of new quarters to serve increasing population.[457] Therefore, the construction of planned neighborhoods was also one of new solutions to struggle these problems.

Bursa was the third largest city following İzmir and Edirne among Anatolian cities in the Tanzimât Period.[458] In the cadastral map of 1862 drawn by Suphi Bey after the earthquake, the population was estimated as approximately 80000 people, including Greeks of 6000, Armenians of 11000, and Jews of 3000, and the rest as the Muslims.[459] The demand increased for raw silk production in Bursa especially by the French for three reasons: (1) high non-Muslim population and their willingness to work in factories, (2) cheap labor, and (3) awareness of people living in Bursa of natural resources such as mulberry groves and water sources to cultivate and activate.

Kasaba states that the vast majority of the immigrants were engaged in agricultural hinterlands in the West Anatolia while the rest was active in trade and the construction of railway.[460] Furthermore, as Quataert states, the vast majority of factory workers were coming from agricultural hinterlands, and some were the members of poor families in the city.[461] Besides, as the immigrants constituted an important part of the population in the hinterlands, it can be claimed that the immigrants contributed not only to the agricultural production but also to the improvement of silk production. On the other hand, some of the immigrants might have also inhabited in the planned neighborhoods due to the proximity of these

[457] Dostoğlu & Oral, 1999, p. 235.

[458] Çadırcı, M. (1991). *Tanzimat Döneminde Anadolu Kentlerinin Sosyal ve Ekonomik Yapısı.* Ankara: Türk Tarih Kurumu Yayınları, p. 368.

[459] Güler, Vural Arslan, & Durak, 2016, p. 654; Uğur, 2009, p. 106.

[460] Kasaba, R. (1991). Migrant Labor in Western Anatolia, 1750-1850. In Ç. Keyder & F. Tabak (Eds.). *Landholding and Commercial Agriculture in the Middle East.* Albany: State University of New York, pp. 113-116; Karpat, K. (2008/2019). *Osmanlı Modernleşmesi Toplum, Kuramsal Değişim ve Nüfus.* İstanbul: Timaş Yayınları, pp. 129, 134.

[461] Quataert, 1993/1999, p. 227.

neighborhoods to the factories. For this reason, most probably, the immigrants must have also constituted some part of the workforce in factories. Besides, the planned neighborhoods might have also been preferred by some wealthy immigrants who engaging in commerce and factory building.

According to the settlement policy of the state which took population balance into consideration, the immigrant neighborhoods were designed around Armenian neighborhoods.[462] Rusçuk Neighborhood, on the other hand, was established by immigrants themselves in 1880.[463] Meanwhile, the settlement of immigrants was not the mere reason behind the construction of planned neighborhoods; Sedbaşı Neighborhood, for instance, was planned in 1863 after a zonal fire took place in this neighborhood, and Balkan immigrants were settled here in 1912.[464] **(Figure 3.40)**[465] Therefore, the state enacting new building codes including the matters for the height of the buildings and construction technique (*kargir*-stone or fired brick) aimed to mitigate the negative effects of fires.

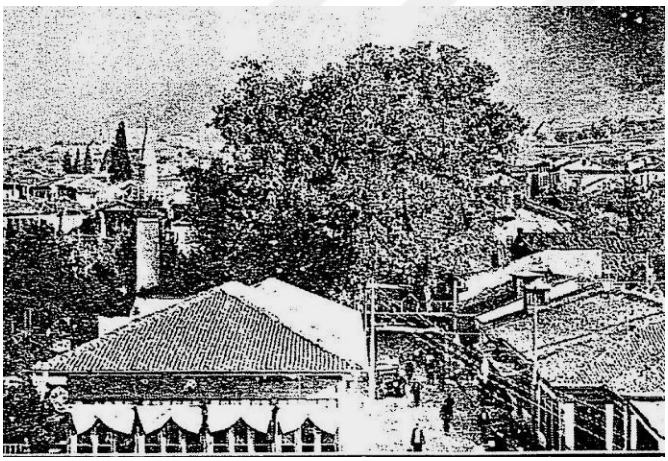


Figure 3.40 A view from Sedbaşı Neighborhood
Source: *Bursa Vilâyeti Salnâmesi,* 1927, *Bursa Vilâyeti Matbaası,* p. 88.

[462] Kaplanoğlu, R., & Kaplanoğlu, O. (2013). Bursa'nın Göç Tarihi. Bursa: Nilüfer Belediyesi Yayınları, p. 58.

[463] Kaplanoğlu, R. (Prep.) (2001). *Bursa Ansiklopedisi.* Bursa: Avrasya Etnografya Vakfı Yayınları, p. 243.

[464] Kaplanoğlu, 2001, p. 248.

[465] Also see: **Figure 2.10** in Chapter 2.

Rebuilding of cities based on modern urban principles was accelerated by earthquakes and fires during the nineteenth century. Following the earthquakes,[466] which took place in Bursa in 1855, the government issued a report explaining the measures taken to supervise the rebuilding process.[467] When Bursa was destroyed by the earthquake, historical buildings were rebuilt by earlier methods and materials. On the other hand, the regularization of the urban fabric, in particular the reconstruction of the burnt-out areas that were later designed according to contemporary modern planning principles, was a significant issue during the nineteenth century. In one instance, the urban redevelopment schemes promoted by the Commission for Road Improvement *(Islahat-ı Turuk Komisyonu)* especially after the *Hocapaşa* fire of 1865, were implemented in several parts of the capital city of İstanbul.[468] In order to control the transformation of the urban context in the larger Ottoman territory, regulations[469] (*nizamnâme*s) were put into practice at the end of the nineteenth century, i.e. *Turuk and Ebniye Nizamnâmesi* (Regulation on Roads and Buildings) of 1864, which was implemented after 1869 and 1877 *Vilayet Belediye Kanunu* (Municipal Law of 1877).[470]

[466] As understood from the archival documents, the earthquake of 1855 resulted in poor conditions. A document dated 1855 and written to the governors of Konya and Ankara shows that it was necessary to buy and bring provisions for the floor mill constructed by the Captain Halil Pasha before the winter (A.MKT.UM, 213-5-1-1). Halil Pasha expected the officers to ease transportation and to sell the provisions with market value. The floor produced in this mill would be consumed by the victims of the disaster living in Bursa, and some would also be transferred to İstanbul for the use of the inhabitants.

[467] Ayalon, Y. (2015). *Natural Disasters in the Ottoman Empire Plague, Famine, and Other Misfortunes.* New York: Cambridge University Press, p. 197.

[468] Çelik, Z. (1986/1993). *The Remaking of Istanbul: Portrait of an Ottoman City in the Nineteenth Century.* Seattle and London: University of Washington Press, pp. 49-81.

[469] For the articles in the regulations (*Birinci Ebniye Nizamnâmesi* of 1264/1848, *İkinci Ebniye Nizamnâmesi* of 1265/1849, *Turuk and Ebniye Nizamnâmesi* (Regulation on Roads and Buildings) of 1280/1864, and *Ebniye Kanunu I* of 1298-1299/1882), see: Denel, (1982), Batılılaşma Sürecinde İstanbul'da Tasarım ve Dış Mekanlarda Değişim ve Nedenleri. Ankara: Orta Doğu Teknik Üniversitesi.

[470] Denel, S. (1982/2000). *Batılılaşma Sürecinde İstanbul'da Tasarım ve Dış Mekanlarda Değişim ve Nedenleri.* Ankara: ODTÜ Mimarlık Fakültesi Yayınları, p. 133.

After the withdrawal of the Ottoman state from the Balkans and the Caucasus, the displaced Muslim population started to settle in small towns in Anatolia.[471] In this period, immigrants were settled both in city centers and at their peripheries.[472] The reflections of the afore-mentioned regulations were first observed in a settlement constructed for immigrants. In the southeastern part of Ankara near Hatip Stream, the Boşnak Neighborhood was established to accommodate almost 300 Bosnian immigrants in 1878.[473] **(Figure 3.41)** The grid-planned neighborhood transcending the former boundaries of the city was the first exemplary case for the city. The other grid-planned neighborhoods constructed in that period were Hamidiye and Mecidiye Neighborhoods for the settlement of immigrants, and Tac-ı Ahmet Neighborhood was also planned after the fire of 1902 in Afyon.[474] Moreover, new neighborhoods named Hocahasan, İntizam, Rusçuk, and Çırpan were organized in Bursa for immigrants during the period of Governor Ahmet Vefik Pasha according to modern urbanization principles.[475]

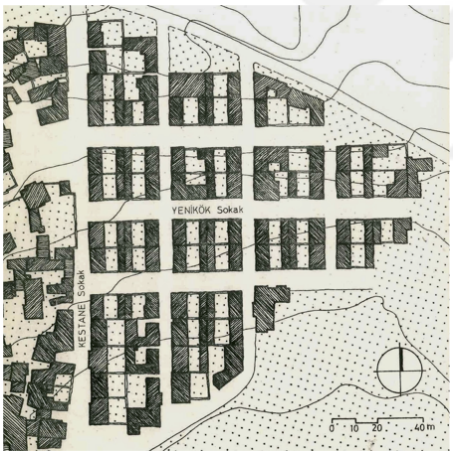


Figure 3.41 Plan of Boşnak Neighborhood in Ankara.
Source: Aktüre, 1978, p. 134.

[471] Aydın, S., Emiroğlu, K., Türkoğlu, Ö. & Özsoy, E. D. (2005). *Küçük Asya'nın Bin Yüzü: Ankara.* Ankara: Dost, p. 216.

[472] François, G. (1999). Keçi Kılından Kalpağa: Osmanlı İmparatorluğu'nun son yüzyılında Ankara'nın Gelişimi. In P. Dumont & G. François (Eds.). Modernleşme Sürecinde Osmanlı Kentleri. (Trans.). A. Berktay. Istanbul: Tarih Vakfı Yurt Yayınları, p. 107.

[473] Georgeon, François, 1999, p. 107; Denel, 2000, p. 136.

[474] Çetin, S. (2012/2). Geç Osmanlı'dan Erken Cumhuriyet'e İç Batı Anadolu'da Kentsel Yapının Değişimi: Manisa, Afyon, Burdur ve Isparta Kentleri Üzerine Karşılaştırmalı Bir İnceleme. *METU Journal of Faculty of Architecture,* Vol. 29. No. 2, pp. 89-126.

[475] Güler, Vural Arslan, & Durak, 2016, p. 654.

Compared to the previous periods, Ahmet Vefik Pasha exerted more efforts on the replanning, restoration, and modernization of Bursa during the years between 1863-64 and 1879-82.[476] For instance, he supervised the process by building new arteries, widening the existing roads, investing treasury money on the rebuilding of private houses as well as hiring European architects for replanning the city, relying on the detailed map drawn by Suphi Bey, which was later developed according to the Tanzimât principles.[477] As mentioned before, after the fires of 1854 and 1863, the Sedbaşı Neighborhood was replanned with grid-iron pattern by widening the streets. In this neighborhood, İpekçilik Street, where large houses were constructed for wealthy merchants comprised of Turks, minorities, and foreigners, was the most known one among the widened streets of the period.[478] **(Figure 3.42)** The construction of new factory districts located on the Climboz and the Gökdere Streams, and new housing districts for immigrants with broad and straight roads can be observed in the maps of 1862, 1910, and 1921.[479] **(Figure 3.43)** Meanwhile, the restoration of houses also continued with respect to the original construction methods and plan layouts that were configured by enclosed courtyards and central halls surrounded by rooms in upper floors.[480]

[476] Ayalon, 2015, p. 198; Dostoğlu & Oral, 1999, pp. 237, 242.

[477] Ayalon, 2015, pp. 196, 197.

[478] Saint Laurent, 1994, p. 218.

[479] Dostoğlu & Oral, 1999, p. 236.

[480] Dostoğlu & Oral, 1999, p. 236. The restoration of major historical monuments, on the other hand, was carried out by Leon Parvillee who was invited for the supervision of this process by the government relying on the European artistic and technical proficiency (Saint Laurent, 1994, p. 218).



Figure 3.42 İpekçilik Street.
Source: Getty Research Institute, Research Library, Pierre de Gigord Collection, 96.R.14; accessed from: Özendes, 1999, p. 71.

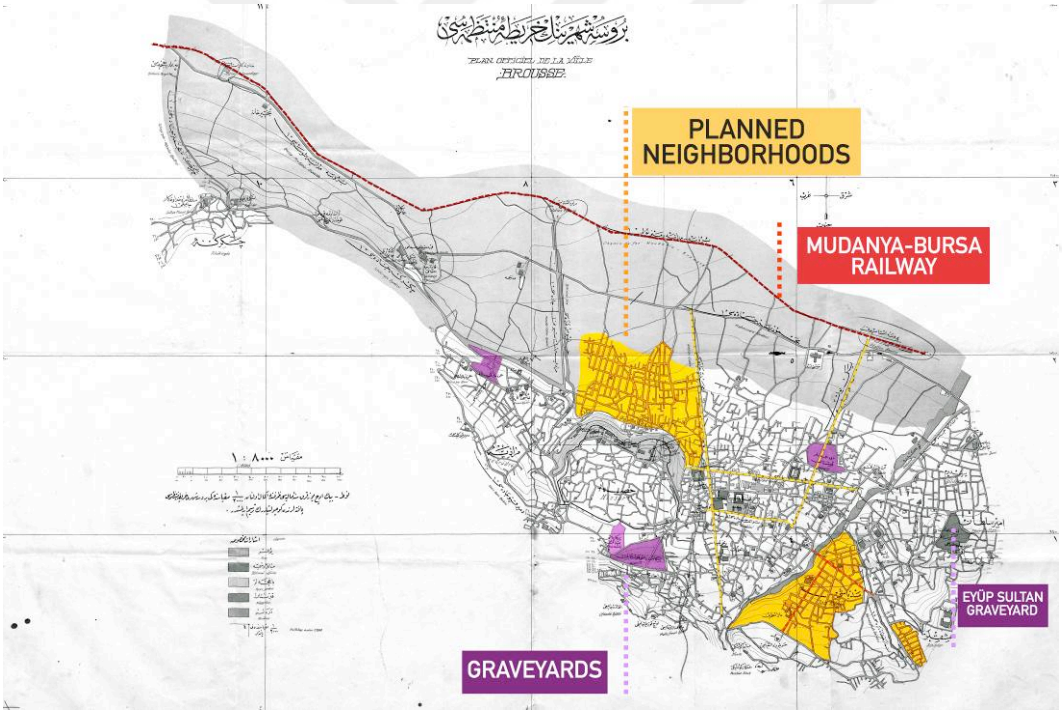


Figure 3.43 The map showing planned neighborhoods, the railway, and the cemeteries.
Source: Base map: 1921 official city map of Brousse / Bursa; scale 1/8000; SALT Research, Ottoman Bank Archive, APLKIT001; marked by the author.

Therefore, the new grid-iron residential quarters were constructed with a basis on the new building codes on the contrary to the irregular pattern of traditional

neighborhoods.[481] Meanwhile, Karpat considers the Ottoman settlement policy[482] as the initial significant interventions into the modern urbanization.[483] Studying the İzmir case, Bilsel also interprets grid-iron planned neighborhoods under the concept of "modes of space production" in the nineteenth century.[484] Şenyurt states that the design idea behind these planned neighborhoods was based on the Ottoman tradition of drawing using *mıstar tahtası*[485] unlike the common view in the literature revolving around the inspiration of European city planning understanding.[486]

3.3 Concluding Remarks

Describing Bursa's historical transformation process in three major stages, Tekeli (1999) regards the urban changes of the second half of the nineteenth century as the second major transformation period achieved by the implementations such as "street opening and widening operations" and "redevelopment of fire sites and settlements of immigrants in new quarters" to restructure the city of Bursa.[487] The expansion of the nineteenth century city of Bursa, therefore, was based on the development of main arteries around the city core, the construction of the railway, the building of new housing quarters, and the establishment of factory districts. This chapter examined this transformation realized by the industrialization process of the century by analyzing not only the factories and the related industrial schools but also the new quarters as planned immigrant neighborhoods where factory workers might have lived. Initially, the filature factories and the industrial school contributed to the introduction of new modes of industrial production, and then the immigrants who

[481] Aktüre, 1978, p. xi.

[482] The Muhâcirîn Commission was reconstituted in 1877.

[483] Karpat, 2008/2019, p. 130.

[484] Bilsel, F. C. (1999). The Ottoman Port City of İzmir in the Nineteenth Century: Cultures, Modes of Space Production and the Transformation of Urban Space. In A. Batur and N. Akın (Eds.). *7 Centuries of the Ottoman Architecture.* İstanbul: YEM Yayınları, pp. 225-233.

[485] A drawing equipment to draw straight lines.

[486] Şenyurt, O. (2015). *Osmanlı Mimarisinin Temel İlkeleri Resim ve İnşâ Üzerinden Geliştirilen Farklı Bir Yaklaşım.* İstanbul: Doğu Kitabevi, pp. 165, 166.

[487] Tekeli, İ. (1999). Bursa'nın Tarihinde Üç Ayrı Dönüşüm Dönemi. In *Osmanlı Devletinin Kuruluşunun 700. Yıldönümünde Bursa ve Yöresi,* Kongre: 06-08 Mayıs 1999, TMMOB, Uludağ Üniversitesi.

worked in factories used these methods. New quarters as "planned extensions"[488] led the city to extend its urban core towards its periphery while factories were new definers of the boundaries of the city together with previous urban components such as mosque complexes (*külliye*s), cemeteries as well as natural barriers such as Uludağ Mountain and chesnut groves.

The development of industry and its venues in the Ottoman Empire intensified in the nineteenth century at different levels owing to the varying degrees of adaptation procedures and economic integration into the dynamics of world economy. During this process, there were also some steps taken to mitigate the hazards resulting from the involvement of various restraints with the governmental and local resistance against the economic and ecological problems. In addition to these processes, considering its natural aspects and the variety in the fields of production and commerce, the wealth and the existence of Bursa largely depended not only on its geographical scale but also on the modernization, industrialization, and mechanization efforts peculiar to the town. Briefly, Bursa was different from the other cities that experienced urbanization and the related modernization process at different levels due to several changing factors in the nineteenth century.

The industrialization attempts of the state stimulated the industry by using modern technology and adapting it into traditional methods both in production and construction, which helped to maintain the sustainability of industrial activities. New modes of production using both machine and workforce of employees started from the 1840s on. In other words, the experimental, innovative and reformist process ensured an industrial continuity at a new scale in mid-nineteenth century. On the other hand, the enactment of regulations, establishment of schools, construction of filature factories and operation of machines were all under the control of the government with the support of foreign investors. Rather than considering the Ottoman industrialization simply as a failure and financial bankruptcy in comparison to the European industrialization process as some scholar state, it would be useful to evaluate the process as adaptation to the world dynamics, mitigation of hazardous

[488] In order to define grid-iron pattern settlements, the terminology was used in: (Kostof, S. (1992). *The City Assembled: The Elements of Urban Form through History.* Boston: Little, Brown).

effects of natural disasters, and institutionalization of industrial and technical knowledge through the establishment of schools.

Similarly, the architecture of Bursa in the nineteenth century cannot be evaluated simply as effected by European developments, hence as a combination of mainly French and Ottoman architecture, but it could be understood as a result of a search into an architecture integrated into the scale of the city, which differed from monumental and large-scale architecture seen in the previous centuries. As Saint Laurent (1994) argues, the Empire intended to "adopt new technology as quickly as possible" since it did not accept the economic dominance of Europe and its superiority in the field of military.[489]The state, therefore, underwent a transformation process through paying attention to education, establishing new schools, sending students[490] for the education as well as building factories and supporting factory constructions by foreign investors, which all contributed to the institutionalization of industrial sector and reflected in the spatial transformation of the city.

[489] Saint Laurent, 1994, p. 228.

[490] Kevork Trokomyan, one of the students, was sent to Europe for getting the education of agriculture and the improvement of sericulture.

Table 3.4 The official report *(ilmühaber)* showing the Bill of Quantities (BoQ) *(Keşif Defteri)* for the repair and the construction of some buildings in *Fabrikâ-î Hûmâyun* and the Wages of the Staff and Workers.
Source: Presidential Ottoman Archive, HH.d., 260.

The prices of the kinds of timber and wages of workers during the construction:

The prices of the building and the land bought for the construction of *Fabrikâ-î Hûmâyun* 39.310 guruş 78 kîse, küsûr 310 guruş			The wages for workers during the construction of *Fabrikâ-î Hûmâyun* Fî şehr: 3.163 guruş 36 para Eşhür: 10 31.639 guruş		
Wages of the carpenter			Wages of the cleaner (worker)		
Guruş	Eyyâm (Day)	Fî Guruş (unit price)	Guruş	Eyyâm (Day)	Fî Guruş (unit price)
7735	455	17	4440	222	20
4215	281	15	165	11	15
1064	66,5	16	12698	907	14
12796	914	14	2366	182	13
13754	1058	13	3275	262	12,5
300	24	12,5	3612	301	12
6594	549,5	12	1679	146	11,5
396	36	11	4040	404	10
2220	222	10	28,5	3	9,5
51	6	8,5	549	61	9
52	6,5	8	1416	177	8
56	8	7	707	101	7
84	14	6	562, 25	86,5	6,5
49317			1104	184	6
			60	12	5
			2981	271	11
			39682,5		
Wages of the stonemason worker (taşçı)			Wages of the brickmason (duvarcı)		
Guruş	Eyyâm (Day)	Fî Guruş (unit price)	Guruş	Eyyâm (Day)	Fî Guruş (unit price)
5100	300	17	7602	543	14
990	66	15	796,5	59	13,5
6447	460,5	14	13513,5	1039,5	13
4628	356	13	37,5	3	12,5
9126	760,5	12	15438	1286,5	12
85	8	10,5	1347,5	122,5	11
2500	250	10	365	36,5	10
814,5	90,5	9	504	63	8
1084	225,5	8	238	34	7
60	8	7,5	150	10	15
959	137	7	198	22	9
504	84	6	**40190**		
60	12	5			
5186,5	471,5	11			
38264					
Wages of the laborer (Irgad) and Hırvat workers			Wages of the Miniaturist (Nakkāş)		
Guruş	Eyyâm (Day)	Fî Guruş (unit price)	Guruş	Eyyâm (Day)	Fî Guruş (unit price)
1730	173	10	1862	133	14
1365	182	7,5	2070	138	15
14868	2124	7	4732	364	13

Table 3.4 cont'd.

19983	3330,5	6	522	42	12,5
242	44	5,5	120	10	12
19320	2864	5	549	50	11
135	30	4,5	1260	126	10
656	164	4	480	60	8
285,5	81,5	3,5	450	75	6
204	68	3	40	10	4
948	79	12	54	6	9
1140	142,5	8	**12139**		
60876,5					
Total (Yekûn) 311.418 guruş 10 para 622 kîse, küsûr: 418 guruş 10 para					

The prices of several kinds of timbers used in the construction:

Oyanlık meşe ve çam tabanı			Kazık sürütme ağacı			
Bahâ	Kıta'ât	Fî	Bahâ		Kıta'ât	Fî
Guruş	Aded	Guruş	Guruş	Akçe	Aded	Guruş
15450	300	51,5	3737,5		299	12,5
78	2	35	366,5	12	28	13 4 akçe
15528			90		6	15
			4194	12		

Meşe ağacı				… ağacı			
Bahâ		Kıta'ât	Fî	Bahâ		Kıta'ât	Fî
Guruş	Akçe	Aded	Guruş	Guruş	Akçe	Aded	Guruş
2150		430	5	17517	33	4407	3 39 akçe
78	32	16	4 37 akçe	1132	20	453	2,5
92	25	19	4 35 akçe	18650	13		
2321	17						

Piştuvânlık meşe hatılı					Def`a meşe hatılı				
Bahâ		Kıta'ât	Fî		Bahâ		Kıta'ât	Fî	
Guruş	Akçe	Aded	Guruş	Akçe	Guruş	Akçe	Aded	Guruş	Akçe
2656	32	1296	2	2	6651	30	905	7	14
176	32	73	2	12	1265	24	112	11	12
2824	28				171		18	9,5	
					47		4	11	30
					8135	14			

Üvez ağacı					Kirazlı ağacı		
Bahâ		Kıta'ât	Fî		Bahâ	Kıta'ât	Fî
Guruş	Akçe	Aded	Guruş	Akçe	Guruş	Aded	Guruş
1832	22	643	2	24	696	464	1,5
60	20	3			10	5	2
62	31		2		706		
1954	22						

Table 3.4 cont'd.

Eğrice tavan tahtası				İnegöl sürütme ağacı	
Baha		Kıta'ât	Fî	Kıta'ât	Fî
Guruş	Akçe	Aded	Guruş	Aded	Guruş
8671	24	12388	28	400	7,5
142	20	300	19	3000	
8814	4				

Kapama meşe hatılı		Karacakarye tahtası				Ihlamur ağacı	
Kıta'ât	Fî	Kıta'ât	Bahâ		Fî	Kıta'ât	Bahâ
Aded	Guruş	Aded	Guruş	Akçe	Guruş	Aded	Guruş
6209	7	859	4509	30	5,25	50	525 Fî 10,5

Ağaç-ı kürek				Domaniç tahtası			
Kıta'ât	Bahâ		Fî	Bahâ		Kıta'ât	Fî
Aded	Guruş	Akçe	Para	Guruş	Akçe	Aded	Guruş
192	350	16	73	7400		925	8
				459		54	8,5
				680	20	129	5
				8539			

Döşeme tahtası				Tavan tahtası				
Bahâ		Kıta'ât	Fî	Bahâ		Kıta'ât	Fî	
Guruş	Akçe	Aded	Para	Guruş	Akçe	Aded	Guruş	Para
18478	32	6372	116	9660	35	6335	1	21
879		478	73,5	646	20	431	1	20
960		480	80	300	240	1	10	
20317	32			10607	15			

Ceviz tahtası				
Bahâ		Kıta'ât	Fî	
Guruş	Akçe	Aded	Guruş	Para
1428	39	219	6	21
150		3	52	
1578	39			

Total (Yekûn)		
Kıta'ât	Bahâ	
Aded	Guruş	Para
40473	118772	22
	237 kîse, küsûr: 272 guruş 22 para	

The prices of several kinds of consrtruction materials:

Envâ'-ı çam				Alçı		Envâ'-ı boya	
Bahâ		Aded	Fî	Kıyye	Bahâ	Bahâ	Fî
Guruş	Para		Guruş	Fî 1 guruş	Guruş	Guruş	
997	20	399	2,5	780	780	4784	Muhtelif
421	20	129	3,5				
482		241	2				
1899		1266	1,5				
133	10	65	2,5				
3963	10						

Table 3.4 cont'd.

A'lâ isfidaç			Revgan-ı neft			
Bahâ	Sandık	Fî	Kıyye	Baha		Fî
Guruş		Guruş		Guruş	Akçe	Guruş
2610	18	145	323,5	1455	30	4,5
460	4	115	Revgan-ı bezîr			
990	9	110	Kıyye	Bahâ	fî	
840	8	105		Guruş	Guruş	Akçe
4900			380	3144,5	8	11

Ecnâs-ı tuğla				İngiliz tuğlası		
Baha			Fî	Aded	Bahâ	Fî
Guruş	Akçe	Aded	Guruş		Guruş	Guruş
2085		8340	10	1000	1000	1
2977	14	2589	46			
649	35	5199	5			
7062	9	33234	8,5			
1106	13	1341	33			
13880	31					

Kiremit				Kireç				
Bahâ		Aded	Fî	Kıyye	Kantar	Bahâ	Fî	
Guruş	Akçe		Guruş			Guruş	Guruş	Para
6849	27	48068	142,5	469052	10660,5	48371,5	4	21,5
1357	20	13575	100	Mermer kireç				
100		1250	80	Keyl	Bahâ Guruş		Fî Guruş	
8307	7			225	900		4	

Seng-i moloz		Malta taşı			Kurşun			
Bahâ	Fî	Bahâ	Aded	Fî	Kıyye	Bahâ		Fî
Guruş		Guruş		Guruş		Guruş	Akçe	Guruş
327	Muhtelif	1400	400	3,5	465,5	1576	34	3 15,5 para
		1500	800	75				
		2900						

Elvâh-ı çinko 327,5 kıyye Fî 4,5 Bahâ 1078,5 guruş 10 akçe	Karfiçe iksiri 890,5 kıyye Fî 4 guruş 35 para Bahâ 4.341 guruş 7 para	Mismâr-ı mahlût 3106,5 kıyye Fî muhtelif Bahâ 8842 guruş	Su koğası 29 aded Fî 4 guruş 5 para Bahâ 119 guruş 25 para
Kebîr fıçı 1 aded Fî 25 guruş Bahâ 25 guruş	Barut 98 kıyye Fî 12 guruş 24 akçe Bahâ 1332 guruş 32 para	Küfe-i sagīr Bahâ Aded Fî Guruş Akçe Para 1004 22 362 111 142 71 80 1146 22	

Table 3.4 cont'd.

Rezze			Keten topu			
Aded	Bahâ	Fî	Bahâ		Kıyye	Fî
	Guruş	Para	Guruş	Akçe		Para
50	25	20	1493	26	1810,5	33
			600		571,5	42
			2093	29		

	Kayağan taşı				
	Bahâ		Aded	Fî	
	Guruş	Para		Guruş	Akçe
Demir braçol 94.5 kıyye Fî 3 guruş 17 para Bahâ 323 guruş 18 para	558		240	2	13
	144		48	3	
	328	10	101	3	
	128		32	4	
	360		80	4	20
	625		200	3	5
	30		5	6	
	70,5		30	2	14
	2243	30			

Demir piştuvân 360 aded Fî 70 para Bahâ 630 guruş	Askılık demir balya 44,5 kıyye Fî 70 para Bahâ 77 guruş 35 para	Envâ'-ı kapı kilidi 15 aded Fî muhtelife Bahâ 1320,5 guruş	Kebîr ve sagīr kol… 108 aded Fî 26 para Bahâ 70 guruş 8 akçe	Yüksek raht 138 aded Fî 6 guruş Bahâ 828 guruş
Kurbağa 100 aded Fî 1,5 guruş Bahâ 150 guruş	Pirinç menteşe 40 aded Fî 2 guruş Bahâ 80 guruş	Kepenek 100 aded Fî 90 para 225 guruş	Düz râht 40 aded Fî 2 guruş Bahâ 80 guruş	Cumbalı girme çıkma 387 aded Fî 1,5 Bahâ 580,5 guruş
Çatal baş enser 57 kıyye 100 dirhem Fî 4 guruş 30 akçe Bahâ 271 guruş	Dip çivisi 31 deste Fî 3 guruş 5 akçe Bahâ 96 guruş 35 akçe	Kapı sürmesi 33 aded Fî 7 guruş Bahâ 231 akçe	Demir perde düğmesi 140 aded Fî 50 para Bahâ 175 guruş	Zenbürek 14 aded Fî 2,5 guruş Bahâ 35 guruş
Kapı halkası 9 aded Fî 9,5 guruş Bahâ 85,5 guruş	Moskov bezi 5000 arşun Fî 68 para 8500 guruş	Basma ve madampol Bahâ Guruş: 50, 240, 290 Top Aded: 1, 2 Fî Guruş: 50, 120		
Şerid Bahâ Guruş: 1640, 0140, 1780 Arşun: 8200, 1400 Fî Guruş: 8, 4		Moskov demiri 15 kıyye Fî 4,5 guruş Bahâ 67,5 guruş	Musluk Bahâ Guruş: 55, 30, 85 Aded: 1, 2 Fî Guruş: 55, 15	

Table 3.4 cont'd.

Çiftlikât-ı şâhâneden celb olunan hayvanların vukū' bulan masârıfı Fî muhtelife Bahâ 18.989 guruş	Ba'zı mübâya'a olunan eşyâ Fî muhtelife Bahâ 2.362,5 guruş	Zift ve katran Bahâ Guruş: 247,5 / 007,5 / 005 / 260 / 090 / 350 Kıyye: 55 / 01,5 / 02,5 / 20 Fî Guruş: 4,5 / 5 / 2 / 4,5	Fabrika-i Hümâyûn'un hîn-i küşâdında zebh olunan kurbân 3 aded Fî 60 guruş Bahâ 180 guruş
Masârıf-ı müteferrikası Bahâ 3.031 guruş	Yekûn 208.515 guruş 14 para 417 kîse, küsûr: 15 guruş 14 para		
Cem'an yekûn 638.706 guruş 6 para 1277 kîse, küsûr: 206 guruş 6 para			

Envâ'-ı teneke 2308 aded Fî 74 para Bahâ 4269 guruş 32 para	Demir pencere 36 kıyye Fî 3,5 guruş Bahâ 126 guruş	Çatma 16 aded Fî 1 guruş Bahâ 16 guruş	Demir teneke 100 aded Fî 50 para Bahâ 125 guruş	Raht çivisi 5560 aded Fî 1 para Bahâ 139 guruş
Ücret-i hammâlân Bahâ 1312 guruş 12 akçe	Kazma ve balta ve külünk ta'mîrine verilen Fî muhtelif Bahâ 1425,5 guruş	Taş madeni mahalli için i'tâ olunan Fî muhtelife Bahâ 400 guruş	İhrâc olunan taş masârıfı Fî muhtelife Bahâ 1351,5 guruş	Kum ve seng ücret-i nakliyesine verilen Fî muhtelife Bahâ 6056 guruş
Suyolu masârıfı Fî muhtelife Bahâ 2295,5 guruş	*Fabrikâ-î Hûmâyun* derûnunda müceddeden inşâ olan çeşmelerin masârıfı Fî muhtelife Bahâ 1461 guruş	Köşk derûnunda vâki' âbdesthâne taşı 2 aded Fî 580 guruş 30 Bahâ 1161,5 guruş	*Fabrikâ-î Hûmâyun* derûnuyla hâricinde yapılan kaldırım masârıfı Fî muhtelife Bahâ 1631 guruş	Kahve ocağının taşıyla fıskiyesi 2 aded Fî 425 guruş Bahâ 650 guruş
Çiftlikât-ı şâhâneden celb olunan hayvanların vukū' bulan masârıfı Fî muhtelife Bahâ 18.989 guruş	Ba'zı mübâya'a olunan eşyâ Fî muhtelife Bahâ 2.362,5 guruş	Zift ve katran Bahâ Guruş: 247,5 / 007,5 / 005 / 260 / 090 / 350 Kıyye: 55 / 01,5 / 02,5 / 20 Fî Guruş: 4,5 / 5 / 2 / 4,5 Fabrika-i Hümâyûn'un hîn-i küşâdında zebh olunan kurbân 3 aded Fî 60 guruş Bahâ 180 guruş		Fabrika-i Hümâyûn'un hîn-i küşâdında zebh olunan kurbân 3 aded Fî 60 guruş Bahâ 180 guruş
Masârıf-ı müteferrikası Bahâ 3.031 guruş	Yekûn 208.515 guruş 14 para 417 kîse, küsûr: 15 guruş 14 para			
Cem'an yekûn 638.706 guruş 6 para 1277 kîse, küsûr: 206 guruş 6 para				

Table 3.4 cont'd.

The prices of equipment necessary for the construction and transportation prices:

Mancınık Bahâ Aded Fî Guruş Guruş 35640 66 540 01000 04 250 36.640		Avrupa'dan mübâya'a olan kazgan ile müştemilât-ı sâire Bahâ 55.000 akçe	Galata['da] i'mâl olunan edevât Bahâ 40.574 guruş	Kebîr ve sagīr çarh 2 aded Fî 367 guruş 734 guruş
Çarh için demir vida 112,5 kıyye Fî 10 guruş Bahâ 1.125 guruş	Su çarhı ma'a müteferri'ât-ı sâire Bahâ 3.754,5 guruş	Çarh için demir çenber 57 kıyye Fî 6 guruş Bahâ 342 guruş	Kebîr ve sagīr çarh 2 aded Fî 350 guruş Bahâ 700 guruş	Çarh kayışı Bahâ 1.325 guruş
Demir 1158 kıyye Fî 98 para Bahâ 2.837 guruş 4 para	Nühâs 804 kıyye 350 dirhem Fî 21 guruş Bahâ 16.952 guruş 25 akçe	Kurşun 444 kıyye 100 dirhem Fî 3 guruş 23 akçe Bahâ 1.588 guruş 7 akçe	Kalay 28 kıyye Fî 14 guruş Bahâ 392 guruş	Sac 29 kıyye Fî 2,5 guruş Bahâ 72,5 guruş
Örs ma'a müteferri'ât-ı sâire 1 aded Fî 2.375 guruş Bahâ 2.375 guruş	Mengene 1 aded Fî 300 guruş Bahâ 300 guruş	Teneke maşraba 65 aded Fî 1 guruş Bahâ 65 guruş	[**vrk. 2b**] Musluk 2 aded Fî 250 guruş Bahâ 500 guruş	Mancınıklara teneke oluk 214 aded Fî 1 guruş Bahâ 214 guruş
Mancınık örtüsü boyalı astar 180 arşun Fî 3 Bahâ 540 guruş	Hasır sandalye 70 aded Fî 8 guruş Bahâ 560 guruş	Nal 2 kıyye Fî 7 guruş Bahâ 14 guruş	Mancınık süpürgesi 180 aded Fî 5 guruş Bahâ 900 guruş	İpek sandığı 6 aded Fî 191 guruş Bahâ 1.146 guruş
Kantar ve ipek ayarı 2 aded Fî 750 guruş Bahâ 1.500 guruş	Demir mancınık iği 2 aded Fî 125 guruş Bahâ 250 guruş	Sancak 2 aded Fî 125 guruş Bahâ 250 guruş	Demir fırın kapağı 92,5 kıyye Fî 3 guruş 24 akçe Bahâ 333 guruş 2 akçe	Fırın demiri Bahâ 2.000 guruş
Ba'zı mübâya'a olan âlât Bahâ 4.960 guruş	Silme 30 aded Fî 136 para Bahâ 102 guruş	Kebîr koza küfesi 20 aded Fî 19 guruş 36 akçe Bahâ 398 guruş	Sandalye 12 aded Fî muhtelife Bahâ 650 guruş	Kalfa ile me'mûrîn-i sâireye atiyye-i seniyye olarak i'tâ olan kutu ve sâ'at Fî muhtelife Bahâ 5.596 guruş
Mancınık tavalarıyla boruları i'mâl etmek üzere i'tâ olan ücûrâtın mikdârı Guruş Eyyâm Fî guruş 4830 138 35 3330 222 15 0124 011 04 0060 005 12 0392 056 07 8736		Antuvan'ın maâşıyla i'tâ olunan masârıf-ı râhiyyesinin mikdârı Fî şehr: 2.000 Eşhür: 5 Guruş 10000 02560 Masârıf-ı râhiyyesi 12560		Arab Abdullah'ın maâşıyla i'tâ olan masârıf-ı râhiyyesinin mikdârı Fî şehr: 200 guruş Eşhür: 4 Guruş 800 130 Masârıf-ı râhiyyesi 930

Table 3.4 cont'd.

Antuvan'ın tercümanına i'tâ olan maâşın mikdârı Fî şehr: 300 guruş Eşhür: 1,5 450 guruş	Âlât-ı mezkûrelerin navl-ı sefîne ve ücret-i nakliyesiyle masârıf-ı müteferrikasının mikdârı 7.009,5 guruş
Yekûn 214.375 guruş 18 para 428 kîse, küsûr: 375 guruş 18 para	

The prices of furniture necessary for some buildings in the complex of Fabrika-i Hümayun:

Kasr-ı Hümâyûn'a ferş olunan eşyâ Bahâ 4.471,5 guruş	Envâ'-ı basma ve madanpol Bahâ Top Fî Guruş Guruş 1350 9 150 0360 3 120 0550 5 110 0320 4 080 0600 7 075 0280 4 070 0120 2 060 3580		Hasır-ı münîf Bahâ 1.231 guruş 35 para	Kahve dükkânına alınan Bahâ 1.145 guruş
Bakkāl dükkânına alınan Bahâ 508,5 guruş	Yekûn 11.206 guruş 35 para 22 kîse, küsûr: 206 guruş 35 para			
Cem'an yekûn 864.288 guruş 19 para 1.728 kîse, küsûr: 288 guruş 19 para				
Mübâya'a olan demirbaş âlât ve edevât bahâsına sarf ve i'tâ olan mebâliğin mikdârı 225.582 guruş 13 para 451 kîse, küsûr: 82 guruş 13 para	Ebniye-i hümâyûn masârıfına sarf ve i'tâ olan mebâliğin mikdârı 599.396 guruş 6 para 1.198 kîse, küsûr: 396 guruş 6 para	Fabrika-i hümâyûn mahalli için mübâya'a olan hâne ve bağçe bahâsına i'tâ olan mebâliğin mikdârı 39.310 guruş 71 kîse, küsûr: 310 guruş		

CHAPTER 4

TRANSFORMATION OF THE HINTERLANDS OF BURSA VIA AGRICULTURAL PRODUCTION

The agricultural hinterland of Bursa was transformed through the nineteenth century via increased agricultural production. The shift from subsistence to market-oriented commercial agriculture facilitated this process. The use of modern agricultural methods and technology was introduced especially by the establishment of agricultural schools and the increasing role of immigrant farmers. The idea of the establishment of studfarms inherited from previous centuries of the Ottoman Empire was also enhanced. The studfarms were also determinant in the formation of environs and development of spaces of agricultural production. The architecture of farmeries and villages of immigrant farmers are therefore significant for the transformation of the hinterlands. This chapter analyzes these spaces of agricultural production in the hinterlands of Bursa.

The agricultural hinterlands of Bursa were formed through changing means of agricultural production in the nineteenth century. The free-trade policy brought by trade treatises, the management of swamp areas, the improvement of security in low-lands as well as the introduction of technology, using modern agricultural equipment and machines, paved the way for the fertility and diversity in agricultural production and the transformation from subsistence agriculture to market-oriented commercial agriculture in a more apparent way when compared to the previous centuries. Technology was ideally practiced by immigrants and spread through the education of peasants in agricultural schools and model farms which was the modern way of institutionalization of agricultural sector. The development of agricultural production therefore led to the increase in commercial volume of the nineteenth century especially in port cities. The appearance of agricultural hinterlands beyond the urban

core and the periphery of Bursa was transformed not only through the settlement policy of the state for immigrants to establish immigrant villages but also through the continuation of small-scale farming companies.

Although many scholars have studied the urban development of Bursa during the nineteenth century, the agricultural hinterlands of the city have been scarcely studied. One of the main foci of this chapter is to discuss the gradual economic integration of the Ottoman Empire to the world economic system, and the role of agricultural development in the commercialization of agriculture and urban economy in the nineteenth century, as exemplified in the case of Bursa. Another main focus is to portray agricultural buildings and studfarms and the role of architecture in the process of agricultural development and urban economy. In this regard, buildings and spaces of agricultural production in the hinterlands of Bursa are examined within the framework of economic history of the Ottoman Empire.

Considering geographical and spatial formation processes, Bursa became a city spreading from the urban core initially towards its periphery starting from the fourteenth century and reaching its peak in the nineteenth century. The city's expansion towards the hinterlands had already started in the previous centuries, and it continued especially in the nineteenth century. The agricultural hinterlands of the city maintained their function as provisioning areas for the capital during the nineteenth century. Various factors such as foreign and private investments, historical pattern, and spatial characteristics transformed the urban core and the periphery of Bursa especially with the influences of external factors, while the hinterlands were mainly formed by the Ottoman state. The reason behind this spatial transformation was not only the fact that the interrelations between the state and the peasants in the hinterlands was more intensified than in the congested urban core and its periphery, but it was also because of the almost untouched agricultural sector by foreign investors.

In this frame of analysis, this chapter initially examines the details of the process of agricultural production as it developed from small scale to large scale farming companies in the hinterlands of Bursa in the nineteenth century, and as it was

institutionalized in agricultural schools. Then, the spaces of agricultural production such as stud-farms, which were also prominent establishments in animal breeding and agricultural production, and agricultural schools are studied in terms of location, scale, and site arrangement and architecture of each component of agricultural buildings in agricultural sites. The villages of immigrant farmers are also discussed with a main focus on the settlement process.

4.1 Agricultural Production

Before discussing the free-trade policy, settlement policy of immigrants, and the introduction of technology in agriculture, which all affected the development of agricultural production in the nineteenth century, the variety in agricultural products and active farming are worth to be discussed. The diversity of agricultural products was initially provided through the use of farm lands by the management of swamp areas and by providing security in the lands, which led people to move from mountainous areas to the low-lands. The increase in urban demand for agricultural products produced in the hinterlands also led to the commercialization of various agricultural products. Although traditional forms of land use had been changed before the nineteenth century, the new forms of land management were legitimized in the nineteenth century through agricultural laws. The changing forms of land use is explained in this section because this change also led to the development of agricultural production, thereby bringing about the spatial transformation of agricultural hinterlands.

On the other hand, the change in the land use was not the mere factor behind the contemporary agricultural development. The introduction of technology via the establishment of agricultural schools was the modern agent of agricultural development. The establishment of agricultural school had a potential to become an enduring solution for the institutionalization of agricultural sector. In addition to the efforts for the spread of new agricultural techniques thought in the model farms, immigrants practiced their pre-existing agricultural knowledge, which all contributed to the spatial transformation of the agricultural hinterlands. Therefore, the

architecture of farm buildings and the new appearance of the hinterlands through the settlement process of immigrants are also discussed in this section.

The pressure of taxmen and proprietors on peasants, namely their dominance on agricultural farms, from the sixteenth century to "Jelali Rebellions" in the seventeenth century, resulted in townspeople leaving their lands towards hills or small villages distant from main roads and having only three or five houses. Meanwhile, the rebellions also resulted in the decrease of commercial relations between urban and rural areas, the curtailment in commercial activities in the domestic market, and the decomposition of rural population.[491] The afore-mentioned abandoned lands became swamp areas after floods, which opened a way to the spread of malaria, downfall in production, and the collapse of rural economy.[492] High-lands were occupied in order to get rid of these swamp areas.[493] Therefore, the establishment of villages in the lowlands were relatively limited in the sixteenth century, and decreased due to turmoils and were mainly formed on the hillsides and the mountains in the seventeenth and eighteenth centuries.[494] The settlement areas in high-lands in the previous centuries left their place to settlement and agricultural areas in low-lands starting from the eighteenth century. Low-lands became fertile areas suitable for settlement and agriculture. In the nineteenth century, the commercialization of agriculture through the ports also entailed the lowlands to be cultivated, and a settlement policy regarding immigrants was required to improve the centralization of the Empire.[495]

[491] Avcı, Y. (2016). *Osmanlı Hükümet Konakları Tanzimât Döneminde Kent Mekanında Devletin Erki ve Temsili.* İstanbul: Tarih Vakfı Yurt Yayınları, p. 55.

[492] Tunçbilek, N. (1986). *Türkiye'de Yerleşmenin Evrimi.* İstanbul: Deniz Bilimleri ve Coğrafya Enstitüsü Yayınları, p. 56.

[493] Tabak, F. (2008). *The Waning of the Mediterranean 1550-1870 A Historiographical Approach.* Baltimore: Johns Hopkins University Press, p. 346.

[494] Tekeli, İ. (1982). *Türkiye'de Kentleşme Yazıları.* Ankara: Turhan Kitabevi, p. 33.

[495] Ibid., p. 34.

Besides, low-lands had already started to be suitable areas for settlement after the end of Little Ice Age in the eighteenth century.[496] In parallel to that climatic change, the increase in cultivation was stimulated by the commercial agriculture in the process of the economic integration of the Ottoman economy into the world economic system during the nineteenth century, and low-lands and coastal regions continued to be preferable spaces.[497] Especially with the desire of the English for low-land agricultural goods, particularly since the 1840s, townsmen widely directed themselves towards the low-lands from mountainous environment to settle in the Ottoman cities although landing had started in the seventeenth and eighteenth centuries to a certain extent.[498] In short, different from the plains chosen as settlement areas in the previous centuries, the mountainous regions were preferred as settlement areas from the seventeenth century onwards; however, there became a contrary change, and the settlements extended towards the plains especially from the nineteenth century onwards particularly due to the soil fertility in these areas.[499]

There was a diversity of agricultural goods in fertile low-lands. According to the Ottoman agricultural statistics, agricultural goods were comprised of four types of goods: (1) farm products such as cereal (wheat, barley, and corn), and legume (bean and lentile), (2) industrial goods such as cotton and tobacco, (3) vineyard and gardening products such as grape, olive, cocoon, and vegetables, and (4) husbandry products such as milk, cheese, egg, and mohair.[500] The places where the population was low engaged more in livestock farming and cereal production, whereas vegetable gardening became significant in the areas where population was high.[501] For instance, as seen in Suphi Bey Map of 1862, agricultural gardens had a place

[496] İnal, O. (2011). Environmental History as an Emerging Field in Ottoman Studies: An Historiographical Overview. *Osmanlı Araştırmaları / The Journal of Ottoman Studies,* XXXVIII, p. 10.

[497] Ibid.

[498] Tabak, 2008, p. 243.

[499] Hütteroth, W. (2006). Ecology of the Ottoman Lands. In S. Faroqhi. (Ed.). The Cambridge History of Turkey. Vol. 3: The Later Ottoman Empire, 1603-1839. Cambridge: Cambridge University Press, p. 42.

[500] Güran, T. (1988). Osmanlı Tarım Ekonomisi, 1840-1910. *Türk İktisat Tarihi Yıllığı,* p. 235.

[501] Ibid., p. 240.

almost in each house in Bursa. Furthermore, livestock farming increasingly became the main concern of land-holders especially during the eighteenth century, while grain agriculture remained at the background due to the requirement of more security and larger labor force.[502] The reason behind the security problems associated with grain agriculture might have stemmed from the detachment of grain fields from the settlements. The lack of buildings in those areas could have caused security problems in those days. Animal breeding, on the other hand, was an activity that required an attachment to the settlements since it required farm buildings such as granary and barn.

Lands were not managed only according to land use definitions such as plains and mountainous areas but also according to the ways in which the agricultural goods were produced and distributed. According to Hütteroth (2006), some of the most important agricultural innovations were the introduction of rice, silkworms, tobacco, and maize, and rice cultivation was a private enterprise after the sixteenth century, which expanded in the eighteenth century with the establishment of large farms especially in the Balkans.[503] The introduction of silkworms was another innovation of the period from the fifteenth to seventeenth centuries.[504] Before the second half of the eighteenth century, the majority of agricultural goods such as cereals and vegetables were supplied for daily consumption, while other agricultural goods were produced to be exchanged among the relatives of producers and villagers around the city.[505] The boom in raw silk production in north-western Anatolia occurred in the 1800s with the popularity of Bursa in silk reeling.[506] Cotton known in Anatolia since ancient times was also intensively produced in large farms based on market-oriented farming.[507]

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[502] Hütteroth, 2006, p. 30.

[503] Ibid., p. 38.

[504] Ibid., p. 39.

[505] Faroqhi, S. (2006). *Osmanlı Şehirleri ve Kırsal Hayatı*. (Trans.). E. S. Özcan. Ankara: Doğu Batı Yayınları, p. 386.

[506] Hütteroth, 2006, p. 39.

[507] Ibid., p. 40.

As urban demand by larger cities such as İstanbul, Bursa, Aleppo, and Damascus increased, the production and commercial agriculture in small towns were triggered.[508] The cultivation of cotton and rice as previously cultivated goods enlarged in time, while tobacco and maize as newly introduced agricultural products were cultivated in large farms with the development of transportation.[509] These agricultural products were components of the export-oriented economy during the period from the sixteenth to the nineteenth centuries.[510] As Faroqhi (2006) argues, on the other hand, the amount of export-oriented crops was not higher than the demand of domestic market in inland cities.[511] Meanwhile, the reason behind the existence of the narratives about "export" in the literature is that there are considerable numbers of documents on European trade.[512]

The commercialization of agriculture did not only depend on the urban demand for agricultural products but also this process was related to the change in land use. The agricultural laws enacted for the development of agriculture monitored this process. With the 1858 Land Code and the 1867 Law, peasants cultivated the land and foreigners had right to possess lands. This process encouraged peasants to be more active in the cultivation of land to a certain extent. However, the possession of foreigners was not prevailing due to labor scarce and noncooperation of the state, and it remained limited. The small-scale farming and large-scale farms both continued to be active in the agricultural hinterlands although large-scale farms did not occupy considerable fields. In addition to the laws, the establishment of agricultural schools was the modern way of institutionalization of agriculture, adding scientific dimension to the development of agriculture.

[508] Faroqhi, 2006, p. 387.

[509] Hütteroth, 2006, p. 43.

[510] Ibid.

[511] Faroqhi, 2006, p. 387.

[512] Faroqhi, 2006, p. 387; Quataert, D. (1994). The Age of Reforms, 1812-1914. In H. İnalcık & D. Quataert (Eds.). An *Economic and Social History of the Ottoman Empire, 1300-1914*. UK: Cambridge University Press, p. 824.

4.1.1 Using Land for Agricultural Production

In general, lands around cities, forming their hinterlands, have been used for a variety of purposes, comprising open countrysides, cultivated and vacant lands, forests, and water bodies such as seas, rivers, lakes, canals, and plains as well as and farm buildings such as large farms, barns, and granaries. The urban morphology of Bursa was formed by the expansion of the core to its periphery and by the extension of roads and the railroad as well as the scatteration of settlements and farms in the hinterlands beyond the periphery. The core expanded towards its periphery surrounded mainly by chestnut groves and graveyards, and partly by complexes and factories; the periphery, on the other hand, was opened towards the hinterland of the city by agricultural areas and roads and railroads that met with the water at the edges of the city to form the ports. The city of Bursa was unique since its existence as mainly depending on its hinterlands for the production, distribution, and trade of agricultural goods. This part of the chapter will examine how the hinterlands of Bursa were used for agricultural production in line with the legal changes in land-use adopted by the Ottoman Empire during the nineteenth century, and discuss how this process changed the practice of agriculture from subsistence to market-oriented commercial agricultural production.

4.1.1.1 Change in Land-Use

In the pre-industrial Ottoman city, there were private and *vakf* lands in city centers, while rural areas belonged to the state, and called as *mîrî* lands.[513] Each city was supplied with goods from its agricultural hinterlands in rural areas and gardens of houses in the center.[514] Since caravans were obliged to pay customs when they entered cities, they waited in *han*s and caravanserais in the environs of cities and brought only the goods that would be traded in city centers.[515] Thus, hinterlands of cities were partly defined by these buildings, which also led to the expansion of cities

[513] Cin, H. (1978). *Osmalı Toprak Düzeni ve Bu Düzenin Bozulması.* Ankara: Kültür Bakanlığı Yayınları; Tekeli, İ. (1980/2011). *Anadolu'da Yerleşme Sistemleri ve Yerleşme Tarihi Yazıları.* İstanbul: Tarih Vakfı Yurt Yayınları, p. 233.

[514] Tekeli, 1980/2011, p. 233.

[515] Tekeli, 1980/2011, pp. 233, 234; Tekeli, 1982, p. 22.

towards their hinterlands.[516] The *menzil* complexes and other monuments on the Bursa section of caravan routes linking the city to the Anatolian cities as well as Aleppo and Tebriz had been the determinants of urban expansion before the nineteenth century.[517] Dervish lodges, similarly, were located outside cities, and dervishes living in those lodges also practiced farming to produce goods for themselves.[518] These structures demonstrate that the environs of Ottoman cities were not empty areas but equipped with such bases that would lead cities to expand in the future. Therefore, the nineteenth century was not the first time when cities experienced urban expansion.

As known, land was the primary source of production in pre-modern times in the Ottoman Empire. Besides, as agricultural activities producing the main source of revenue for the state was also a fundamental source of income for a large majority employed in agriculture, land tenure system was organized according to definite laws.[519] In other words, vast lands which were occupied by the Ottoman Empire were organized according to its own land policy. According to the categorization of the Ottoman lands outlined by İnalcık (1994), land can be classified in two ways as legal and administrative-military *(tımar system)*.[520]

Based on İnalcık's "legal" classification (1994), *mîrî* (state) lands, freehold lands (*mülk*), lands of pious endowments (*vakf*), and wastelands (*mevat*) were the types of

[516] Ibid.

[517] Boquist, M. (2010). "Centre" and "Periphery" in the Syrian Countryside: The Architecture of mosques in governmental foundations on the Ottoman Imperial Roads. In M. Hartmuth (Ed.). *Centres and Peripheries in Ottoman Architecture: Rediscovering A Balkan Heritage.* Sarajevo/Stockholm: Cultural Heritage Without Borders, pp. 80-89.

[518] Tekeli, 1982, p. 22.

[519] Aktan, R. (1965). Problems of Land Reform in Turkey. In *Agricultural Aspects of Economic Development: A Report of the International Conference on Agricultural Aspects of Economic Development Held at Istanbul August 2-15, 1964.* İstanbul: Sermet Matbaası, p. 937; Bıyık, C. & Yavuz, A. (2003). The Importance of Property Ownership and Management System in the Ottoman Empire in Point of Today. 2nd FIG Regional Conference, Marrakech, Morrocco, pp. 2, 3.

[520] İnalcık, H. (1994). The Ottoman State, Economy, and Society, 1300-1600. In H. İnalcık & D. Quataert (Eds.). An *Economic and Social History of the Ottoman Empire, 1300-1914.* Cambridge: Cambridge University Press. As for the administrative-military classification, land primarily comprised *hass-i hümayun*, *hass*, *ziamet*s, *timar*s or *dirlik*s, *mevkuf* (detained *timar*), and non-military appanages called *arpalık*, *paşmaklık*, *özengilik* etc. (İnalcık, 1994, p. 141).

land use in the Empire.[521] The ownership of the state *(mîrî)* lands consisting of *tapulu* (possessed under a title deed) and *mukaatalu* (possessed under a lease contract) lands could only be transferred to a state agent or a pious endowment (*vakf*).[522] These lands were initially possessed by the state. However, the organization of a *tapu* contract for peasants to lease the land was the basis of the *çift-hâne* system (the peasant family farm)[523] that had been held in the Ottoman agrarian fiscal system.[524] As long as tithes were paid only to the state, every person could possess *tapulu* and *mukaatalu* lands[525] with no obligation for cultivation, but freedom for leasing.[526]

In addition, as Faroqhi (2006) points out, *mîrî* (state) lands could be rented by individuals, families, or any institutions and communities for cultivation.[527] Freehold lands (*mülk*) can be acquired in four ways, which are reclamation of waste lands, organization of a sale contract according to Islamic laws, conquest of elites with the confirmation of the sultan, and sultanic grants on *mîrî* (state) lands.[528] Vineyards, orhards, and arable lands were also open to freehold property rights.[529] Private properties[530] such as "houses, gardens, vineyards, orchards, and vegetables patches" were governed according to the Islamic religious laws (*mecelle*).[531] Pious

[521] İnalcık, 1994., p. 139.

[522] Ibid.

[523] The *çift-hâne* system was a way of organization of agricultural production (İnalcık, H. (1991). The Emergence of Big Farms, Çiftliks: State, Landlords, and Tenants. In Ç. Keyder & F. Tabak (Eds.). *Landholding and Commercial Agriculture in the Middle East.* Albany: State University of New York, p. 18). A *çift* or *çitflik* was given to the peasants, and they paid a rent to the landholdder (Ibid.). As a state-controlled system, it was an "integral part of *timar* system (Ibid.).

[524] İnalcık, 1991, p. 139.

[525] These lands are called as *çiftlik* or *mezraa* in survey books (İnalcık, 1994, p. 140).

[526] İnalcık, 1994, p. 139.

[527] Faroqhi, 2006, p. 391.

[528] İnalcık, 1994, p. 140.

[529] Ibid.

[530] Mulberry groves especially in Bursa were also the private property of townspeople (Faroqhi, 2006, p. 388).

[531] Faroqhi, 2006, p. 391.

endowments (*vakf*) were also transformed from freehold lands under state supervision, while wastelands (*mevat*) consisted of forests, swamps, and deserts.[532] Pious foundations could also have a right[533] on *mîrî* (state) lands to collect taxes from local peasants before the nineteenth century.[534]

The land tenure system in which the land was possessed principally by the state and certain individuals in Seljuk and Ottoman traditions started to change at the beginning of the seventeenth century.[535] The practice of tax farming (*iltizam* system)[536], which was based on the lease of the land with a right to collect taxes, was introduced as a first measure initially in Anatolia and the Balkans to overcome the financial crisis during the eighteenth century.[537] The system of tax farming, which differed from the previous land registration, was implemented by the government to receive constant income from provinces, to reestablish central control and to overcome military and financial situations.[538] However, the effective position of the Ottoman authority in the sixteenth century, which was based mainly on the central government but not on the provincial governors, had already begun to weaken at the end of the sixteenth century and culminated in the eighteenth century through the "disintegration of state control" and "the emergence of local power-holds".[539] Therefore, the government could not cope with the abuses of tax farming due to a weakness in the central control of the government and also the afore-mentioned

[532] İnalcık, 1994, p. 140.

[533] In Faroqhi's (2006, p. 391) terms: "Right of possession (*tasarruf*), not the ownership of the land."

[534] Faroqhi, 2006, p. 391.

[535] Aktan, 1965, p. 18.

[536] The lease of tax farms *(İltizam),* and known as *mukataa* in Syrian provinces.

[537] Williams, S. L. (1981). *Ottoman Land Policy and Social Change: The Syrian Provinces.* Acta Orientalia Academiae Scientlarum Hungaricae, Vol. 35, No. 1, p. 93.

[538] Ibid., p. 95.

[539] Khoury, D. R. (2008). Political Relations Between City and State in the Middle East, 1700-1850. In P. Sluglett (Ed.). *The Urban Social History of the Middle East 1750-1950.* Syracuse, NY: Syracuse University Press, p. 72.

crises that led to the emergence of local powers and landless peasants in the seventeenth and eighteenth centuries.[540]

As mentioned above, the abuses in tax collection without the state control, and lack of military and bedouin attacks culminated in the deterioration of relations between rural society and their agricultural activities.[541] As Williams (1981) indicated, almost all the Ottoman provinces in Anatolia were managed by local powers such as *ayan*(s) (local notables), except for the *eyalet*(s) of Karaman and Anadolu in the beginning of the nineteenth century.[542] On the other hand, in the eighteenth century, despite the notables who were powerful in Anatolia, small-scale agricultural facilities were still active, while large farms were cultivated by the peasants.[543] The scarcity in raw materials, the increase in war expenditures, the prevalence of tax farming, the weakening of the central authority, and the increasing control of the notables over cities also negatively affected urban development in eighteenth century Ottoman cities.[544]

However, by the beginning of the nineteenth century,[545] cities had developed into new instruments of control since the government attempted to modernize[546] and

[540] Williams, 1981, pp. 95, 96; Tunçbilek, 1986.

[541] Williams, 1981, p. 98; Tunçbilek, 1986.

[542] Williams, 1981, p. 100.

[543] Tekeli, İ. (2019). Cumhuriyet Dönemi Boyunca Kırsalın Geçirdiği Dönüşüm ve Kırsaldan Kopuş. *Efil Journal of Economic Research,* Vol. 2, No. 6, pp. 8-49, p. 11.

[544] Avcı, 2016, p. 55.

[545] Considering the architectural historiography of the late Ottoman period, the nineteenth century was regarded as a "time of reforms," a "time of rapid change," or an "age of deep and swift transformations," and it was studied under the titles "westernization," "modernization," "imperialism," or "integration into the world economic system" (Neumann, C. K. (2002). Ottoman Provincial Towns in the Eighteenth to the Nineteenth Centuries. In J. Hanssen, T. Philipp, & S. Weber. (Eds.). *The Empire in the City: Arab Provincial Capitals in the Ottoman Empire.* Beirut and Würzburg: Orient-Institut der Deutschen Morgenländischen Gesellschaft, p. 131).

[546] The conceptual framework of the modernization theory relied on the concepts of "administrative rationalization," "scientific and technological progress," "market economy and monetarization," "bureaucratization," "centralization," and "individualization" (Neumann, 2002, p. 132).

centralize the Ottoman cities with reforms.[547] Although new means of control were initiated by provincial governors, they were fundamentally monitored under the pressures of the centralizing state.[548] From the 1820s, Mahmut II limited the role of the notables and seized their lands to distribute to the peasants as the state wanted to centralize power on the land.[549] The reforms of Mahmud II initially aimed to eliminate local powers and to consolidate the central control of the government in the beginning of the nineteenth century.[550] Several decrees were issued in order to recentralize the administration, to destroy the power of local forces and to cope with rebellions[551]. The nineteenth century, therefore, witnessed a new process that led to the transformation of the state land into private ownership.

The change in land-use was officially enacted through the Land Law of 1858, which established a relation between the state and the cultivators while ensuring liberty, justice, and equality.[552] The new policy of the state brought by the Land Code, as a modern law, resulted in the transformation of the *mîrî* (state) tenure into private property. 1858 Land Law, together with the earlier 1847 *Tapu Kanunu* (Law on Land Register), did not radically change land-use, but rather legitimized the use of land as private property ownership,[553] encouraging the shift from the state ownership to the private property on agricultural lands.[554] On the other hand, the law also enabled the

[547] Fawaz, L. T. & Bayly, C. A. (with the collaboration of Robert Ilbert) (Eds.). (2008). *Modernity and Culture from the Mediterranean to the Indian Ocean.* New York: Columbia University Press, p. 141.

[548] Khoury, 2008, p. 90.

[549] Tekeli, 2019, p. 11.

[550] Williams, 1981, p. 102.

[551] The *timar* system was also abolished in 1831 (Williams, 1981, p. 103).

[552] Aktan, 1965, 17; Bıyık, C. & Yavuz, A. (2003). The Importance of Property Ownership and Management System in the Ottoman Empire in Point of Today. 2nd FIG Regional Conference, Marrakech, Morrocco, pp. 2, 3.

[553] Şahin, C. (2007). Ondokuzuncu Yüzyıl'da Samsun'da Çiftlik Sahibi Hazinedarzadeler ile Kiracı Köylüler Arasındaki Arazi ve Vergi İhtilafı Üzerine Bazı Gözlemler ve Sorular. *Kebikeç/24,* pp. 75-88, p. 76.

[554] Pamuk, Ş. (2009a). Agriculture and economic development in Turkey 1870-2000). In P. Lains & V. Pinilla (Eds.). *Agriculture and economic development in Europe since 1870.* London [u.a.]: Routledge, p. 388.

direct control of the state over cultivators in order to extract more revenues.[555] As "the initiator of change", it defined private property on agricultural hinterlands and enlarged the boundaries of landholding.[556]

Furthermore, while the early modern Ottoman land policy was formulated with a focus on military concerns and the conquest of new lands, with the 1864 Law of Provinces *(Vilayets),* it was issued to reorganize the Ottoman provinces under the central control of the government.[557] The registration system and the division of lands changed according to the regulations in property rights and the ways of possessing lands in the nineteenth century. Besides, with the increase in urban control over countrysides, a decrease in bedouin invasions was observed, and the security in the hinterlands was provided. The gradual possession of land by urban speculators[558] led to extensive cultivation of lands, therefore, lands were extensively cultivated.[559] As Faroqhi (1981) emphasizes, the state aimed to control urban expansion through the changes in the classical Ottoman land property system and the precautions against the movement of people from rural to urban areas in the late sixteenth and the early seventeenth century.[560] Also in the nineteenth century, the movement of peasants from rural areas to urban areas was controlled by the continuation of agricultural activities in the hinterlands and through the changes that emerged in the land property system. Rural population worked in fertile plains and valleys close to the emerging transportation networks and urban markets in parallel with the increased security and the growing centralization. Afterwards, agriculture developed with the contribution of transport revolution, growing market integration, and free domestic and international trade during the nineteenth century.

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[555] Williams, 1981, p. 104.

[556] Aytekin, E. A. (2009). Agrarian Relations, Property, and Law: An Analysis of the Land Code of 1858 in the Ottoman Empire. *Middle Eastern Studies,* Vol. 45, No. 6, p. 935.

[557] Williams, 1981, p. 89, 90.

[558] The local notables penetrated into lands in the second half of the nineteenth century (Williams, 1981, p. 106; Tunçbilek, 1986).

[559] Williams, 1981, p. 112; Tunçbilek, 1986.

[560] Faroqhi, S. (1981). Urban Development in Ottoman Anatolia (16.-17. Centuries). *METU Journal of the Faculty of Architecture,* Vol. 7, No. 1, p. 37.

Additionally, in 1867, foreigners were also allowed to possess lands.[561] The sale of agricultural lands became widespread during the eighteenth and nineteenth centuries, which led to the emergence of large farms and opened the way for the commercialization of agriculture.[562] Peasant tenancy and large private estates of lands were widespread activities across agricultural hinterlands in the second half of the nineteenth century.[563] Therefore, the permission from the state to be able to sell agricultural lands to foreigners also led to the possession of large territories of fertile lands by Europeans.

The emergence of large private properties in rural areas did not simply result from the laws, but also stemmed from the process of producing raw materials for foreign market that resulted in the commercialization of agriculture.[564] Furthermore, the peasants who did not have land, on the other hand, had to serve as agricultural laborers in large private lands.[565] The rural areas witnessed the emergence of big farms, landless peasants, and thereby seasonal labor, which all stemmed from the commercialization of agriculture.[566] Meanwhile, large farms were also an effective channel in the development of agricultural technology in the last quarter of the nineteenth century.[567] In Bursa, the use of modern agricultural equipment was initiated in 1861.[568] The agricultural machines came into use also in 1875; for instance, modern plows[569] were initially used by foreigners in large farms in Edirne and Aydın.[570]

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[561] Aytekin, 2009, p. 939.

[562] Ibid., p. 946.

[563] Williams, 1981, p. 106; Tunçbilek, 1986.

[564] Tekeli, İ. (1980/2011). *Anadolu'da Yerleşme Sistemleri ve Yerleşme Tarihi Yazıları.* İstanbul: Tarih Vakfı Yurt Yayınları, p. 241.

[565] Ibid.

[566] Tekeli, 1982, pp. 30, 31.

[567] Tekeli, 1980/2011, p. 132.

[568] Baskıcı, M. M. (2011). Machine Prices and the Mechanization of Ottoman Agriculture, 1860-1914. Journal of Social Sciences, Vol. IV, No. 1 (with reference to 1864 British Consular Reports).

[569] The transport of these plows through İzmir road enabled them to be used in Aydın, Manisa, Afyonkarahisar, Uşak, and Konya as well (Tekeli, İ. & İlkin, S. (1993). Osmanlı İmparatorluğu'nda

At this point, there were several projects to be implemented by foreign investors. First, European companies aimed to gain efficiency from the export of capital, which required an increase in agricultural productivity.[571] To this end, Europeans started to establish capitalist farms with the purchase of large lands after the 1860s.[572] Secondly, it was aimed to bring labor force from outside the Ottoman Empire for farming.[573] The fundamental aims of the European capital, therefore, were initially to establish large farms,[574] which later resulted in difficulties in finding labor for agriculture, and then to settle foreigners in the agricultural farmlands along the railway to provide workforce for the railway construction and farming. However, the resistance of the Ottoman state against the establishment of large farms hindered the European capital from being the main actor that brought technology to the Ottoman context.[575] Besides, due to the persistence of peasant family farms, inadequacy in labor force, and difficulties in securing wage laborers in their farms, European owners started to sell back their lands in time. In parallel to this process, the proposal offered by the Europeans to settle inhabitation along railway lines was not also welcomed and supported by the state.[576]

In the nineteenth century, the Ottoman state continued to establish small-scale agricultural facilities around the farms that had also been planned by the government[577] while the establishment of large farms was also in progress. Therefore, large farms, small-scale farming companies, and small villages such as immigrant villages constituted the general scene of the nineteenth century rural areas.

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19. Yüzyıl'ın İkinci Yarısında Nafia Programları ve Teknoloji Gelişimi Üzerine. *Dünü ve Bugünüyle Toplum ve Ekonomi,* No: 3, p. 132).

[570] Tekeli, 1980/2011, p. 132.

[571] Tekeli & İlkin, 1993, p. 127.

[572] Ibid.

[573] Ibid., p. 128.

[574] Especially in İzmir after the 1860s (Tekeli & İlkin, 1993, p. 126).

[575] Tekeli & İlkin, 1993, p. 126.

[576] Tekeli & İlkin, 1993, p. 128; Pamuk, 1987, ss. 201, 202; Pamuk, 1988, ss. 133, 134; Quataert, 2005, s. 134; Tekeli, 2019, s. 12.

[577] Güran, 1988, pp. 244, 245.

The configuration of these areas was totally based on several factors that stimulated the change in the nineteenth century: the disappearance of ongoing internal disturbances since previous centuries, the reforms in the systems of property, the regulations for private property rights, the migrations and the effective role of immigrants in agricultural production, the construction of roads, the extension of railroads into inland cities, which all revived the quantity, method, and quality of agricultural production.[578]

4.1.1.2 From Subsistence to Market-Oriented Commercial Agriculture

According to Neumann, the change in the nineteenth century was a natural result of the economic development that came with the "commercialization of agriculture," "a higher degree of incorporation into world-trade networks," "capitalist methods of financing," and "new labor relations."[579] Although the commercialization of agriculture had already been initiated by the establishment of large farms, the growing European interest in raw materials and the opening of the Ottoman market to the world also facilitated this process. The interest of the European capital in the agricultural production and raw material of the Ottoman Empire due to the increase in raw material requirements stemmed from the industrialization process in Europe.[580] When the European demand for raw material[581] and the European interest in using their capital more efficiently raised the Ottoman interest in agricultural production, the debates on the investment of railway projects and thereby the development of agricultural lands along the railways spontaneously emerged.[582] Agricultural production, therefore, became more valuable due to the increasing demand for raw materials of growing local populations and of European

[578] Tunçbilek, 1986, p. 83.

[579] Neumann, 2002, pp. 135, 136.

[580] Tekeli & İlkin, 1993, p. 126.

[581] The American cotton deficit of 1860 in Europe resulting from civil war also led to an increase in the European demand for raw material (Tekeli & İlkin, 1993 p.126). For this reason, Europe was interested in the Ottoman lands and distributed cotton seeds in the Aegean and Çukurova regions (Ibid.).

[582] Tekeli & İlkin, 1993, p. 126.

industries.[583] The Ottomans opened their markets first to England, and then to the other European countries with trade treaties.[584] The external dynamics, thus, started to define which type of industrial goods were to be produced and which industrial field was to disappear.[585] In other words, these dynamics led to a shift from the production of local agricultural goods to the production of agricultural goods shaped by the European demands. The European demand for agricultural goods and raw materials oriented the agricultural production in the Ottoman Empire to the international market rather than the domestic market.[586] In other words, capitalism developed after the industrial revolution, and its effects on the Ottoman Empire directed agricultural production mainly towards foreign market rather than the domestic market of the Empire, leading to a competition between the Ottoman traditional products and European industrial goods.[587] In parallel to that, the penetration of the industrial goods of European countries into the Ottoman territory provoked a competition between traditional goods and European industrial products, which captured and narrowed the relations in the market as well as leading craftsmen to have difficulties in finding raw materials due to the export of most of them to Europe.[588] To this end, initial steps were taken during the Tanzimât period in the mid-nineteenth century in order to increase agricultural productivity and improve techniques of land cultivation.

The dominant view of the Hamidian period of the late nineteenth century was to encourage the development of export-oriented commercial agriculture, manifesting

[583] Shields, S. (2008). Interdependent Spaces: Relations between the City and the Countryside in the Nineteenth Century. In P. Sluglett (Ed.). *The Urban Social History of the Middle East 1750-1950.* Syracuse, NY: Syracuse Univeristy Press, p. 43.

[584] Aktüre, S. (2001). 1830'dan 1930'a Ankara'da Günlük Yaşam. In Y. Yavuz (Ed.). *Tarih İçinde Ankara II: Aralık 1998 Seminer Bildirileri.* Ankara: Middle East Technical University, Faculty of Architecture Press, p. 36.

[585] Ibid.

[586] Tekeli, 1982, p. 27.

[587] Tekeli, 1980/2011, p. 237.

[588] Ibid., pp. 27, 29.

itself within the context of free-trade.[589] The increase in foreign trade, the development of industry, and the commercialization of agriculture necessitated finance from foreign and local capital.[590] In the 1860s, the European capital was used thanks to new intentions by Europeans to allow the Ottoman Empire to import technology especially in the agricultural field.[591] The European capital was also used for the establishment of *Düyun-u Umumiyye İdaresi* (Public Debt Administration) in 1881, and for the investment in railway constructions, which also turned into a competition among the European states.[592] While the Public Debt Administration engaged in the development of sericulture in order to raise custom income for itself, the newly industrialized European states started to invest in railway constructions to promote agricultural production along these rail lines.

The nineteenth century rural population did not only consist of agricultural producers serving for a large market but also of manufacturers with their labor responding to the demand of urban entrepreneurs, which signals a shift from "a monetized traditional economy" to "a production for global markets."[593] Therefore, agrarian economy was regulated for the market during the nineteenth century, which was previously formed as "subsistence economy".[594] Meanwhile, some peasants became urban laborers according to the new agricultural conditions of the nineteenth century while others maintained their role as a bridge between the cities and their hinterlands.[595]

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[589] Quataert, D. (1973/2008). *Anadolu'da Osmanlı Reformu ve Tarım 1876-1908.* (Trans.). N. Ö. Gündoğan & A. Z. Gündoğan. İstanbul: Türkiye İş Bankası Kültür Yayınları, p. 45.

[590] Tekeli, 1980/2011, p. 240.

[591] Tekeli & İlkin, 1993, p. 128.

[592] Ibid.

[593] Shields, 2008, pp. 62, 64; Cepede, M. (1965). Institutional Changes and Sociological Considerations in Agricultural Development. In *Agricultural Aspects of Economic Development: A Report of the International Conference on Agricultural Aspects of Economic Development Held at Istanbul August 2-15, 1964.* İstanbul: Sermet Matbaası.

[594] Cepede, 1965; Güran, 1988, p. 225; Karpat, K. (2008/2019). *Osmanlı Modernleşmesi Toplum, Kuramsal Değişim ve Nüfus.* (Trans.). C. Elitez. İstanbul: Timaş Yayınları, p. 97; Tekeli, İ. (2019). Cumhuriyet Dönemi Boyunca Kırsalın Geçirdiği Dönüşüm ve Kırsaldan Kopuş. *Efil Journal of Economic Research,* Vol. 2, No. 6, p. 11.

[595] Shields, 2008, p. 62.

4.1.2 Institutionalizing Agriculture: Agricultural Schools and Agricultural Bank

Although the term of hinterlands originally refers to the areas associated with ports, it has also been used for any areas producing any type of materials for the core.[596] Hinterlands formed of agricultural lands, model farms, or mulberry groves as vast rural lands serve for the urban core of cities in terms of provisioning; the core, in return, does not only construct economic relations for the domestic and international market but also presents modern equipment and methods as well as norms and regulations to ensure the quality of production. This process leads to the establishment of a mutual relationship between the core of a city and its hinterlands.

As exemplary of such a process, the nineteenth century witnessed the building of keystones for a moderate degree of modernization in Bursa, which was related to changes not only in the urban core and its periphery but also in the hinterlands of the city where agricultural production increased at the time. The development of technology and institutionalization led to an increase in production that was also seen in the field of agriculture.[597] The level of agricultural development was based exclusively on the introduction of new machines and techniques on cultivation through agricultural schools, model farms, and *hârâ-yı hümâyun*s (studfarms). This process was mainly upgraded by the establishment of agricultural schools and model farms that were constructed for the introduction of modern agricultural implementations and equipment to replace animals, and the distribution of improved seeds.[598] Together with educational institutions, farms were also significant areas for the introduction and implementation of agricultural technology.

The development of agriculture directly affects the development of economy. Agriculture in Anatolia played a significant role in the economic growth and urban

[596] Suva, A. (2005). Hinterland. In R W. Caves (Ed.). *Encyclopedia of the City.* London and New York: Routledge Taylor & Francis Group, p. 341.

[597] Cepede, 1965.

[598] Quataert, D. (1975). Dilemma of Development: The Agricultural Bank and Agricultural Reform in Ottoman Turkey, 1888-1908. *International Journal of Middle East Studies,* Vol. 6, No. 2, p. 211; Güran, 1988, p. 245.

development since the 1870s.[599] Pamuk refers to five fundamental areas defined by Johnson and Meller (1961) to display the contribution of agricultural production to economic development: (1) "food for the growing population," (2) "foreign exchange earnings through exports," (3) "labor for the expanding non-agricultural sectors, especially manufacturing industry," (4) "savings and capital for industry," and (5) "market for the output of the industrial sector."[600] The industrial and technological developments always affected agricultural economy and induced rural change in the hinterlands. Besides, the developments in agricultural technology, and correspondingly the productivity of agricultural goods were the main factors that supported the economic development during the eighteenth and nineteenth centuries.[601] Agricultural facilities were comprised of a house, warehouse, yard, poultry house, animals, primitive and modern agricultural equipment, and soil.[602] While animals had occupied a large amount of capital within the wealth of farms before the late nineteenth century, modern agricultural machines gained a considerable significance in the farms and fields at the end of the century in relation to the modernization of agricultural technology.[603] Furthermore, it is also worth to emphasize that the financial institutions of the state played a significant role in financing agricultural development during the nineteenth century, providing credits for immigrants and farmers and funding the necessities of Agricultural Schools, as seen in the archival documents.[604] The use of modern agricultural technology in the hinterlands was introduced and provided by agricultural schools and the efforts of the immigrants, which supported by the financial institutions of the state. The use of technology also contributed to the development of agriculture to a certain extent. Meanwhile, architectural and infrastructural productions were financed by central

[599] Shields, 2008, p. 175.

[600] Johnston, B. F. & Mellor, J. W. (1961). The Role of Agriculture in Economic Development. The American Economic Review, Vol. 51, No. 4, pp. 566-593; quoted from: Pamuk, Ş. (2009a). Agriculture and economic development in Turkey 1870-2000). In P. Lains & V. Pinilla (Eds.). Agriculture and economic development in Europe since 1870. London [u.a.]: Routledge, pp. 375-396. Also see: Pamuk, Ş. (2009b). *The Ottoman Economy and Its Institutions.* Variorum Collected Studies Series. Farnham, Surrey: Ashgate, p. 175.

[601] Güran, 1988, p. 225.

[602] Ibid., p. 243.

[603] Ibid., pp. 244, 245.

[604] BEO, 1-22-2-1; DH MKT 1936.

state institutions in the nineteenth century whereas these constructions were performed by individual *vakf*s in the previous centuries.[605]

An obvious economic component in the second half of the nineteenth century was the relative abundance of soil.[606] The ratio of the cultivated lands in cities depends on changes in population, and the population decreased by the eighteenth century due to economic and political situation of the Ottoman state.[607] However, it increased in the second half of the nineteenth century due to the loss of the Ottoman lands in wars and the resultant migration. Therefore, although labor force to cultivate lands was still scarce, which constituted a problem in the agricultural development process, an increase in population was a triggering factor for the development of techniques and the use of land in an effective way.[608] In addition to the population increase reflected in urban market along with the increase in agricultural export for the world market, other fundamental driving forces behind agricultural production were the improvements in security and the impact of industrial development on the easy transport of bulky agricultural goods, which all led the Ottoman population to specialize in agriculture.[609]

Therefore, there were some significant factors behind agricultural development. One main factor was the implementation of new agricultural techniques especially brought by immigrants settled by the state after the wars.[610] New agricultural machines brought from Europe and new techniques introduced in schools and model farms also contributed to this process. As seen in archival documents, the imports of machines and animals were financed by the state. For instance, according to an

[605] Hartmuth, M. (2010). The History of Centre-Periphery Relations as a History of Style in Ottoman Provincial Architecture. In M. Hartmuth (Ed.). *Centres and Peripheries in Ottoman Architecture: Rediscovering A Balkan Heritage.* Sarajevo/Stockholm: Cultural Heritage Without Borders, p. 28.

[606] Güran, 1988, p. 228.

[607] Ibid., pp. 228, 229.

[608] Güran, 1988, pp. 226, 228; Kasaba, R. (1991). Migrant Labor in Western Anatolia, 1750-1850. In Ç. Keyder & F. Tabak (Eds.). *Landholding and Commercial Agriculture in the Middle East.* Albany: State University of New York, p. 116.

[609] Pamuk, 2009b, p. 14.

[610] Tekeli & İlkin, 1993, p. 129.

archival document dated 1891, the agricultural equipment for Mihaliç *Çiftlikât-i Hûmâyun* (Mihaliç Imperial Farm) was imported from England and transferred to Bandırma.[611] As stated in the same document, after passing through the customs, the machines and the equipment were delivered to a steamboat going to the Bandırma Port. **(Figure 4.1)** Besides, the costs for agricultural machines imported from England and transferred to the Bandırma Port were funded by *Emlak-ı Hûmâyun* Kalemi (Office of Imperial Estates) on behalf of Mihaliç *Çiftlikât-i Hûmâyun* in 1891. The tables attached to the document also show the prices of the machines and the equipment imported from England for Mihaliç *Çiftlikât-i Hûmâyun*. As stated at the end of the document, Aram Tuğlacıyan, a customs officer, delivered these machines and equipment to Bandırma Vapuru (Bandırma Steamboat) and got the payment from *Emlak-ı Hûmâyun İdaresi* (Administration of Imperial Estates) on 1 July 1901. *Emlak-ı Hûmâyun İdaresi* funded every requirement of Mihaliç *Çiftlikât-i Hûmâyun* also in 1893, and the income of the commercial relationships of the farm with butcheries also belonged to the administration.[612] For instance, the goats were sold by *Emlak-ı Hûmâyun İdaresi* to Hacı Şakir, a butchery in Tavukpazarı, and to Karagöz masters, other butcheries in Galata.[613] On the other hand, according to another archival document, the cost of the animals brought from France to Mihaliç *Çiftlikât-i Hûmâyun* was paid to Bank-i Osmâni (Ottoman Bank) on 11 August 1892.[614] According to the same document, the commission of this cost was paid by *Hazîne-i Hâssa* (Imperial Treasury) on 25 June 1894. The expenses of building constructions in Mihaliç *Çiftlikât-i Hûmâyun* were also paid by *Hazîne-i Hâssa* according to a document dated 4 August 1894.[615] Not only the equipment, but also animals were imported through maritime transportation. Three stallions and one mare were transported from Marseille for Mihaliç *Çiftlikât-i Hûmâyun* in 1892.[616]

[611] ML. EEM, 140-94-3-1.

[612] ML. EEM, 169-32-1-1.

[613] Ibid.

[614] ML. EEM, 191-51-18-1.

[615] ML. EEM, 193-81-1-1; the table showing the expenses for the construction of buildings, stables, and the canal in Mihaliç *Çiftlikât-i Hûmâyun* in the years between 1891-1894 (ML.EEM., 193-81-2-1).

[616] ML, EEM, 155-64-1-1, 2.

(Figure 4.2) A total amount of 242 *guruş* was funded by *Emlâk-ı Hûmâyun Kalemi*, and the attached receipt below shows the costs of various maritime transportation for different aims.[617] The agencies, which served for the transport of sheep and other properties produced in Mihaliç *Çiftlikât-i Hûmâyun* to *Dersaâdet* (İstanbul) via the docks of Mudanya and Bandırma, demanded fund from *Hazîne-i Hâssa* (Imperial Treasury), as seen in some documents written by *İdare-i Mahsusa Seracentesi* (Head Administration of Agencies), Hacı Yorgi, in 1901.[618]



Figure 4.1 The receipt dated 30 June 1891, showing the costs for the agricultural equipment imported from England to Bandırma port for Mihaliç *Çiftlikât-i Hûmâyun*. The cost was paid by *Hazîne-i Hâssa* (the Imperial Treasury).
Source: Presidential Ottoman Archive, ML.EEM., 140-94-4-1.

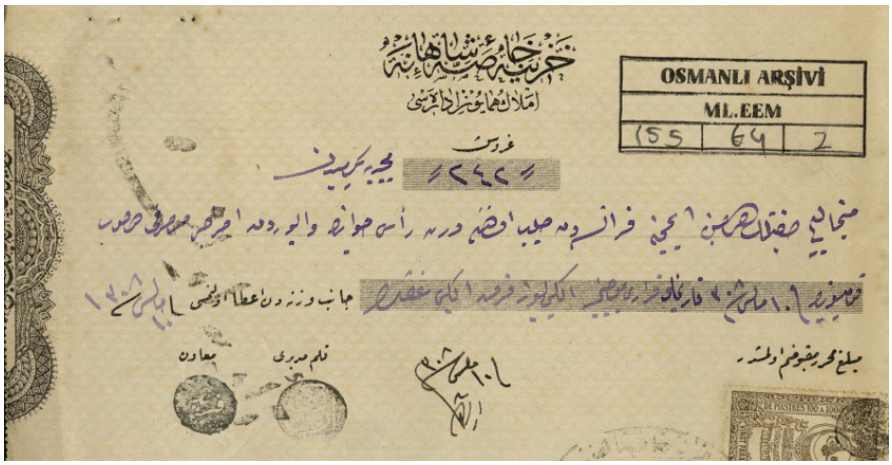


Figure 4.2 The receipt for the afore-mentioned import of animals from Marseilles to Mihaliç *Çiftlikât-i Hûmâyun*.
Source: Presidential Ottoman Archive, ML.EEM., 155-64-2-1.

[617] Ibid.

[618] ML. EEM, 374-66-2-1.

The development of the international trade and the commercialization of agriculture necessitated finance carried out by state, banks and foreign capital as well.[619] Agricultural production could also be advanced through the improvement and organization of agricultural credit, taxation, labor, marketing, agricultural production methods, and size of farms.[620] For instance, agricultural institutions such as *Ziraat Bankası* (Agricultural Bank), *Ziraat Nezâreti* (Ministry of Agriculture), Bursa and Halkalı Schools of Agriculture, five exemplary farms, and Seydiköy Facilities[621] were all planned or established in the years between 1888 and 1893, leading to the proliferation of the Agricultural Credit System.[622] Particularly, the establishment of the Agricultural Bank in 1888 increased the possibilities of getting credit and larger enterprises in the commercialized regions of Anatolia.[623] **(Table 4.1)**

Table 4.1 The table showing the amount of credits given by Agricultural Bank to the cities in Anatolia in the years between 1889 and 1907.
Source: Quataert, 1975, p. 219.

Year	Value of total loans in empire	Value of total loans in Anatolia	Percentage of all loans issued in Anatolia	Number of loans in Anatolia	Avarage value of loans in Anatolia
1889	16,283,202	9,194,687	57	10,842	848
1890	46,717,740	28,887,606	62	25,766	1,121
1891	60,760,012	36,152,262	60	33,797	1,07
1892	82,543,339	47,306,577	57	46,625	1,015
1893	84,955,154	47,278,761	56	52,546	900
1894	66,267,123	37,729,376	57	46,174	817
1895	55,755,743	29,950,598	54	39,872	751
1896	51,178,100	-	-	-	-
1897	54,769,300	-	-	-	-
1898	64,344,447	36,813,307	57	53,673	686
1899	65,401,589	36,656,517	56	55,734	658
1900	50,754,710	29,986,880	59	37,359	803
1901	55,179,765	32,644,802	59	34,98	933
1902	47,156,753	28,906,514	61	40,524	713
1903	43,904,138	28,995,928	66	47,097	616
1904	74,813,600	-	-	-	-
1905	82,686,200	-	-	-	-
1906	90,676,800	-	-	-	-
1907	109,746,900	-	-	-	-
	Totals	430,503,815		524,989	

The financial institutions like the Agricultural Bank generated the agricultural development, as it can be understood from the archival documents. For instance, as

[619] Tekeli, 1982, p. 30.

[620] Aktan, 1965, pp. 14, 15.

[621] In 1900, *Bağcılık Aşı Ameliyat Mektebi* was opened in Seydiköy, İzmir (Kadıoğlu, S. (2005). Osmanlı Döneminde Türkiye'de Ziraat Okulları Üzerine Notlar ve "Tedrisat-ı Ziraiye Nizamnamesi", *Kutadgubilig,* No. 8, İstanbul, pp. 239-257).

[622] Quataert, 1973/2008, p. 274.

[623] Pamuk, 2009a, p. 388.

understood from a document dated 15 October 1890, the expenses of Selânik[624] and Bursa Agricultural Schools and their model farms could also be provided by the Agricultural Bank.[625] As another example, the wages of workers and officers as well as other necessities of Agricultural Schools of Bursa and Selânik with their model farms would be funded by the Agricultural Bank in 1892.[626] The bank would also provide credit for the settlement and food provision of immigrants along Anatolian railway.[627] An archival document, written to the *Ticaret Nezâreti* (Ministry of Trade) and *Nafia Nezâreti* (Ministry of Public Works), shows that the Rumelian immigrants living in misery around Bursa and the Bosnians were to be settled in along the Anatolian Railway line, and provisions and timber for their houses were to be provided in 1892, with the request of Muzaffer Pasha.[628] According to the same document, the necessary provisions and financial support would be supplied from the Agricultural Bank. Furthermore, the commissions established in İzmid, Bursa, Ankara, and Konya were responsible for explaining that the bank would lend money to farmers so that they could buy seeds, but would not donate money for this purpose around 1909.[629]

As seen, in the late nineteenth century Ottoman Empire, the establishment of the Agricultural Bank was the nucleus of several reforms launched by the state in order not only to consolidate the provision of the increasing European demand for agricultural goods but also to lead the survival and modernization of the Empire through the support of the expansion of agricultural production.[630] According to Quataert, the Agricultural Bank "functioned as the vehicle for regeneration of agriculture".[631] Therefore, cultivators got advantages for the development of

[624] Currently, the city of Thessalonica within the borders of Greece.

[625] MV, 58-50-1-2, 1.

[626] BEO, 1-22-2-1.

[627] DH MKT 1936.

[628] BEO, 21-1502-1-2.

[629] DH MKT 2729 37.

[630] Quataert, 1975, p. 210.

[631] Ibid., p. 211.

farmlands by the establishment of model farms, the opening of schools of agriculture, and the foundation of the Agricultural Bank.[632] On the other hand, the funds of the bank were not only exerted for agricultural activities but also for the modernization of the army, the construction of railroads, arterial roads, telegraph systems, and schools as well as the continuation of the imperial dynasty.[633]

The largest sector of the nineteenth century Ottoman economy was agriculture, which was influenced by the change and reforms in that era. In the years between 1876 and 1908 under the Hamidian rule, the agricultural reform process took place to improve cultivating areas, to raise revenues, to manage agricultural lands in a more productive and efficient way as well as to expand into the world market.[634] The farms located in the Sultan (Imperial) Farms could also be rented for cultivation. For instance, Bogos and Arnok, local citizens in the village of the Imperial Farm, rented it from the Ottoman state and paid 4.000 *guruş* to *Hazîne-i Hâssa* (Imperial Treasury) on 20 August 1889.[635] Agricultural reforms applied under the Hamidian rule were entirely coincided with the modernization efforts during the nineteenth century.[636]

This process represented itself initially through the organization of the governmental institutions. Agricultural bureaucracy was initially structured by the establishment of *Ticaret Nezâreti* (Ministry of Commerce) in 1839 for the development of agriculture, industry, and commerce.[637] *Meclis-i Ziraat* (Assembly of Agriculture), as the agricultural consulting body of the government, was established in 1843[638] for the

[632] Ayalon, Y. (2015). *Natural Disasters in the Ottoman Empire Plague, Famine, and Other Misfortunes.* New York: Cambridge University Press, p. 198.

[633] Quataert, 1973/2008, pp. 274, 276.

[634] Quataert, 1975, p. 211.

[635] ML. EEM, 191-51-14-1.

[636] Quataert, 1973/2008, p. 274.

[637] Güran, T. (1999). Tarım Politikası (1839-1913). In G. Eren (Ed.). *Osmanlı 3, İktisat.* Ankara: Yeni Türkiye Yayınları, p. 305.

[638] *Ziraat Nezâreti* was established in 1846, and it was associated with *Ticaret Nezâreti* a year later, which became *Ziraat Meclisi* and *Nafia Meclisi* in 1849 (Güran, 1999, p. 305).

development of agricultural production, and providing the balance of international trade.[639] *Ziraat Nezâreti* (Ministry of Agriculture)[640] was established in 1846, and *Orman ve Ziraat Nezâreti* (Ministry of Forests and Agriculture) was established as an independent institution in 1894.[641]

After the enactment of regulations and the establishment of state institutions, the process of agricultural development accelerated with not only the introduction of new techniques but also the establishment of new schools for agricultural education. The establishment of agricultural schools and model farms in many Anatolian cities were the prominent examples of the implementation of agricultural reforms.[642] The establishment of educational institutions concerning agriculture led also to the institutionalization of this sector. The encouragement of the agricultural growth, therefore, was provided by the establishment of an administrative mechanism including agricultural institutions such as agricultural councils, chamber of agriculture, and agricultural schools during the nineteenth century.[643] More importantly, because the field of agriculture was not fully seized by foreign powers and other social groups,[644] new codes of this area was mainly defined by the state through commercializing agriculture with the supply of the railway system and increasing commercial activities producing for distant markets.[645]

Therefore, the role of the state in the development of technology further manifested itself in the planning of agricultural education and the establishment of schools. Three-graded agricultural education system had been formed based on the French educational model before *Tedrisat-i Ziraiye Nizamnâmesi* (Regulation on

[639] Güran, 1999, p. 305.

[640] It was merged with *Ticaret ve Ziraat Nezâreti* in 1846. In 1850, the name changed to *Ticaret ve Umur-u Nafia*, which caused agricultural functions to remain in the background (Tekeli & İlkin, 1993, p. 130).

[641] Tekeli & İlkin, 1993, p. 130.

[642] Quataert, 1973/2008, p.108.

[643] Karpat, 2008/2019, p. 96.

[644] Except the interventions of *Düyun-u Umumiye İdaresi,* which later tried to increase incomes from agricultural production.

[645] Karpat, 2008/2019, p. 97.

Agricultural Education) was enacted in 1911.[646] These included vocational schools, *Ziraat Ameliyat Mektebi* (School for Agricultural Operation) to educate housekeepers, and *Çiftlik ve Amele Ziraat Mektebi* (Agricultural School for Farm Workers) to educate farmers, croppers and agricultural laborers. The first agricultural school was established in İstanbul by Reşit Pasha in 1848, as inspired from Grignon Agricultural School in France; the second attempt was to establish a school in Edirne in 1891, which did not survive for more than three years; and the third school was established in Selânik in 1889.[647] *Halkalı Ziraat ve Baytar Mekteb-i Alisi* (Halkalı Imperial School of Agriculture and Veterinary) of 1892[648] and Selânik Vocational School, *Ziraat Mekteb-i Âlisi* (Imperial School of Agriculture) in Bağdat; Adana and Ankara schools, *Çiftlik Mektebi* (Farm School) in Aleppo, Sivas, Erzurum, Üsküp, and Manastır, and *Köy Çiftlik Mektebi* (Village Farm School) in Muş were other examples of these three kinds of schools at different levels, respectively.[649] (**Figure 4.3)**

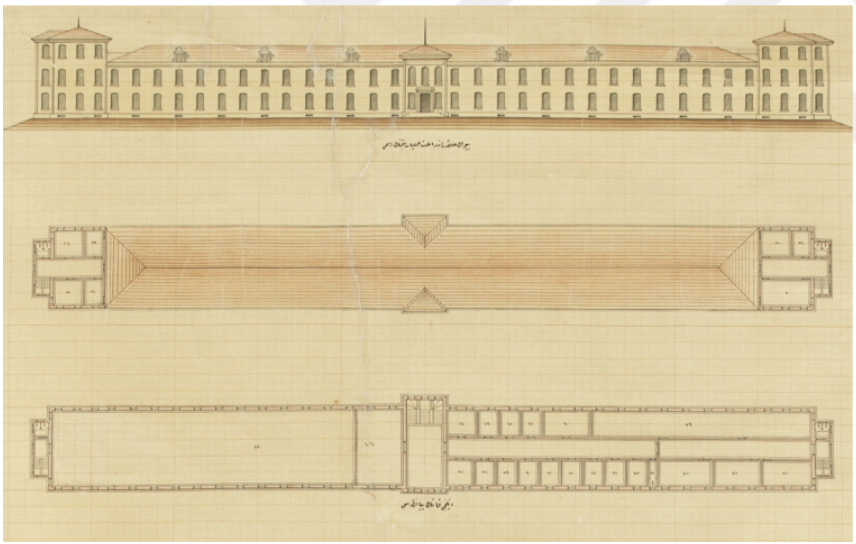


Figure 4.3 The drawings of *Zirâat Ameliyât Mektebi* (School for Agricultural Operation) and *Numûne Çiftliği* (Model Farm) were produced by *hey'et-i fenniyye* (Imperial Technical Office); the buildings were planned to be constructed in Büyük Halkalı Farm.
Source: Presidential Ottoman Archive, PLK.p, 193-1.

[646] Tekeli & İlkin, 1993, p. 131.

[647] Ibid.

[648] It was the first vocational school, and in 1895, it became independent as *Baytarlık Mektebi* (Tekeli & İlkin, 1993, p. 131).

[649] Tekeli & İlkin, 1993, p. 131.

As one of the traces of the institutionalization process in Bursa, Hüdâvendigâr Agricultural School *(Ziraat Mektebi)* with the annex of Hamidiye Model Farm[650] was also opened in 1891.[651] **(Table 4.2** and **Figure 4.4, 4.5)** The Agricultural School, located in Karaman village on Mudanya-Bursa road, was constructed by Bedros Kalfa; however, he died right before the completion of the construction, according to a document dated 1894.[652] For this reason, his son, engineer Kaspar, who was working in *Üçüncü Daire-i Belediye* (The Third Office of the Municipality), offered to complete the building in 1894.[653] Since Bedros Kalfa died while the construction was in progress, there would not be any payment to the engineer Kaspar, according to the meetings between *İnşaat Komisyon-ı Mahsusu* (Commission for Construction) and *Nezâret* (Ministry).[654] The engineer Kaspar wanted to receive payment from Orman ve *Maadin ve Nafia Nezâreti* (Ministry of Forest, Mines and Public Works) since he also had contributed to the construction process, as he claimed.[655] Meanwhile, *keşif defteri* (bills of quantities) together with a map was prepared in 1893 in order to offer the Ministry to enlarge the building, Hüdâvendigâr Agricultural School.[656]

Apart from agricultural education institutions, other schools for specialization were also established at the time. *Bursa Harir Darü't-Talimi* (the Institute of Sericulture)

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[650] Some notes on Hüdâvendigâr Agricultural School and Hamidiye Model Farm, in 1307 *Hüdâvendigâr Vilâyeti Salnâmesi* (M. 1891): "*Bursa şehri dışında padişah hazretlerinin kesesinden ve onun emriyle Karaman köyünde yeniden yapılan numune çiftliği tamamlanmıştır. Mektep binası fevkalede müzeyyen bir surette olup nezdinde ahır, ambarlar ve diğer alanlar bulunmaktadır. Çiftlik için bazı hayvanlar peyderpey tedarik edilmekle beraber, zirai işlerle alakalı makineler Avrupa'dan getirtilmiştir. Mektebin tahsil müddeti üç sene olup, bu dönem içinde ziraate dair muhtelif ilim ve fen dersleri olacaktır. Talebe miktarı şimdilik altmış kişi olmak üzere tertip edilmiştir. Alınacak talebe kesinlikle çiftçi evladı olması gerekmektedir. Şehre yakın ilçelerin nüfusları göz önüne alınarak mevcutları nispetinde vilayetin liva ve kazâlarında celp olunur. İkmal müddeti tahsil ile mezun olan talebeye mükafat nakdi verilir.*" (Trans. by Mehmet Önel (original in Ottoman Turkish), BBB Bursa City Museum); extracted from the book: Elbas, A. & Erdönmez, A. (Project Coordinators). (2010). *Bursa'nın Köklü Eğitim Kurumları Bursa Ziraat Mektebi.* Bursa: Bursa Büyükşehir Kitaplığı. p. 27.

[651] Tekeli, İ. (2007). Anadolu'da Kent Tarihi Yazıcılığı Üzerine Bir Yöntem Önerisi. In C. Çiftçi (Ed.). *Bursa'nın Kentsel ve Mimari Gelişimi.* Bursa: Osmangazi Belediyesi Yayınları, p. 78.

[652] BEO, 501-37537-1-2, 1.

[653] Ibid.

[654] BEO, 501-37537-1-2, 1.

[655] Ibid.

[656] BEO, 273-20420-1-1, 2.

(1894) and other institutions of sericulture in Amasya, Beyrut, Antakya and Gümüşhane were established.[657] As a document clearly indicates, in addition to the institutionalization of industry via the establishment of schools, the supervision and management of factories and farms was also institutionalized in the very early years of the nineteenth century. For instance, according to a document, the sultan decreed that the Minister of Farms and Factories,[658] Hüsnü Bey, who was also the member of *Meclis-i Vâlâ-yı Ahkâm-ı Adliye* (the Supreme Council of State of Judicial Ordinance), together with his team, came to Hüdâvendigâr Sandjak to inspect the farms and factories in 1846.[659] The sultan expected the members of the council[660] to assist the minister when he arrived the regions under these officers' control, and also expected them to pay attention to hospitality and provide foods and animals for the ease of his travel.[661] As seen, the inspectors came to the farms and factories to check if the production was in progress properly and if there was a need for any equipment and machines.

[657] Tekeli & İlkin, 1993, p. 131. İzmir Seydiköy *Bağcılık* (viniculture), *Bahçıvanlık* (gardening), *and Maiyat-i Mütehammure Mektebi* was also established (Tekeli & İlkin, 1993, p. 131).

[658] *Çiftlikler ve Fabrikalar Nazırı.*

[659] A.DVN.MHM, 2A-81-1-1.

[660] The officers such as *naib, müftü, kazâ müdürleri, meclis azaları.*

[661] A.DVN.MHM, 2A-81-1-1.

Table 4.2 The curriculum of Hüdâvendigâr Agricultural School.[662]
Source: National Library, EHT 1969 B 37; the table written in Ottoman Turkish is accessed from: Küçükceran, Z. (2019). Agriculture and Agricultural Knowledge in Bursa and Mihaliç (Karacabey) in the Nineteenth Century. PhD Thesis. Boğaziçi University. Department of History, p. 286.

1st Year (hour)	2nd Year (hour)	3rd Year (hour)	Courses (Esami-i Ders)
30	-	-	Akaid-i diniyye
36	36	36	Ziraat-ı umumiye ve hususiye
-	36	30	Sanayi-i ziraiyye
-	-	45	Fenni mevaşi ve baytariyye
-	-	30	Fenni mesaha-i arazi
60	30	30	Fransızca
-	-	30	İlm-i haber
-	-	45	Servet-i Milel ve Zirai, Muhasebe-i Zirai
-	30	30	Hikmet ve Alaim-i Ceviyye
-	-	30	Eşcar-ı müsmire
-	-	30	Bağcılık
-	36	36	Nebatat
-	-	36	Hıfzıssıhha
-	38	36	Kimya-yı Uzvi, Zirai, Madeni
-	-	36	İnşaat-ı Ziraiye
-	72	-	Alât-ı Ziraiyye ve Makine-i Ziraiyye
-	30	30	Hendese
-	30	30	Hesap
-	30	-	Kitap
-	36	-	Sebzecilik
-	-	15	Tavukçuluk ve Çiçekçilik
30	-	-	Türkçe, Sarf ve Nahv-i Osmanî
34	-	-	Tabakât-ı Madenîyat
-	30	-	Malumat-ı medeniye ve ahlakiye
38	-	-	Hayvanat
60	-	-	Coğrafya-yı umumî ve Ziraî
3 hours per day	3 hours per day	3 hours per day	Ameliyat-ı Ziraiyye

[662] Note below the curriculum: Ameliyat-ı ziraiyye will be practiced for 3 hours before and after lunch.



Figure 4.4 Hüdâvendigâr Agricultural School.
Source: *Hüdâvendigâr Vilâyet Salnâmesi,* 1906, *Bursa Vilâyeti Matbaası,* no page (after p. 44).



Figure 4.5 Hüdâvendigâr Agricultural School and the cypresses around the complex.
Source: *Hüdâvendigâr Vilâyet Salnâmesi,* 1906, *Bursa Vilâyeti Matbaası*, no page (after p. 216).

The institutionalization of agriculture can be considered as a conscious state policy. Aiming at the modernization of the agricultural sector, the state showed a holistic approach to this process by not only establishing schools, but also opening a way for farmers and immigrant farmers to cultivate the lands in order to increase productivity in agriculture. The integration of modern technology and traditional techniques, therefore, was represented on farms through the immigrants and the education with the financial support of the state. The institutionalization of agriculture was also characterized by enacting laws and inspecting sites.

4.2 Spaces of Agricultural Production in the Hinterlands

The development in the architecture of agricultural buildings in different stages at different time periods are not comprehensively structured and discussed in the literature. Moreover, as the urban environment was largely formed by public buildings such as schools and government offices in the late Ottoman period, agricultural buildings including production and storage units were not many in number. When Suphi Bey Map is analyzed in this sense, it is seen that the number of agricultural buildings around the urban core of Bursa is significantly less than the numerous public buildings. On the other hand, it should be noted that agricultural buildings such as dairies, slaughter houses, manufactories of candles (*mumhâne)*, and saddleries cannot be seen on the map although the existence of these buildings before the nineteenth century in Bursa is mentioned in the literature.[663] As such, the map is important rather to understand the spaces of industrial production, and trade, as well as religion and other historically significant buildings together with roads showing the connections between the urban core, its periphery, and its environs, and it can only provide limited information about agricultural spaces, which required further sources of information such as archival documents and maps showing the agricultural hinterlands of Bursa.

In the nineteenth century, the hinterlands of Bursa underwent a tide of change with the expansion of the city through the development of the stud farms, the construction of peripheral roads, and the formation of immigrant settlements. As one of the primary occupations for most villagers was farming throughout the century, the main focus herein is to analyze fertile agricultural hinterlands as they shared common architectural components and geographical features. The agricultural hinterlands such as Mihaliç,[664] Kirmasti,[665] Gönen, and Manyas plains were characterized by their fertile lands in producing agricultural goods. **(Figure 4.6)** The shared aim of these agricultural hinterlands was also to transport these goods to the ports of

[663] For detailed interpretations about these agricultural spaces, see: Karademir, Z. (2016). *İmparatorluk Ekonomisinin Can Damarları: Osmanlı Ülkesinde Hayvancılık İşletmeleri (1500-1800).* İstanbul: Libra Kitapçılık ve Yayıncılık.

[664] Currently Karacabey.

[665] Currently Mustafa Kemal Paşa.

Mudanya, Bandırma, and Gemlik as well as to the city center and other Anatolian cities.

The architecture of stud-farms and agricultural schools will be mainly studied in this part of the chapter in order to understand the spatial characteristics of agricultural production. As these buildings were constructed as complexes, their location, scale and site arrangement will initially be discussed. The architecture of each agricultural building will also be interpreted. Since the appearance of agricultural hinterlands was mainly transformed through the establishment of villages for immigrant farmers, the process of the settlement of immigrants in agricultural hinterlands according to the settlement policy of the state will also be evaluated.



Figure 4.6 The agricultural hinterlands in the vicinity of Manyas and Apolyont Lakes and the towns of Mihaliç and Kirmasti.
Source: Presidential Ottoman Archive, HRT h 547-1 and HRT h 547-2; two pieces of maps are merged by the author.

4.2.1 Sites of Agricultural Buildings

The modernization of education was realized by changes not only in the urban core, but also in its periphery, and hinterlands. The most significant contribution of the state for the development of agriculture was to organize agricultural education through the establishment of agricultural schools with model farms, and stud farms (*hârâ*s) and to enact regulations on agricultural education while large farms, immigrants, and the development of transportation were effective in the introduction of new agricultural equipment and technology.[666]

The location of the schools located in the city can be compared with the Agricultural School located in the hinterlands. Unlike the central location of educational buildings such as *Mekteb-i Sanayi* (the Industrial School), Bursa *Harir Darü't Tâlimi* (the Institute of Sericulture), *Mekteb-i Fünûn-i İdâdi* (Işıklar Military School), and *Dar'ül Muallimin* (Teachers' Training School for Boys), some of which were located on the hillsides to the south of İpekçilik Street in the center of Bursa, the Agricultural School was located in Karaman village on the Mudanya road extending towards the city edges.[667] For instance, the first modern educational institution, Işıklar Military School was established by the state, and it was later built on a hill dominating the city in the upper parts of Namazgâh.[668] On the other hand, the Agricultural School was constructed on Mudanya road beyond the periphery of Bursa, as mentioned above. The site of the school, comprised of 26000 square-meters land on Mudanya-Bursa road, was owned by Topal Mehmet Agha, who could not pay his debt, tithe, and thus put the land on sale, but could not sell it.[669] In the end, the land was sequestrated by the state in 1890 in order to train employees for the agricultural sector.[670]

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[666] Tekeli & İlkin, 1993, pp. 131, 132.

[667] Tekeli, 2007, p. 83.

[668] Avcı, Yasemin. (2016). *Osmanlı Hükümet Konakları Tanzimât Döneminde Kent Mekanında Devletin Erki ve Temsili.* İstanbul: Tarih Vakfı Yurt Yayınları, p. 77.

[669] Koca, F. D. (2010). Bursa Tarım Meslek Lisesi. In Elbas, A. & Erdönmez, A. (Project Coordinators). (2010). *Bursa'nın Köklü Eğitim Kurumları Bursa Ziraat Mektebi.* Bursa: Bursa Büyükşehir Kitaplığı, p. 23.

[670] Ibid.

In addition to the Agricultural School located on Mudanya road, the hinterlands were rather occupied by farms lands including various types of agricultural buildings. The farms and farm buildings in Mihaliç *Çiftlikât-i Hûmâyun* played a significant role not only in horse breeding, but also in the increase in agricultural production as well as the implementation of new agricultural methods to contribute to the modernization of the Ottoman Empire. The Institute of Sericulture was the primary agent of the nineteenth century raw silk production in Bursa while Hüdâvendigâr Agricultural School with the annex of Hamidiye Model Farm and Mihaliç *Çiftlikât-i Hûmâyun* were the agents of the nineteenth century agricultural production in the city.

As unique examples, studfarms, are worth to be studied in detail. Before Mihaliç *Çiftlikât-i Hûmâyun* (Stud farm), the cases of stud farms in Çifteler and Sultansuyu are discussed in this section in order to understand the shared features and common decisions on the site arrangements of the stud farms.

Before the idea of the establishment of *Çiftlikât-i Hûmâyun*s (studfarms), the need for horses in the army was met in the regions engaged in horse breeding.[671] Meanwhile, fertile lands located in the south of the Marmara Sea, in Kirmasti and Mihaliç, did not only serve for husbandry but also for agriculture. The establishment of farms for horse breeding dated back to the seventeenth century in Europe.[672] In the Ottoman era, several farms were established in order to supply horses for the army and to cater for goods. In time, horses were also provided by local farmers and through the export from Europe in the nineteenth century. In the previous centuries, the function of the stud farms had been carried out by *Hayvanat Ocakları Teşkilatı* (a kind of zoological center) and barns in the palace and the Anatolian provinces.[673]

[671] Yaşayanlar, İ. (2015). 19. ve 20. Yüzyıllarda Kirmasti ve Mihaliç Kazalarında At Yetiştiriciliğine Dair Veriler. *Osmanlı Tarihi Araştırma ve Uygulama Merkezi (OTAM) Dergisi,* No: 37, p. 381.

[672] Ertuğrul, Z. (2015). Osmanlı'dan Cumhuriyet'e Eskişehir Çifteler Harası Yapıları. *The Journal of International Social Research,* Vol. 8, No: 38, p. 510.

[673] Ibid., p. 502.

With the change in the status of *mîrî* (state) land and the timar system (land tenure) in the nineteenth century, horse breeding also needed to be reorganized.[674] Thus, the state established *Hârâ-yı Hûmâyun*s (studfarms) in order to supply horses for the newly organized army[675] and to improve the process of horse breeding.[676] Although some of *Çiftlikât-i Hûmâyun*s had already been established in the previous centuries, these farms were reorganized as *Hârâ-yı Hûmâyun*s, and new ones were also established in the nineteenth century. Moreover, the farms were the fundamental places where new agricultural machines and techniques were introduced and implemented. Agricultural hinterlands in different provinces were governed as pasha and palace farms with the name of *Çiftlikât-i Hûmâyun* through a decree issued by Abdülhamit II in 1881.[677] *Hârâ-yı Hûmâyun*lar *Nezâreti* (the Ministry of the Imperial Studfarms) was also established in the time of Abdülhamit II with the emphasis on the significance of the studfarms.[678] After the Ottoman-Russian War of 1877-78, Abdülhamit II established *Hârâ-yı Hûmâyunlar Nezâreti* to solve the problems of inadequacy in soldiers and horses.[679] The studfarms, covering an expanse of land that included Mihaliç in Bursa, Çifteler in Eskişehir, Ceyhan in Çukurova, Sultan Suyu in Malatya, and Veziriye in Bağdat, were also established.[680] **(Figure 4.7, 4.8, 4.9,** and **4.10)** Meanwhile, studfarms were also established in Göksu, Kandilli, Hekimpaşa, and Çavuşbaşı in the time of Selim III for raising horses.[681] In 1896, *Mercimek Hârâsı* was established in Ceyhan to develop livestock farming.[682] The farms in Çifteler, Sultan Suyu, Çukurova, and Veziriye, which had been the farms of the

[674] Köksal, O. (2009). Osmanlı Dönüşüm Sürecinde Bir Devlet Teşebbüsü Olarak Çifteler Hara-yı Hümayunu ve Türk Atçılığına Katkıları. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi,* 10(2), p. 333.

[675] Within the framework of *Nizam-i Cedid* enacted by Selim III and Mahmud II reforms.

[676] Ibid.

[677] Çubukçu, M. & Ersöz, H. (2014). *"Gazi'nin Tayları" Çiftlikât-i Hûmâyun'dan Tigem'e Karacabey Harası.* Bursa: Nilüfer Belediyesi Yayınları, p. 24.

[678] Ertuğrul, 2015, p. 502.

[679] Köksal, 2009, pp. 341, 342.

[680] Yaşayanlar, 2015, p. 382.

[681] Ertuğrul, 2015, p. 502.

[682] Tekeli & İlkin, 1993, p. 132.

Imperial Treasury before 1909, were transferred to *Maliye Nezâreti* (Ministry of Finance) in 1909.[683]

Çifteler *Çiftlikât-i Hûmâyun*, as the first intervention of the state to establish studfarms, was established as a large studfarm in 1815 between Mahmudiye and Çifteler districts and administered by local people until 1830, and the directors of the studfarm were assigned from the center in 1834.[684] With the immigration that took place after 1850, the territories of the studfarm were expanded.[685] Due to the inadequacy of animals for the army during the Ottoman-Russian War of 1877-78, Abdülhamit II transferred the management of the studfarm to Çifteler *Hârâ-yı Hûmâyunlar Nezâreti* (the Ministry of Studfarms) and reorganized the studfarm as Çifteler *Hârâ-yı Hûmâyun* in 1886.[686] Although livestock farming and agricultural production were some of the undertakings in the studfarm, the main endeavor was horse breeding and its rehabilitation.[687] Meanwhile, barns had been constructed as single buildings before the eighteenth century at the palace and utilized within the timar system.[688] With the change in Europe by the eighteenth century, a complex type of farm buildings started to be constructed in the Ottoman Empire as well.[689] The studfarm, Çifteler *Hârâ-yı Hûmâyun*, also included an administrative building, a mosque, a hospital, barns, storages, and various military buildings.[690] **(Figure 4.7)** The *mîrî* (state) lands around the Eskişehir region were also suitable for horses coming from Iraq, Syrian, and Arabian lands.[691] The branches of this studfarm were also established in Mahmudiye, Aziziye, Tatar Höyük, Mandıra, Eminekini,

[683] Erdem, S. (2017). Osmanlı Devletinden Cumhuriyete Kalan Miras: Sultansuyu Harası. *Ankara Üniversitesi Türk İnkilap Tarihi Enstitüsü Atatürk Yolu Dergisi,* No: 61, p. 148.

[684] Ertuğrul, 2015, p. 503; Köksal, 2009, p. 333; Yaşayanlar, 2015, p. 382.

[685] Doğru, H. (1989). XX. Yüzyıla Girerken Eskişehir'de Kaza ve Belediye Yönetimi ile Nüfus Hareketi. *Anadolu Üniversitesi Fen-Edebiyat Fakültesi Dergisi,* Vol. 2, No: 1, Eskişehir, p. 189.

[686] Doğru, 1989, p. 503; Köksal, 2009, pp. 333, 341, 342; Ertuğrul, 2015, p. 502.

[687] Köksal, 2009, p. 333.

[688] Ertuğrul, 2015, p. 509.

[689] Ibid.

[690] Ibid., p. 503.

[691] Köksal, 2009, p. 336.

Ağlıdere, İhsaniye, and Kütahya in those years.[692] Around 1855, infrastructural facilities and rehabilitation practices such as the construction of agricultural equipment factory, mills near Sakarya River, a dairy to raise the income from milk production, brooders[693] to produce winged animals, new farm buildings to improve horse breeding, and a hospital to improve the health conditions of the army were conducted in order to raise income in the studfarm.[694]



Figure 4.7 *Çifteler Çiftlikât-i Hûmâyun*, including the buildings such as bath, hospital, barns for horses, and military barrack (from right to left).
Source: Milli Saraylar K-245, Album of Studfarms, Çifteler in Kütahya Sandjak, Sultansuyu in Malatya Sandjak, Çukurova in Adana Vilâyet, Vezîriyye in Baghdad Vilâyet, (1320H.) 1902/1903, prepared by the inspector, Fuâd Bey.

[692] Köksal, 2009, p. 342. During the years between 1884 and 1890, Colonel Vahid Bey established the Tatar Höyük and İhsaniye branches, expanded the Aziziyye branch building with new foal yards, and consolidated the Mahmudiye Studfarm by the construction of agricultural equipment factory (Köksal, 2009, p. 346).

[693] Brooder: "a house for the rearing of young chickens and other birds" (dictionary.com).

[694] Köksal, 2009, p. 355. Additionally, the construction of İzmit-Eskişehir-Ankara railway between 1889-1894 facilitated the transportation of foals from the studfarm to the Alpu station, and to İstanbul (Köksal, 2009, p. 343).



Figure 4.8 Çifteler *Çiftlikât-i Hûmâyun*.
Source: Milli Saraylar K-245.



Figure 4.9 Sultan Suyu *Çiftlikât-i Hûmâyun*.
Source: Milli Saraylar K-245.



Figure 4.10 Vezîriyye *Çiftlikât-i Hûmâyun.*
Source: Milli Saraylar K-245.

The studfarm, Sultan Suyu *Çiftlikât-i Hûmâyun*, was established in 1865 on Malatya-Kayseri road in the west of Malatya under the rule of the governor of the Elazığ province, Hacı İsmet Pasha, with the decision of Sultan Abdülaziz[695] in order to prevent turmoils and banditry near Akçadağ district, Malatya.[696] Therefore, the Aziziyye and Hamidiye barracks were also built in the studfarm to provide permanent inhabitation for the army and to prevent banditry in the region.[697] Sultan Suyu Stream was also present at the low-lands of the center in the studfarm.[698] Another aim behind the establishment of the studfarm was to raise animals that existed in a vast area covering Malatya, Syria, Iraq, and Caucasus.[699] Animal breeding would also be a significant attempt for the rehabilitation of cattle and

[695] In 1888/89, the name of studfarm was changed from Sultan Suyu *Çiftlikât-i Hûmâyun* to *Hârâ-yı Hûmâyun* (Erdem, 2017, p. 148).

[696] Sorular ve Cevaplar Sultansuyu Harasının Arazi Durumu Hakkında. (1952). *TBMM Tutanak Dergisi,* Meeting: 8, Vol. 18, Term: IX. Açık Arşiv Yayını. B: 13 5.12.1952 0:1, p. 114; Erdem, 2017, p. 147.

[697] Sorular ve Cevaplar Sultansuyu Harasının Arazi Durumu Hakkında. (1952); Erdem, 2017, p. 148.

[698] Sorular ve Cevaplar Sultansuyu Harasının Arazi Durumu Hakkında. (1952).

[699] Erdem, 2017, p. 145.

horses. Based on an archival document,[700] Erdem (2017) states that farming was not possible particularly because the area between Malatya and Akçadağ was registered as waste *(mevat)* land and there had been bandits in the region before the establishment of the studfarm.[701] The studfarm was comprised of fifty-two villages including barracks, mills, houses, vineyards, country houses, roads, swamps, and the areas full of trees.[702] With the establishment of a sales branch and a branch store in the Gürün district of the Sivas province, Osmandede farm including Osmandede and Salyurt plateus was made a part of Sultan Suyu *Çiftlikât-i Hûmâyun*.[703]

Sultansuyu *Çiftlikât-i Hûmâyun* in Malatya, including Tohma and Sultan Suyu Streams, Hamidiye and Aziziyye barracks, and barns that were suitable for 400 kinds of horses, was used for raising cavalry[704] horses.[705] Contrary to the Çifteler Studfarm that was not suitable for horse raising, the Sultan Suyu Studfarm was suitable not only for horse-breeding but also for building an agricultural school and a model farm.[706] According to the archival documents presented by Erdem (2017), there were various plans and regulations to be enacted in the studfarm.[707] These were: (1) the establishment of schools, (2) the transfer of the studfarm completely to a stud farm, (3) the lease of the studfarm for the complete rehabilitation of horse breeding by *Harbiye Nezâreti* (Ministry of Military Affairs), and (4) the construction of storages to encourage local people to breed animals.

The shared feature of these three stud farms, Çifteler in Eskişehir, Sultansuyu in Malatya, and Mihaliç in Bursa, was that they were all constructed initially as a stud farm in order to raise horses in the Ottoman Empire. At first, the primary

[700] BOA. Y. MTV. 00054/00033, 30 Ağustos 367 / 11 Eylül 1891 (quoted from: Erdem, 2017).

[701] Erdem, 2017, p. 147.

[702] Sorular ve Cevaplar Sultansuyu Harasının Arazi Durumu Hakkında. (1952).

[703] Ibid.

[704] Cavalry: "the part of a military force composed of troops that serve on horseback" (dictionary.com).

[705] Erdem, 2017, p. 148.

[706] Ibid., p. 149.

[707] Ibid.

consideration of the studfarms was horse and sheep breeding while agricultural production was not their main consideration. Among these studfarms, particularly the Mihaliç Studfarm was constructed not only to raise horses **(Figure 4.11, 4.12,** and **4.13)** but also to provide income for *Hazîne-i Hâssa* (the Imperial Treasury), to produce fleece wool for broadcloth production as well as to supply foods such as milk, meat, and oil for the palace.[708] Similarly, the studfarms were suitable not only for the training of horses but also for agriculture to feed animals as well.[709] Additionally, as understood from many archival documents, the farms in *Çiftlikât-i Hûmâyun* were fertile lands in terms of agricultural production. Meanwhile, the sites in the hinterlands of Bursa were the most suitable places for agriculture and animal breeding as they included meadows, pastures, woodlands, forests, mineral water, and the Hanife Stream as an arm of Simav River crossing Poyrazbahçe and Çeribaşı and they also had mild climate.[710]

[708] Çubukçu & Ersöz, 2014, p. 25. Çubukçu & Ersöz refers to an information given by *Karacabey Tarım İşletmesi Müdürlüğü.*

[709] *Ziraat Vekaleti Karacabey Harası 1924-1938*. (1938). Maarif ve Derleme Müdürlüğü.

[710] Kiper, M. A. (Prep.). (1973). *The Foundation Aim of the Karacabey Stud and Its Present Status.* İstanbul: İstanbul Matbaası.



Figure 4.11 The buildings in Çifteler Studfarm.
Source: İhsan Abidin [Akıncı]. (1917/2017). Osmanlı Atları. (Prep.). T. M. Türkmenoğlu. İstanbul: Milenyum Yayınları (from Çifteler Studfarm Collection).



Figure 4.12 Diverse horse races.
Source: İhsan Abidin [Akıncı], 1917/2017, (from Çifteler Studfarm Collection).

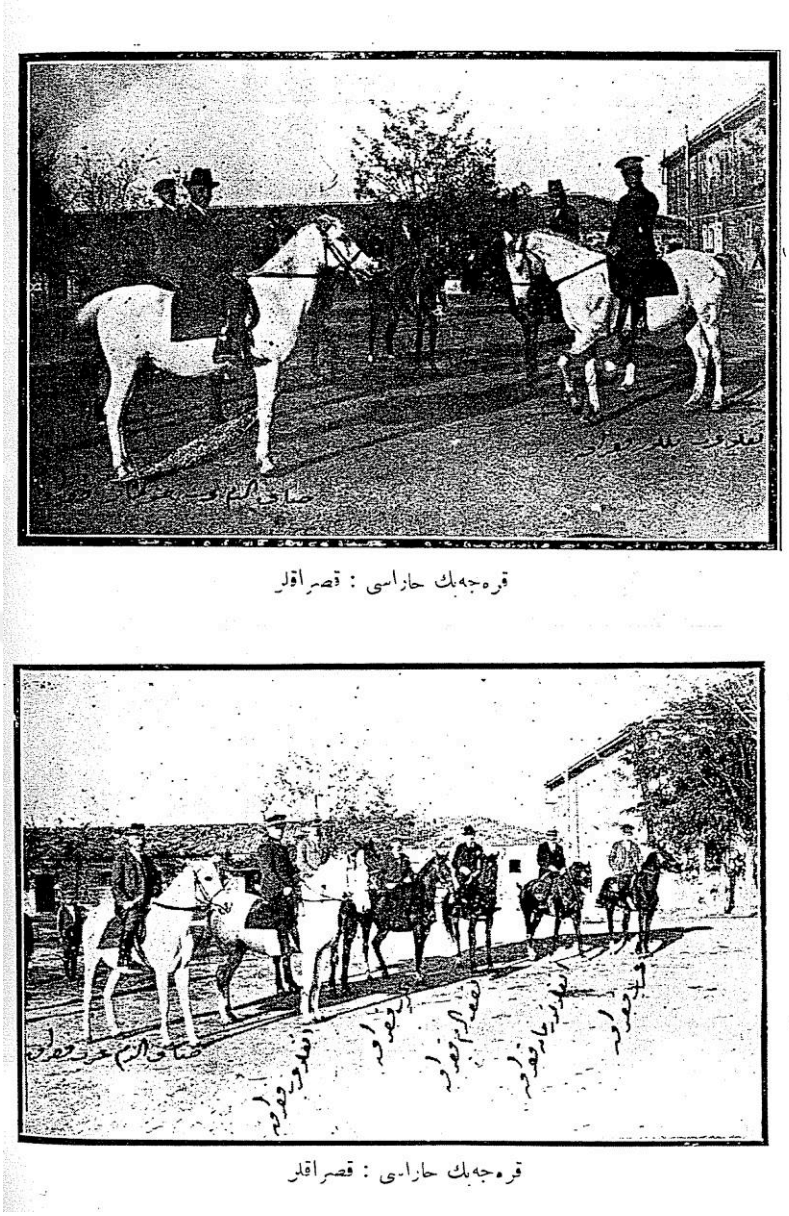


Figure 4.13 Mares in Mihaliç *Çiftlikât-i Hûmâyun* (Studfarm).
Source: *Bursa Vilâyeti Salnâmesi,* 1927, *Bursa Vilâyeti Matbaası,* p. 204.

Mihaliç *Çiftlikât-i Hûmâyun* (studfarm) was initially established in the age of Sultan Orhan at the beginning of the fourteenth century.[711] According to many sources, the farm in the middle of Mihaliç Studfarm, Ortaçiftlik, was a private farm of Köse Mihal, who presented the farm to Sultan Orhan as a dowry for his daughter.[712] Its

[711] Çubukçu & Ersöz, 2014, p. 15. The studfarm was renamed as *Karacabey Harası* in 1924 after the establishment of the Turkish Republic. It continued to be improved during the later years of the Republic; thus, in the literature, the history of the studfarm was mainly shaped under the title of *Karacabey Harası* with a more focus on its development during the Republican period.

[712] *Ziraat Vekaleti Karacabey Harası 1924-1938.* (1938); *T.C. Tarim Bakanlığı Karacabey Harası Müdürlüğü.* (1968). Bursa: Tarım Bakanlığı. Karacabey Harası Yayınları, No. 1; Çömlekçi, N. (1974).

building process continued in the late years of the nineteenth century. Some buildings, stables, and a canal were being constructed in the years between 1891 and 1894, as understood from an archival document showing the expenses of the whole construction.[713] According to a document dated 17 July 1894, it had already been notified that stone and adobe necessary for the construction of a storage for grain and some other buildings in Mihaliç *Çiftlikât-i Hûmâyun* were to be provided, and the foundation of the buildings was decided to be started.[714] Therefore, the foundations of the constructions of a bakery, mill, storehouse for machines, floor warehouse, place for keeping leather, and store of grains were started. The wages of the master and workers were also demanded to be provided by *Hazîne-i Hâssa* (Imperial Treasury). As understood from the same document, the detailed information about the expenses of the construction of administration and warehouses as well as the information about the buildings that had already been constructed and were to be constructed were expected to be presented by *Hazîne-i Hâssa* after their investigations of the site.

Roughly, Mihaliç *Çiftlikât-i Hûmâyun* was located between the towns of Mihaliç and Kirmasti. Mihaliç studfarm was exactly located on Bursa-Balıkesir-İzmir road and between Simav and Kirmasti Streams, covering an expanse of 100.000 decare land.[715] Because there were wide meadows and plains in these villages, livestock farming was a common activity in the farm.[716] In 1844, there were eight farms under the control of Mihaliç *Çiftlikât-i Hûmâyun*, namely Gerdeme-i Kebir, Gerdeme-i Sagir, Çörekli, Kabaağaç, Melde, Canbaz, Akçasığırlık, and Gönü.[717] As seen in a document dated 1852, *Hazîne-i Hâssa* financed *hârir* (silk) and weaving as well as restoration and repair of *Fabrîkâ-i Hûmâyun* and Mihaliç *Çiftlikât-i Hûmâyun*

Karacabey Harasının İktisadi Kalkınmaya ve Türkiye Hayvancılığına Etkisi. Ankara: Karacabey Harası Yayınları. No: 5.

[713] ML. EEM, 193-81-2-1.

[714] ML. EEM, 193-81-3-1, 2.

[715] *Ziraat Vekaleti Karacabey Harası 1924-1938.* (1938); *T.C. Tarim Bakanlığı Karacabey Harası Müdürlüğü.* (1968); Çubukçu & Ersöz, 2014, p. 21.

[716] Yaşayanlar, 2015, p. 379. Data about breeding horses can be available via *temettuat defterleri* dated H.1261/M.1844 (Yaşayanlar, 2015, p. 380).

[717] Çubukçu & Ersöz, 2014, p. 23; Yaşayanlar, 2015, p. 383.

buildings.[718] The buildings of *Çiftlikât-i Hûmâyun* in the vicinity of Mihaliç and Kirmasti districts were destroyed in the earthquake of 1855, and the finance of their repair were allocated from *Fabrîkâ-i Hûmâyunlar Mal Sandığı* (the Property Chest of *Fabrîkâ-i Hûmâyun*s).[719] Therefore, the role of the state in the agricultural development is apparent not only in the establishment of the studfarms, but also the maintenance of their existence.

The functional considerations were also influential forces in the site planning of the studfarms. The lands were occupied by separate and attached buildings in the margins of agricultural farms considering the necessities of agricultural goods or husbandry. The detached buildings, especially stables and barns as single-story buildings, were horizontally arranged in the studfarms. The scale of farm structures was proportioned according to each other, and the buildings were not huge structures, but modest ones. However, administrative buildings, schools, laboratories, barracks, hospitals, baths, and mosques were larger structures compared to smaller structures such as sheds, stables, barns, granaries, corncribs, storages and other related out-buildings. The buildings in Mihaliç Studfarm at the beginning of the twentieth century were used as office, stable, bakery, mill, and barn.[720] The guest house and the houses of officers were later additions built in the Republican period.[721]

The spaces such as an administrative center, machinery storage, grain storage, and the livestock areas were indispensable functions in the studfarms and new ones could be added to the sites based on the agricultural activity they performed. The main buildings and the out-buildings were located in a close distance to each other as much as possible. Since wind was also a determinant factor in design of the sites of the studfarms, the buildings might have been located on a windless direction to avoid wind flows and to design open spaces effectively. The physical boundaries of the sites were not clearly defined by fencing as seen in the nineteenth century historical

[718] TSMAe 1322 71.

[719] MB.İ. 14 14.

[720] Çubukçu & Ersöz, 2014, p. 42.

[721] Ibid.

photographs. The reason behind the lack of any kinds of fence might be the further expansion of the site towards its environs or the easy movement of horses.

Considering the formation of studfarms, the most significant factors were geographical and economic features such as climate, soil fertility, export of agricultural goods for foreign market, and import of agricultural machines. The site arrangement of studfarms was also influenced by topographical features such as the existence of sloping or flat areas, drainage of the soil, wind control, road access, soil quality, and distances between different functions. A flat topography was preferable for the location of studfarms as it did not require any cutting and filling of the land. The proximity of studfarms to water sources was a prevailing approach for the drainage of the soil. In other words, water proximity was also significant to gain considerable advantages from natural sources. For instance, as seen especially in aerial photos,[722] Çifteler Studfarm was located near Seydi Stream, Sultansuyu Studfarm near Sultansuyu River, and Mihaliç Studfarm on Mihaliç Plain between Manyas and Apulyont Lakes. **(Figure 4.14, 4.15,** and **4.16)** The other main factor that influenced the productivity of a studfarm was the proximity of the site to a peripheral road lying towards the inlands. This proximity was provided to facilitate the ease of access and transportation of commercial goods. Moreover, the studfarms were located away from the settlements so that they could easily extend towards agricultural hinterlands.

[722] Aerial photos are taken from Ankara Harita Genel Müdürlüğü Arşivi (Archive of Ankara General Directorate of Mapping).

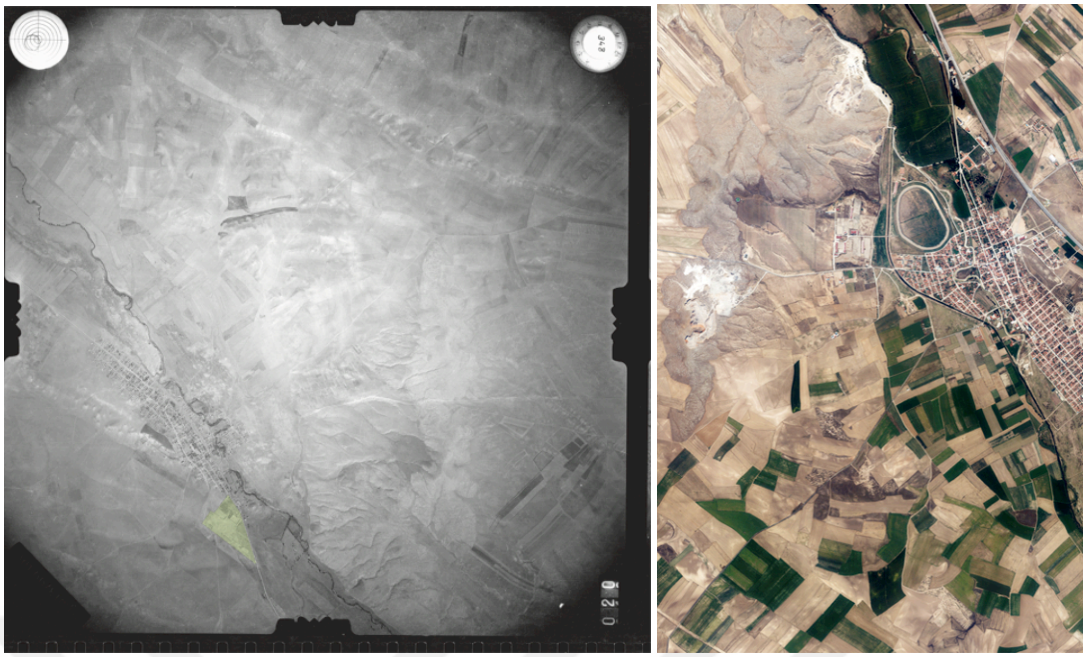


Figure 4.14 Aerial Photos of Çifteler Studfarm; 1951 (left); 2017 (right).
Source: Archive of HGM, Ankara General Directorate of Mapping; marked by the author.

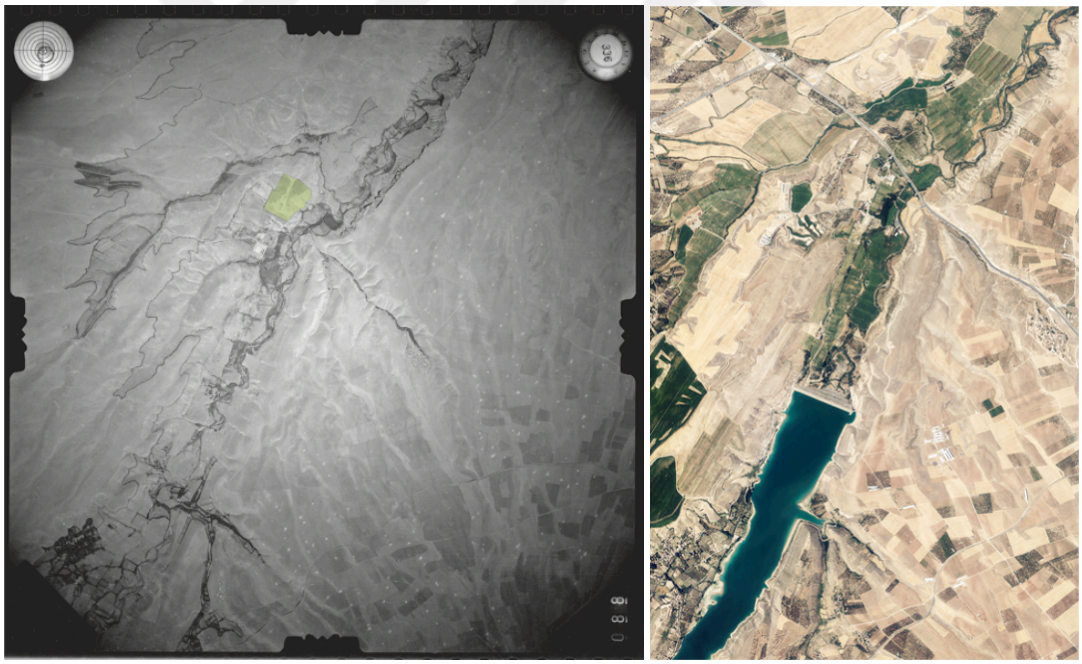


Figure 4.15 Aerial Photos of Sultansuyu Studfarm; 1951 (left); 2017 (right).
Source: Archive of HGM, Ankara General Directorate of Mapping; marked by the author.



Figure 4.16 Aerial Photos of Mihaliç Studfarm; 1943 (left); 2017 (right).
Source: Archive of HGM, Ankara General Directorate of Mapping; marked by the author.

4.2.2 Architecture of Agricultural Buildings

The urban characteristics of the Ottoman provinces could be distinguished mainly through their public buildings constructed in the nineteenth century that had different architectural characteristics than mosques, baths, or commercial areas built in the previous centuries.[723] The nineteenth century reforms arrived in the provinces of the Ottoman Empire through a comprehensive construction of buildings of schools, railways stations, banks, barracks, courthouses, prisons, and governmental and municipal institutions.[724] These buildings mostly represented neo-classical architectural features such as moldings, symmetrical façades, arched windows in different forms, window frames, large eaves as well as triangular pediments and columns emphasizing the entrance. These features also reflected on the architecture of agricultural building complexes, especially on the units of education and administration. Considering the buildings for agricultural education, typical plan layouts were also designed according to the educational program. The agricultural

[723] Boquist, 2010, pp. 80-89.

[724] Hartmuth, 2010, p. 28.

buildings were often constructed in a familiar way to rapidly increase and standardize farm productivity.

Most of the agricultural buildings constructed in the nineteenth century Ottoman provinces also carry similar stylistic architectural features as seen in other contemporary public buildings such as Bursa Işıklar Military School, Industrial School, the Institute of Sericulture, *Kasr-ı Hûmâyun* (Hünkâr Kiosk), and the Municipality, but they were differentiated mainly as buildings for production in the hinterlands. Although there was a change in the function, form, spatial organization, site arrangement, location, and scale of agricultural buildings when compared to the structures of the previous centuries, there was no explicit development in terms of building technology in agricultural buildings constructed in the Ottoman Empire during the nineteenth century.

Architectural representation of agricultural buildings was equally significant as other public buildings such as government houses, government halls, municipalities, hotels, and train stations. Public buildings were constructed not only by foreign investments but by the Ottoman government to affirm the presence and the active role of the Ottomans and the power of the state as the central authority. Since education and institutionalization of knowledge were the main issues taken into consideration in the Ottoman realm, Hüdâvendigâr Agricultural School and Hamidiye Model Farm and the Institute of Sericulture were special constructions aiming at sanitization, modernization and institutionalization of agriculture and sericulture, and the introduction of new agricultural techniques and farming in the hinterlands of Bursa.

Resembling other nineteenth century public buildings such as train stations and schools, the buildings in the agricultural school complexes were similarly designed particularly in terms of mass and façade compositions. Meanwhile, as many public buildings constructed in the nineteenth century and designed in the neoclassical style, the shared architectural features of these farm buildings can be observed especially through the pendantives at the top of the entrance having a drop arch.[725] **(Figure**

[725] Ertuğrul, 2015, p. 510.

4.17) The detached two-storey buildings were arranged in quadrangles within the Hüdâvendigâr Agricultural School complex. **(Figure 4.18, 4.19)** The buildings, designed on a rectangular plan, had a modest appearance with some distinct architectural features on the façades, such as pilasters, projectings, saddle roof with eaves, and a row of windows with frames. The interior of the main building was divided into two sections by a central entrance hall. The staircase in the middle of the hall leading to the upper floor was elaborately designed. **(Figure 4.20)** Similarly, the Municipality Building built in 1879 was also a remarkable example with its exterior staircase ascending to a recessed vestibule towards a central space in the interior space.[726] An elaborately designed staircase ascending to the upper floor that resembles a typical Turkish house was also located in the middle of the interior space of the Municipality.[727] A similar staircase in the main building of Agricultural School can also be seen in Hünkâr Kiosk and *Kasr-ı Hûmâyun* unit in the site of *Fabrîkâ-i Hûmâyun.*



Figure 4.17 North Elevation of the main building.
Source: The author's photo, 2017.

[726] Saint Laurent, B. (1994). Ottoman Power and Westernization: The Architecture and Urban Development of Nineteenth and Early Twentieth Century Bursa. *Anatolia Moderna Yeni Anadolu V.* Institut Français d'Etudes Anatoliennes d'Istanbul, p. 220.

[727] Ibid.



Figure 4.18 Classrooms and dormitory units in the complex of Hüdâvendigâr Agricultural School.
Source: The author's photo, 2017.



Figure 4.19 North Elevation of Classrooms and dormitory units in the complex of Hüdâvendigâr Agricultural School.
Source: Elbas & Erdönmez, 2010 (photos dated 1957-58).



Figure 4.20 Staircases in the main building of Hüdâvendigâr Agricultural School.
Source: The author's photos, 2017.

Architecture of farm buildings is to be analyzed with reference to the location of buildings, their relationship with the landscape, directions, and distances between different buildings as well as their spatial arrangements, functions, shapes, and sizes. Rather than solving all definite functions in a whole mass building, it was a common practice to include various functions in separate buildings, which is seen not only in agricultural education buildings but also in agricultural buildings in the studfarms. The buildings comprised of masses were simply designed according to fundamental additive and subtractive formation design principles without including advanced semi-open space use. In this regard, only the vestibules as transition spaces between the outdoor and the interior spaces can be regarded as semi-open space. When architectural components of the historical buildings are considered, these complexes of agricultural buildings constructed in the nineteenth century were almost deprived of semi-open spaces such as courtyards, porticoes, and colonnaded arcades. Although planned as an educational complex, Hüdâvendigâr Agricultural School was deprived of semi-open spaces; but the buildings on the site were rather designed as single structure and located at right angles to each other without providing three-dimensional spatial experience.

Functions of buildings had a decisive role in the site arrangement of agricultural schools. In Hüdâvendigâr case, the administration building and the U-shaped education building were grouped around a yard and were located facing one another.

The laboratories were located near this group of buildings, **(Figure 4.21, 4.22)** and stables were located a little away from these buildings towards the model farm. The layout of all the buildings was regularly planned. The education and administrative related buildings in the site were designed in a neoclassical style and were located parallel or in a close proximity to the main road, while the stables were single storey and standard buildings, which were located at the backstage in the margin of the site. **(Figure 4.28, 4.29,** and **4.30)**



Figure 4.21 The spaces for raising silkworms *(böcekhâne)* in the complex of Hüdâvendigâr Agricultural School.
Source: İstanbul University Rare Collections Library, 90248-9.



Figure 4.22 Recent photographs showing spaces for raising silkworms *(böcekhâne)* in the complex of Hüdâvendigâr Agricultural School.
Source: The author's photos, 2017.

The site of Hüdâvendigâr Agricultural School, one of the remarkable cases of agricultural school complexes of the nineteenth century, was consisted of buildings serving as places of teaching, administration, and sericulture with the annex of greenery areas and a cultivation land. **(Figure 4.26)** The complex included laboratories and training areas in the fields of dairy production and sericulture as well as a model farm as seen in the sites of other agricultural schools in the Ottoman provinces. Contrary to the monumental historical buildings, the scale of buildings in this complex was moderate in the sense that the buildings were designed in a linear and horizontal form, contributing to the landscape formation in wide fields. The main two buildings designed in a symmetrical plan were located alternatively. Another building located on the right-hand side of these two buildings was a linear building including laboratories and defined a way towards agricultural fields surrounded by stables.

The main axis of the agricultural school complex, perpendicular to the main road, was aligned with an emphasis on the main entrance. As seen in most of the public buildings constructed in the nineteenth century, the main building was surrounded with three outer spaces, i.e. (1) a path way connected to the main road that was perpendicular to the path and the building, (2) the garden around the building, (3) and the vestibule functioning as the entrance. **(Figure 4.27)** The vestibules, as also mentioned before, defined by slight columns at two sides and staircases were moderate semi-open transitional spaces between the outside and the interior space, which were not monumental entrances. For example, the main building of Agricultural School in Bursa had also a vestibule. The educational building of the school contained two floors, each having classrooms. **(Figure 4.23, 4.31)** The main buildings included administration and dorm units. **(Figure 4.24)**

Besides, the renovation of the agricultural schools also became an issue in the late nineteenth century, which was presented as an urgent necessity in a document dated 1892 that especially mentioned Hüdâvendigâr Agricultural School.[728] As also mentioned in another document dated 1892, the investigations concerning the rehabilitation of Hüdâvendigâr Agricultural School and the administration of the

[728] Y.A.HUS 266:152 (1310 H.).

farm were to be carried out by *Ticaret ve Nâfia Nezâreti* (the Ministry of Commerce and Public Works).[729] According to the same document, this issue was notified by Bursa *Ziraat Mektebi Nâzırı* (the Minister of Agricultural School) Mehmet Halis to Bâb-i Âli (sublime porte) after discussed in *Mabeyn-i Hûmâyun* (the palace).

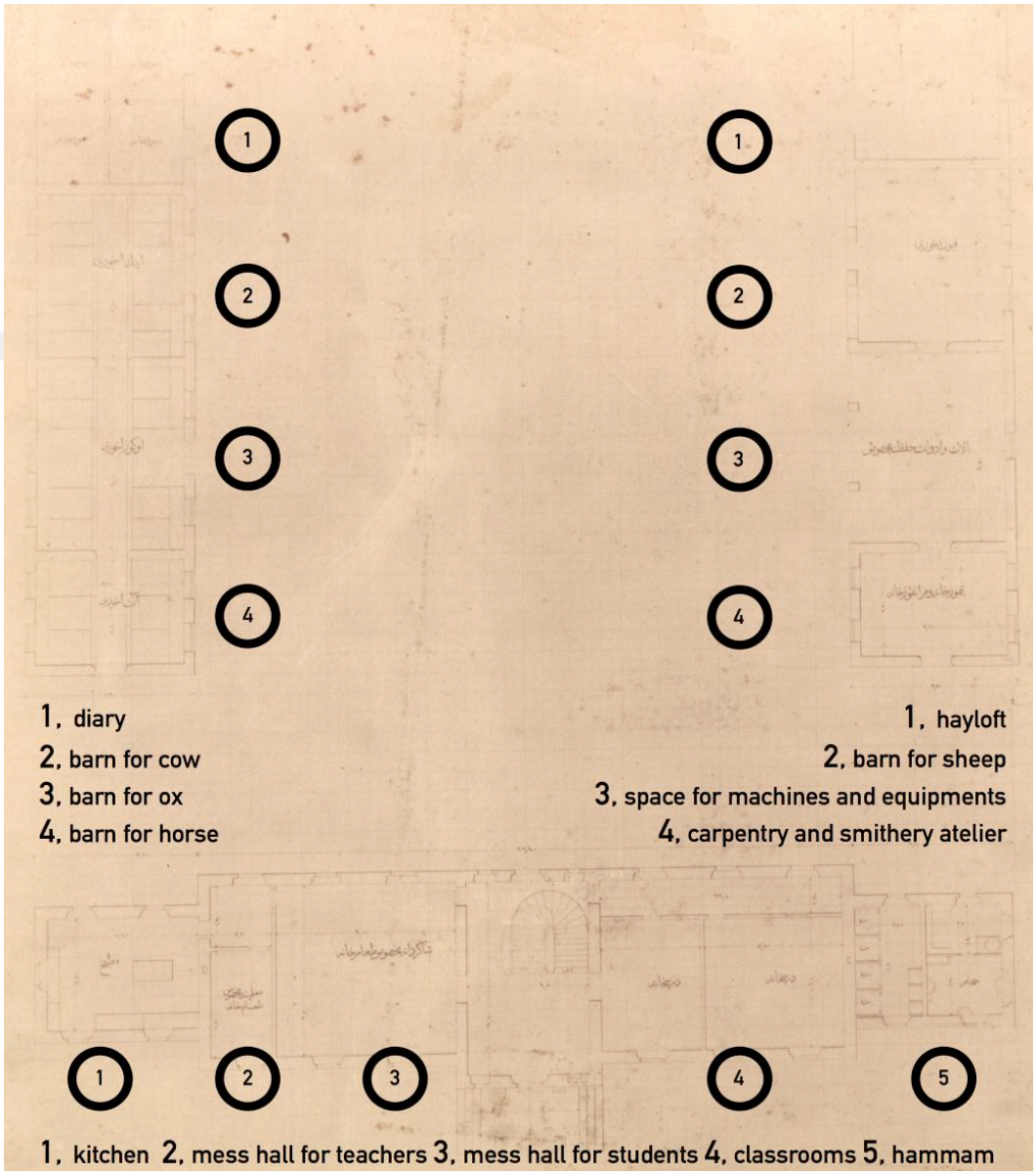
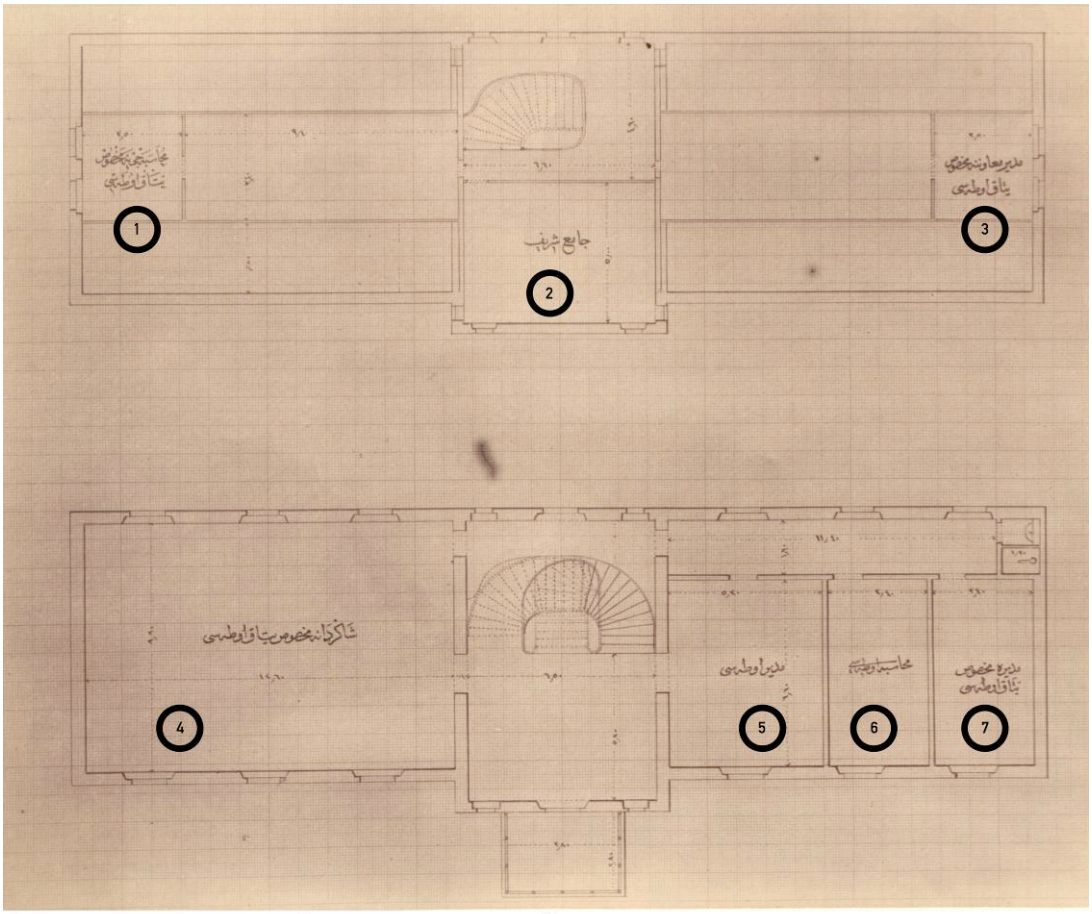


Figure 4.23 The plan showing education building and the spaces of livestock in the complex of Hüdâvendigâr Agricultural School.
Source: İstanbul University Rare Collections Library, 90852-29.

[729] BEO, 55-4059-1-2.



1, dorm room for accountant 2, cami-i şerif (mosque) 3, dorm room for assistant principal
4, dorm rooms for students 5, office of director 6, office of accountant 7, dorm room for director

Figure 4.24 The plan showing the units of dormitory in the complex of Hüdâvendigâr Agricultural School.
Source: İstanbul University Rare Collections Library, 90852-30.

According to an archival document, as the enlargement of the school became a necessity in 1918, the land including a mill and its annex possessed by Yenişehirli Ahmed Efendi was expropriated by the state on the behalf of the public.[730] Although he did not accept the expropriation, *Meclis-i İdare-i Vilayet* (Administrative Council of Province) decided to expropriate the land according to the matters of *İstimlâk Kararnâmesi* (Decree of Expropriation) with a promise to pay a deposit relying on the decree of the sultan about this issue. The disputes over the costs for the expropriation of the land in the vicinity of Hüdâvendigâr Agricultural School caused the reevaluation of the issues.[731] While the lawsuit was in progress, the

[730] DH. UMVM. 76-22-1-1.

[731] DH. UMVM. 76-22-3-1.

implementation of the expropriation was therefore postponed for a period of time. Another petition addressing the *Dahiliye Nezâreti* (the Ministry of Internal Affairs) and presented by Yenişehirli Ahmet Efendi, the owner of the land, mentioned some objections accounting for some discrepancies between the matters of *İstimlâk Kararnâmesi* and the public interest. However, it is stated in the document that the solution would be under the responsibility of the court and the problem would be resolved by only relying on the *İstimlâk Kararnâmesi*. All the problems were settled in the court and the last decision on the implementation of the expropriation would be affirmed by *Meclis-i İdare-i Vilâyet*, relying on the *İstimlâk Kararnâmesi*, and all the objections against the decisions should be notified to *Şura-yı Devlet* (the Council of the State).

Besides, as understood from the correspondences between the governor of Ankara and *Orman, Maadin, ve Ziraat Nezâreti* (the Ministry of Forestry, Mining, and Agriculture) in 1907, the agricultural schools in Selânik and Bursa, which had been built prior to the school in Ankara, became a model for the school in Ankara[732] in terms of facilities and the equipment they included.[733] For instance, as understood from an archival document dated 1905, having taken the schools in those cities as models, a dairy was also demanded to be built in the agricultural school of Ankara.[734] Although there were almost one and half million animals giving milk in the Ankara province *(vilayet)*, the owners of animals were not knowledgeable enough about to produce cheese and butter.[735] Therefore, it was impossible to benefit sufficiently form milk production. For that reason, *Dahiliye Nezâreti* (Ministry of Internal Affairs) contacted the Ministry of Forestry, Mining, and Agriculture to initiate and

[732] In order to achieve modernization in the field of agriculture, *Çoban Mektebi* was also constructed in Ankara. The construction of the Numune Farm and *Çoban Mektebi* in 1898 was also one of the precautions taken in order to improve particularly goat breeding and angora mohair production in Ankara (François, G. (1999). Keçi Kılından Kalpağa: Osmanlı İmparatorluğu'nun son yüzyılında Ankara'nın Gelişimi. In P. Dumont & G. François (Eds.). *Modernleşme Sürecinde Osmanlı Kentleri.* (Trans.). A. Berktay. Istanbul: Tarih Vakfı Yurt Yayınları, p. 106). The model farm and *ağıl* were later transformed into *Ziraat Ameliyat Mektebi* in 1907 (DH. MKT, 993-62-4-1).

[733] DH. MHT. 993-62-5-2.

[734] DH.MKT, 993-62-1-2.

[735] Ibid.

promote the establishment of a diary within the model farm.[736] The money necessary for the construction of the diary in Ankara, the supply of the equipment for the diary, and all the other expenses for the education would be funded by the savings of the farm, which had previously been invested to the Ottoman Bank.[737] Therefore, the construction of a diary in the model farm and the equipment could be afforded by the Ottoman Bank.[738] The education would cover the training for the production of diverse kinds of cheese as well as cream and butter, and this process would also contribute to the increase of farm income.[739] In reply to *Dahiliye Nezâreti*, the governor of the Ankara Province also emphasized that, although there were many animals to produce milk, it was difficult to benefit from them due to lack of knowledge to produce cheese and butter.[740] In the same document written on 17 July 1905, the training necessary for the production and the establishment of the diary was also encouraged by the governor, and this was notified to the sultan.

Agricultural machines necessary for the model farms of the complex of agricultural education in Bursa and Ankara were also imported from Europe, as seen in an archival document showing the official approval customs for two agricultural machines to import from Europe in 1894.[741] The document addressing the Ministry of Forestry, Mining, and Agriculture, it was demanded to transfer two agricultural machines necessary for the model farms of Bursa and Ankara from the customs without tax.

Contrary to Hüdâvendigâr Agricultural School, as understood from the photograph taken from Ankara *Çoban Mektebi*, **(Figure 4.25)** education was more based on

[736] DH.MKT, 993-62-1-2.

[737] Ibid.

[738] The equipment necessary for training in the diary was centrifugal machine *(santrifüj makinası)* to produce cream from milk, copper cauldron *(bakır kazan)* to heat milk, 40 litres Denmark churn *(yayık)* for extracting butter from cream and yoghurt, mixer *(malaksör)* for salting and separating butter and buttermilk, and molds *(kalıp)* for butter and cheese. (Detailed information about the equipment necessary for the diary to be constructed in Ankara Model Farm is derived from an archival document coded as DH.MKT, 993-62-1-2).

[739] DH.MKT, 993-62-1-2.

[740] DH.MKT, 993-62-3-1.

[741] BEO, 502-37641-1-1, 2.

practice rather than theory. As also mentioned above, the aim of the training activities in the diary in the model farm in Ankara was also to educate the cattle owners in the city, as understood from a document dated 1907.[742] There were a few school buildings with inadequate number of classrooms, yet the abundance of training areas such as model farms and stables not only as animal shelters but also as practice areas indicated the practical basis of agricultural education.

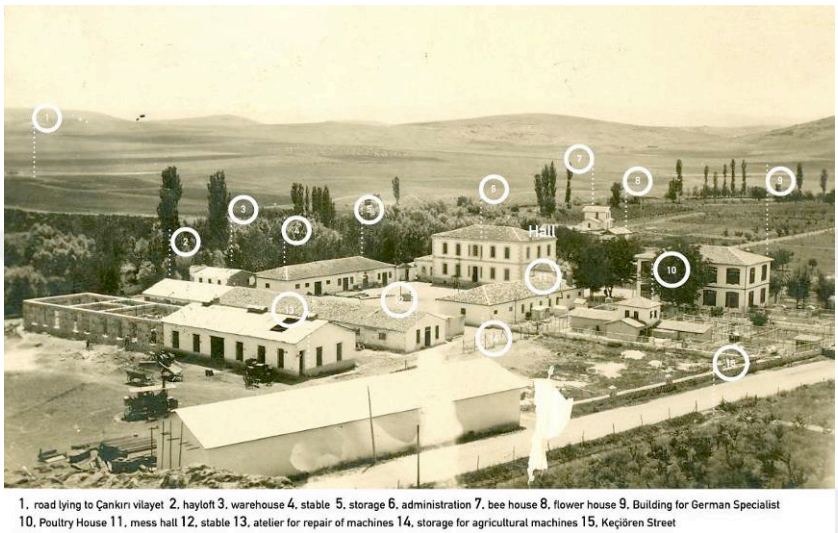


Figure 4.25 Ankara *Çoban Mektebi*.
Source: the Archive of VEKAM, 1492; the legand is prepared by the author with reference to a document coded as ACF0461-1 in VEKAM.



Figure 4.26 Hüdâvendigâr Agricultural School.
Source: İstanbul University Rare Collections Library, 90456-1.

[742] DH. MKT, 993-62-4-1.



Figure 4.27 Hüdâvendigâr Agricultural School.
Source: İstanbul University Rare Collections Library, 90456-2.



Figure 4.28 The units of barns and spaces for raising silkworms *(böcekhâne)* in the complex of Hüda1vendigâr Agricultural School.
Source: İstanbul University Rare Collections Library, 90456-3.



Figure 4.29 The agricultural equipment *(âlât-ı zirâiyye)* used in Hüdâvendigâr Agricultural School.
Source: İstanbul University Rare Collections Library, 90456-4.



Figure 4.30 Barns and buildings for storage in Hüdâvendigâr Agricultural School.
Source: İstanbul University Rare Collections Library, 90456-6.



Figure 4.31 The classrooms in Hüdâvendigâr Agricultural School, 1922.
Source: İstanbul University Rare Collections Library, 90456-7.

4.2.3 Villages of Immigrant Farmers

There were two kinds of productive rural areas in the hinterlands, one of which was large farms as large private properties and the other was small settlements developed particularly by immigrants as small land-holdings.[743] For instance, when farm status was given to some villages in Mihaliç, these villages were to be redistributed to the districts and the immigrants were to be settled in these villages.[744] One of the most distinct urban components that shaped the agricultural hinterlands was the buildings necessary for agricultural activities developed by the advent of agricultural machines into the farms and the new agricultural methods brought by immigrants.[745] Therefore, two most significant attempts to extend the hinterlands for farming were the farming that would use agricultural equipment and the settling of new inhabitants to benefit from their labor force. The production of agricultural raw materials for the

[743] Tunçbilek, 1986, p. 71.

[744] Yalazı, Ş. (2016). *Nüfus ve Temettuat Defterlerine Göre 19. Yüzyılda Karacabey'in Toplumsal ve Ekonomik Yapısı.* Avrasya Etnoğrafya Vakfı Yayınları. No: 28, p. 16.

[745] Ibid., p. 271.

world market also changed the formation of the hinterlands in that agricultural hinterlands and plains in the environs needed to be cultivated, which also resulted in the settlement of immigrants in these newly planned hinterlands.[746] **(Figure 4.32, 4.33)**

Bursa experienced immigration waves throughout its history, which made the city a multicultural place. The Crimean War of 1853, one of the significant occurrences that took place in the nineteenth century, caused mass migration until the time when the state arranged places for immigrants to settle in. The immigrants coming from Rumelia, Crimea, and Caucasia after the wars in the 1800s settled in the Mihaliç district.[747] One of large-scale immigrations and correspondingly population increase occurred in Bursa in the second half of the nineteenth century with the Ottoman-Russian War of 1877-78.[748] This resulted in the demographic structure of Mihaliç, which largely consisted of Rumelian population.[749] The compulsory immigrations due especially to the wars also affected the way of agricultural production. For instance, with the population brought by İbrahim Paşa from Egypt and Syria to Adana Plain in the 1830s, new irrigation techniques and Egyptian cotton were also introduced to Anatolia.[750] On the other hand, the Ottoman-Russian War of 1877, leading to the movement of people from the Balkans, also introduced new cultivation technology with plow *(pulluk)* and provided high fertility in the production.[751] Four-wheeled immigrant cars were also introduced and facilitated the distribution of agricultural products.[752]

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[746] Tekeli, 1980/2011, p. 243.

[747] Yalazı, 2016, p. 270.

[748] Kaplanoğlu, R. (2013). Bursa'da Balkan Göçmenleri (Balkan Immigrants in Bursa). In A. F. Örenç & İ. Mazgaltepe (Eds.). *Balkanlar ve Göç – The Balkans and Mass Migration.* Bursa: Bursa Kültür A.Ş., p. 491; Yalazı, 2016, p. 271.

[749] Yalazı, 2016, p. 271.

[750] Tekeli & İlkin, 1993, p. 129; Yenişehirlioğlu, F. (2002). Mersin: The Formation of a Tanzimât City in Southern Turkey. In J. Hanssen, T. Philipp, & S. Weber. (Eds.). *The Empire in the City: Arab Provincial Capitals in the Ottoman Empire.* Beirut and Würzburg: Orient-Institut der Deutschen Morgenländischen Gesellschaft, p. 258.

[751] Tekeli & İlkin, 1993, p.129.

[752] Ibid.

Before the settlement of immigrants in the Ottoman cities in the inlands of the territory, the immigrants had initially transported to the Black Sea ports such as Samsun, Sinop, and İnebolu as well as to the docks such as Giresun, Batum, Akçaabat, and Ayancık.[753] The immigrants were then transported to İstanbul, and to the Anatolian provinces to settle via the ships of Bursa Company and other organizations under the control of *Bahriye Nezâreti* (the Ministry of Marine Affairs) which was affiliated to *Muhâcirîn Komisyonu* (Commission for the Settlement of Immigrants).[754] When İstanbul was exposed to a large scale of migration, *Sadâret* (Prime Ministry) ordered the provinces to make a list of empty and waste lands for the construction of settlement areas.[755] Furthermore, Ferik Muzaffer Pasha, a member of the inspectors in the military council,[756] also prepared a report in 1892 to detect empty lands[757] in the environs of Hüdâvendigâr and Ankara provinces proper for the settlement of immigrants who would be engaged in farming.[758]



Figure 4.32 The map (1313/1895) showing the settlement areas defined by the state for the Georgian immigrants in the site of Hamzaali, in Pazarköy town, in the environs of Bursa; scale: 1/20000.
Source: Presidential Ottoman Archive, HRT 570-1-1-1 and HRT 570-1-1-2; two pieces of the maps are merged by the author.

[753] Demirtaş, M. (2013). Kırım Savaşı Sonrası Göçmenlerin Sevk ve İskanları Esnasında Yaşadıkları Sıkıntılar ve Alınan Tedbirler (The Difficulties in the Mobilization and Settlement of the Refugees After the Crimean War and Measures Taken). In A. F. Örenç & İ. Mazgaltepe (Eds.). *Balkanlar ve Göç – The Balkans and Mass Migration.* Bursa: Bursa Kültür A.Ş., p. 111.

[754] Ibid.

[755] Yalazı, 2016, p. 271.

[756] *Teftiş-i Askeri Komisyon Azası* (a member of Commission for Military Inspections).

[757] *Mîrî* (state) lands.

[758] BEO, 21-1502-6-1.

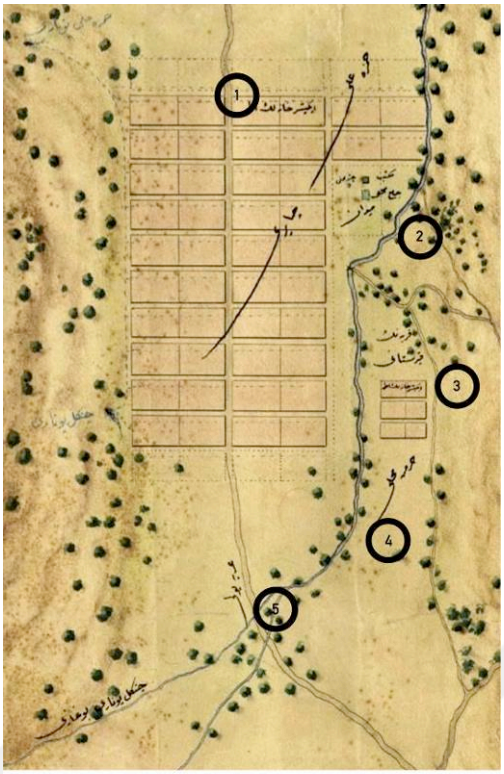


Figure 4.33 The schematic map of the immigrant village; scale: 1/2000.
Source: The partial map is placed on the left top of the map coded as HRT 570-1-1-1 and HRT 570-1-1-2 in the Presidential Ottoman Archive; marked by the author.

According to an archival document dated 1876, the lands lying along the Anatolian Railway that were used as storage to stock grain were proper areas for the settlement of immigrants.[759] According to the same document, there were more than 10.000 houses for settlement, and the loans without installments would also be provided by the Agricultural Bank. Besides, since there were no Bosnian immigrants in that number, Hazergrad, Prevadi, and Rumelian immigrants near Bursa would also be welcomed if they were interested in farming. In time, more proper lands were also allocated for the settlement of immigrants. In 1892, Ferik Muzaffer Pasha ordered that the Bosnian immigrants located along the Anatolian Railway line and the Rumelian immigrants near Bursa living in poor conditions could now be settled in

[759] BEO, 21-1502-5-1.

more proper lands allocated for them.[760] Lands were allocated to immigrants who contributed to the rehabilitation of uncultivated and swamp land so that they could build houses and engage in farming.[761] **(Figure 4.34)** New settlement areas for immigrants were formed by draining swamps and cleaning stream beds in time.[762] Although the establishment of farms dated back to the previous centuries and these settlement areas had already started to be established before the nineteenth century, they became apparent particularly at the beginning of the nineteenth century.[763] The settlement of immigrants also contributed to the new form of the hinterlands. When the immigrants were settled, timber for heating and bread together with some amount of money were to be provided for them, and Agricultural Bank offered to fund these immigrants, expecting them to pay in installments in five years without charging any interest in 1892.[764] However, according to the records of the meeting of Yaver-i Ekrem Şakir Pasha and Muzaffer Pasha with the Sultan, all these aids were not considerable enough. For this reason, new solutions should be offered, and *Ticaret ve Nafia Nezâreti* (the Ministry of Commerce and Public Works) was expected to study this issue. In the afore-mentioned report prepared by Ferik Muzaffer Pasha in 1892, the vicinity of Hüdâvendigâr and Ankara provinces were also displayed as proper lands for the settlement of immigrants.[765]

[760] BEO, 21-1502-1-2.

[761] Yalazı, 2016, p. 273.

[762] Ibid., p. 16.

[763] Tunçbilek, 1986, pp. 71, 72.

[764] BEO, 21-1502-1-2.

[765] BEO, 21-1502-6-1. According to the document: Among the 11.000 houses mentioned in the report, almost 8.620 of them were arranged in the districts of Ankara. However, there were some obstacles such as scarcity and high prices in local products in 1873/74, grasshopper infestation in 1878-79, and drought in 1885-86. These obstacles in front of the settlement of immigrants led to difficulties in the process and a decrease in producing angora in the city. Moreover, the settlement of immigrants would take time, and when they were settled in April, the agricultural season was over. There were also some other difficulties during this settlement process. The trains carrying goods would operate after April, therefore this would result in an increase in the cost of grain. The districts of Ankara were far away from the forests providing timber, which was important as a construction material for houses and stables as well as heating, and the transportation of timber would also be costly. In 1892, Agricultural Bank offered to provide credits for immigrants to overcome with these problems during this process (BEO, 21-1502-6-1). Alternatively, after the train would operate, the seeds and farm animals would also be provided by *Maliye Nezâreti*, and the immigrants could pay their loans to the bank (Ibid.).

The agricultural hinterlands of Bursa were especially chosen for the settlement of immigrants since there was a difficulty in finding proper places to settle the immigrants in other Anatolian provinces. For this reason, the hinterlands of Bursa were valuable settlement areas for immigrants since they could do farming in these places. For instance, in another document dated 13 May 1892, the Eskişehir governor stated that, although some inspections took place in the city to find proper areas such as empty *mîrî* (state) lands for the settlement of immigrants, no proper areas, except Seyitgazi, could be found.[766] As written in the same document, in addition to the Seyitgazi district, the districts of Gökdere and Yenideğirmendere were the only proper areas according to the most recent inspections in those days. Besides, since the immigrants had to live in extremely poor conditions due to an increase in the number of immigrants and the lack of settlement areas, the impossibility of accepting new immigrants in Eskişehir was to be urgently notified to the sultan. The existing immigrants had already been settled dispersedly in villages due to some obstacles in the afore-mentioned districts.[767]

In parallel to the arrangement of the immigrant villages, some immigrants started to construct their own houses, which caused several problems. As seen in a document, Ahmet Vefik Pasha, the governor of Bursa, announced that Circassian immigrants had attempted to construct their own houses and to settle in the land, Akçasığırlar, in Mihaliç *Çiftlikât-i Hûmâyun* in 1880.[768] The governor claimed that this attempt was detrimental to the farm and the land, leading to blockage and congestion of the road. For this reason, he warned *Hazîne-i Hâssa* (the Imperial Treasury) to appoint officers to manage the process and help these immigrants and some others to get settled in proper areas in Bursa.

[766] BEO, 21-1502-4-1, 2.

[767] BEO, 21-1502-4-1, 2.

[768] Y. PRK. HH., 7-4-2-1.

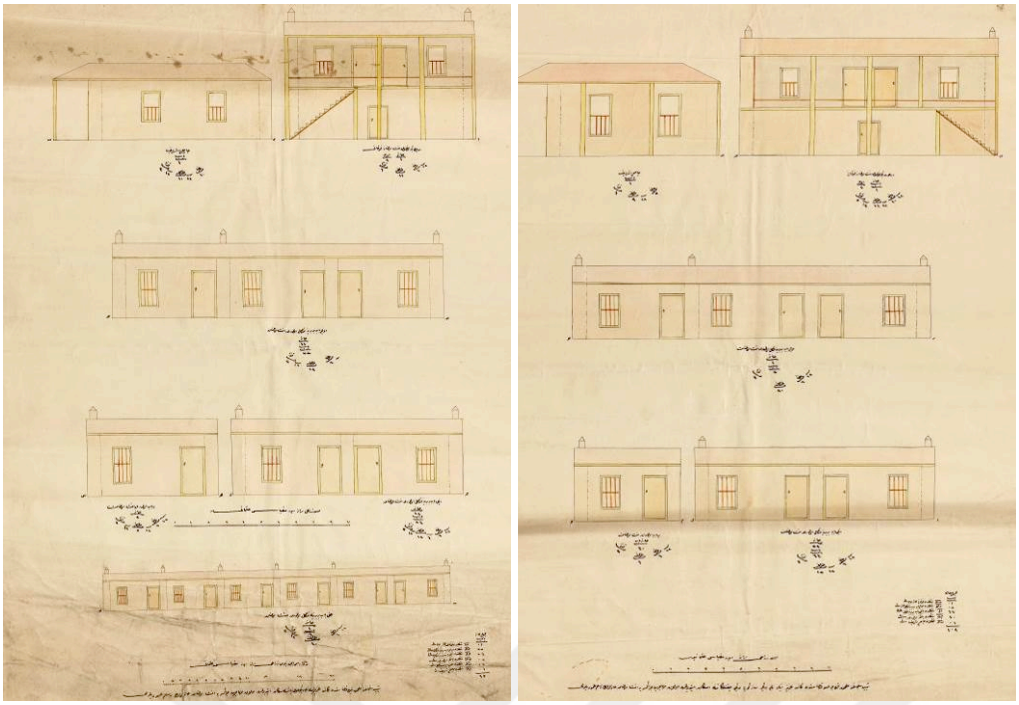


Figure 4.34 Aydın Province Immigrant Houses constructed by the state for Circassian immigrants.
Source: Presidential Ottoman Archive, PLK.p. 3472-1 and PLK.p. 3472-2.

In order to formulate the settlement policy during this process, the most significant attempt, as one of main measures taken by the state, was to establish *Muhâcirîn Komisyonu* (the Commission for the Settlement of Immigrants) in 1860 to conduct the mobilization and settlement process of the immigrants.[769] The commission served until 1875 and *Zaptiye Nezâreti* (Ministry of Policeman) took over from that time onwards.[770] In accordance with *Muhâcirîn Nizamnâmesi* (Regulations for the Settlement of Immigrants), the fundamental tasks of the commission were to mobilize and settle the immigrants, allocate animal and seeds for farming, supply heating materials, and pay a daily wage until the immigrants would settle in the permanent areas.[771] **(Figure 4.35, 4.36)** Meanwhile, since the commission for the settlement of the immigrants established in 1860 and dissolved in a short time, *Muhâcirîn Komisyonu* was reconstituted in 1877, and then it was decided to assign an officer in İzmit, Mudanya, Bandırma, and Gemlik under the control of the

[769] Demirtaş, 2013, p. 121.

[770] Ibid.

[771] Ibid.

commission.[772] The commission was also reconstituted in 1897 with the name Komisyon-i Ali.[773] The state thus registered where the immigrants were settled and how many immigrants were transferred to proper places in 1877.[774] In 1888, it was required to establish an immigrant commission in Bursa and the branches of the commission were established in Kirmasti in 1887, in Orhaneli and Yenişehir in 1892, in Mihaliç in 1899, and in İnegöl in 1903.[775] Within the scope of the immigrant settlement policy of the state, *Çiftlikât-i Hûmâyun*s were also suitable areas to settle immigrants. As also understood from the archival documents, Mihaliç *Çiftlikât-i Hûmâyun* also welcomed the immigrants by providing settlement areas. Meanwhile, the administration of the Imperial farms also took a step for the settlement of immigrants. Their administrator, es-Seyyid Sadi, demanded some amount of money for the construction of sixteen houses for some immigrants in Kızıllar Farm in Mihaliç *Çiftlikât-i Hûmâyun* as well as the trade of farm animals and the grains suitable for seed and food in 1898.[776] **(Figure 4.37)**

[772] Kaplanoğlu, 2013, p. 493.

[773] Ibid.

[774] A. MKT. MHM, 483-17-2-2.

[775] Kaplanoğlu, 2013, p. 493.

[776] ML. EEM, 299-4-1-1.



Figure 4.35 The immigrant villages constructed by the state; İsmet Paşa Village, Mihaliç (top) and Demirtaş Village on Bursa Plain (bottom).
Source: *Bursa Vilâyeti Salnâmesi,* 1927, *Bursa Vilâyeti Matbaası,* p. 371.

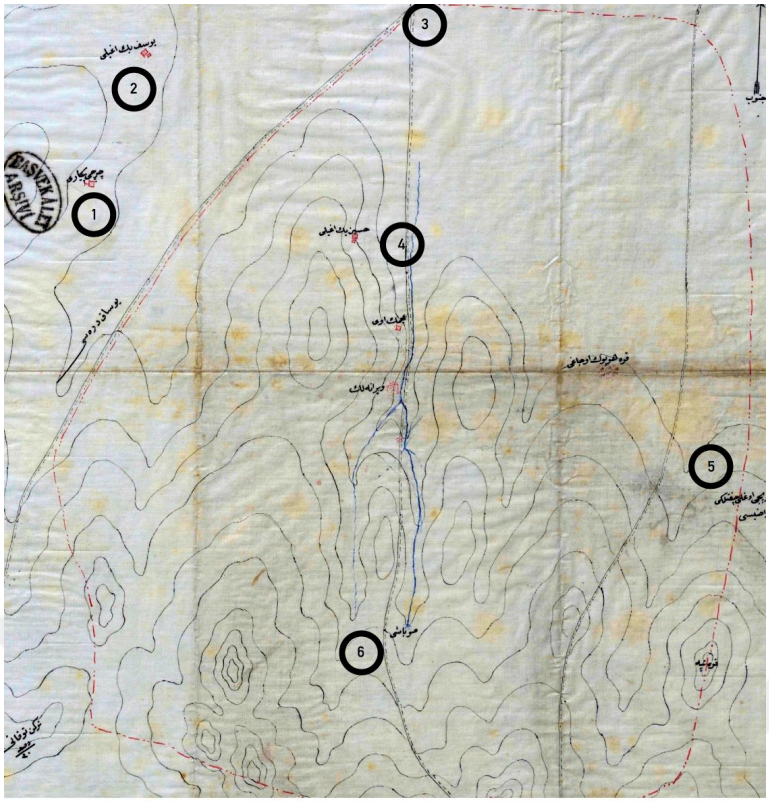


Figure 4.36 The map (1341/1922) showing the farmlands that suitable for the settlement of immigrants coming from Dobruca and the settlement area including fifty houses.
Source: Presidential Ottoman Archive, HRT h 551-1.



Figure 4.37 The receipt dated 29 November 1898, showing the expenses of the construction of immigrant houses in Mihaliç *Çiftlikât-i Hûmâyun*.
Source: Presidential Ottoman Archive, ML.EEM., 299-4-2-1.

During the transfer and settlement of immigrants, the ports became hazardous places especially because many immigrants arrived with contagious and deadly illnesses such as typhus, scurvy, and variola.[777] Immigrants encountered severe difficulties such as epidemic illnesses and security problems in temporary settlement areas.[778] Financial difficulties and adaptation problems were other fundamental complications immigrants suffered in the permanent settlement areas.[779] For instance, while Carcasians preferred mountainous and forest areas, Rumelian immigrants preferred plateaus and alluvial plains based on their experiences of living in different geographies.[780] The construction of barracks as a military measure in Sivas province also indicated that there were problems between immigrants and local people in the vicinity of farms.[781] Although the state devoted farms for the immigrants to cultivate, some problems emerged since some immigrants had not been educated in the cultivation of land before their arrival to these lands.[782] Since some immigrants who were not engaged in agriculture would like to settle in the urban core of cities, but not in the farms located in the environs, the agricultural hinterlands were planned for the settlement of immigrant farmers according to the thirty-fifth item of İskân Talimatnâmesi (Settlement Regulations).[783]

Despite all the difficulties that immigrants encountered, they adapted to their settlements in time. Although it had taken time, the introduction and implementation of technology was achieved not only through the establishment of agricultural schools but also by the contribution of immigrants who had the knowledge to use modern agricultural technology. Immigrants might also be considered as a way of continuation of small land-holdings.[784] The state policy that weakened the power of

[777] Demirtaş, 2013, p. 112; Kaplanoğlu, 2013, p. 498.

[778] Demirtaş, 2013, p. 109.

[779] Ibid.

[780] Yalazı, 2016, p. 271.

[781] Demirtaş, 2013, p. 119.

[782] Ibid., p. 119.

[783] Yalazı, 2016, p. 271.

[784] Kasaba, 1991, pp. 116, 117.

local notables and distributed large scale farms to small farming companies also consolidated the existence of small land-holdings.[785] The endurance of small land-holdings can also be considered as a tool of protecting small investors from the dominance of large-scale capitalist farming companies.

4.3 Concluding Remarks

Three main issues of agricultural developments affirmed the significance of technological influence on the design of the sites of agricultural buildings: (1) change in land-use, (2) mechanization in agriculture, and (3) role of the state in the development of agriculture. Namely, the location of model farms in the complex of agricultural education proved that the use of modern technology was significant for the modernization of agriculture and the increase of production. The impact of reforms, regulations, and laws on the transformation in the land use and settlement policies was also confirmed under the discussion of these common issues.

The first of the issues was the fact that the planning of agricultural hinterlands was influenced by the changes in land use through laws and the development of transportation technology. The afore-mentioned studfarms lying on significant transportation routes between the city and the nearby provinces were located in the vast fertile agricultural hinterlands of the city to lead commercial relations. On the other hand, with the spread of private property in rural areas, which stemmed from the Land Code of 1858 and the development of transportation technology, the city expanded towards the hinterlands and the urban connections between the city and the hinterlands were consolidated.[786] The hinterlands included small-scale farming companies and large farms as well as immigrant villages. However, although foreigners gained the right to posses the land after 1867, the attempts of the French and British to establish large farms in West Anatolia and Çukurova region failed in that they could not remove the small-scaled agricultural facilities and transform their

[785] Pamuk, Ş. (1987). Commodity production for world-markets and relations of production in Ottoman agriculture, 1840- 1913. In H. İslamoğlu-İnan (Ed*.). The Ottoman Empire and the World Economy*. Cambridge: Cambridge University Press, p. 189; Tekeli, 2019, p. 12.

[786] Tekeli, 1980/2011, p. 243.

labor into wage labor, and also the state did not support them.[787] Similarly, the attempts of the railway construction companies to settle the foreign peasants along the railways resulted in frustration since the state did not allow for this settlement, but instead it settled the immigrants coming from the lost Ottoman lands in these areas. The main reason behind the hindrance to the establishment of large farms by the Europeans was the competition between the Ottoman state trying to prevent the European dominance and to maintain its own sovereignty as well as the European interest in making use of its capital in profitable ways in the Ottoman lands. Actually, what the Ottoman state needed and expected from Europe was only the capital and technical knowledge; however, in matters of administration, the Ottoman state wanted to be the main actor.

The second issue is the role of new innovations in agricultural machines and changing production methods in the design of studfarms and sites of agricultural educational buildings. In that sense, Tekeli and İlkin (1993) questioned the control mechanism of the state on the imported technology through various channels. These channels were: (1) the European capital, (2) immigration and relevant population changes, (3) attempts for the development of agriculture that resulted from the change in the development approach of the state, and (4) the local and international commercial capital.[788] Therefore, technology in different fields such as agricultural and industrial production, communication, and urban infrastructural services was imported through various channels and adapted by various actors and through several events such as the attempts of the state, small-scale industries, traditional household production, and mechanization of agricultural tools.[789] Although agriculture was mechanized and modernized during the nineteenth century, the agricultural workers continued their activities learning new techniques while practicing the traditional ones as well. The evidence can be found in the available archival documents and the views in the literature, as mentioned in this chapter.

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[787] Tekeli, 2019, pp. 11, 12; Quataert, D. (2005). *The Ottoman Empire, 1700-1922*. Cambridge: Cambridge University Press, p. 134; Pamuk, 1987, pp. 201, 202; Pamuk, Ş. (1988). The Ottoman Empire in Comparative Perspective. *Review (Fernand Braudel Center),* 11(2), pp. 133, 134, http://www.jstor.org/stable/40241089.

[788] Tekeli & İlkin, 1993, p. 126.

[789] Ibid., p. 132.

The third and the most important issue is the efforts and the changing role of the state in agricultural development. As one of the actors, the state also played a significant role in the process of the agricultural development. The transformation of the role of the state from a protector to a facilitator of the commercial development strengthened the solidarity between the state and various actors involving craft guilds, citizens, local entrepreneurs, workers and immigrant farmers as well as foreign investors as urban shapers. To ensure the consolidation of this solidarity, the state also initiated the reassessment of natural aspects of the city rather than the detachment of economic decisions from natural considerations. For instance, the use of water sources as drainage system for the farms in the hinterlands, the maintenance of the establishment of small-scale farming companies, the resistance to the seizure of the agricultural sector by the Europeans who attempted to establish large farms, and the rehabilitation of swamp areas were significant efforts by the state to utilize fertile agricultural lands. The state intervention even into the farthest places such as Mihaliç, Çifteler, and Sultansuyu Studfarms was also a sign to rehabilitate and to modernize the agricultural hinterlands in each Ottoman province. The level of spatial transformation in these towns is based on each regions' geography, topography, history as well as changes in land management and the use of technology in farming. The state produced policies for the development of agriculture. Agricultural reforms and regulations were introduced depending on the developments and conditions of the era such as industrialization, institutionalization, wars, and immigration. However, reforms and regulations offered by the state were not the sole factors that had an influence on agricultural production. The fluctuations in the population by the increase in the number of immigrants with the loss of the lands was an important factor in the sense that it resulted in the formation of immigrant settlements and the contribution of immigrants to the increase in agricultural production. Local and foreign commercial capital were also other sources of increase in agricultural production. The actors of the agricultural production, peasants and immigrant farmers, were also effective in different terms and degrees.

The increase in the level of production led to the increase in the volume of commerce especially in the late nineteenth century, which stemmed not only from the introduction of modern technology and the continuation of small land-holdings by

the opening of lands for cultivation and the settlement of immigrants, but also by the use of natural sources efficiently.

CHAPTER 5

TRANSFORMATION OF THE EDGES OF BURSA VIA TRANSPORTATION AND COMMERCE

The variety and increase in agricultural production resulted in the increase in commercial practice especially at the ports in the nineteenth century, which necessitated an advanced transportation system. The ports as city edges of Bursa were also transformed through the development of transportation patterns and advanced commercial relations. Agricultural products produced in the hinterlands and industrial products produced in the periphery beyond the urban core of Bursa were transported by crossing the land through roads, bridges, and the railway and met by water at the ports that formed the edges of the city in Mudanya and Gemlik. The institutionalization of commerce was configured by trade treatises while the institutionalization of transportation was structured through the regulations *(nizamname)* based on scientific and technical drawings and rules. The increase in production stimulated the commercial relations and the city welcomed merchants, which also necessitated the transformation in accommodation services. Hans were transformed into hotels through this process not only for the accommodation of merchants but also for those who came to Bursa to get use of natural thermal water for health problems. The financial institutions such as banks in the nineteenth century Ottoman Empire was also a modern way of financing not only industrial and agricultural production but also the infrastructural development of the city to provide more efficient transportation. In this frame of analysis, the spaces of transportation and commerce will be studied in this chapter in terms of their sites and architecture in order to evaluate the transformation of the edges of Bursa via transportation for commerce during the late Ottoman period.

The previous chapters articulated the transformation of the industrial and agricultural spaces of Bursa during the late Ottoman period. In this chapter, the train stations and the ports of Mudanya and Gemlik will be examined as spaces of transportation beyond the urban core of Bursa; and banks and hotels as spaces of commerce that functioned in relation to processes of industrial and agricultural production and could be realized by the developed means of transportation. In this frame of discussion, in addition to the connection between the urban core and its closer periphery and farther hinterlands, which have been studied in the previous chapters, the transformation of city edges is also analyzed in this chapter.

In the previous centuries, an interrelation between the urban core of the city of Bursa and its hinterlands was provided by the commercial center, complexes *(külliye)* as nuclei located at different distances from the fortified walls and the agricultural hinterlands. The continuity was also maintained in the nineteenth century together with an intermediate extension especially by the effect of the railway from the urban core to the farther edges and by the roads from the urban core to the hinterlands. In the nineteenth century, the concept of "continuity" was also conceptually enhanced by three aspects of the city; the new forms of production, together with the help of topographical features, resulted in new commercial and provisioning relations. As a result, the clear distinction between the core and its periphery of a city that had existed since the early modern times dissolved during the industrial era of the nineteenth century.

5.1 Transportation of Commercial Products

Agricultural products produced in agricultural hinterlands and industrial products produced in factories in the vicinity of streams at the periphery of the city were to be transported to the edges of the city to be sold. This part of the chapter examines how commercial products were crossing the land and meeting water by the advanced transportation system that was provided in the nineteenth century with roads, bridges and the railway that connected the urban core, the periphery, and the hinterlands with the edges of the city, and the ports that connected the edges of the city to the world beyond the sea. The construction of the patterns of transportation could only be

achieved through contemporary scientific and technological knowledge of engineering while commercial relations could only be structured through regulations in customs and the removal of limitations in trade as well as the establishment of financial institutions and the provision of accommodation services in the city. Thus, this part of the chapter also examines the institutionalization of transportation and commerce during the late Ottoman period.

With the development in the field of economy, the increase in the level of industrial and agricultural production in the nineteenth century necessitated new and advanced transportation facilities in the city. Thanks to the transportation technology, cities and their hinterlands were closely linked at the time. The major modernization projects in the second half of the century were the construction of land roads, railways, ports, and telegraph lines, the improvement of waterways, and the introduction of a postal system.[790] External factors led to huge transformations also in central Anatolian cities with new components such as railways, administrative centers, immigrant neighborhoods, and military barracks.[791] Before the development of ports and railways, the construction of roads and bridges as a link between a city, its hinterlands, and edges had already been started by the state. The ports, including industrial and commercial buildings, also linked spaces of agricultural production to the Marmara and farther European ports, and thus transforming the edges of the city as well as triggering the agricultural activities in the city. The ports functioned as strategic nodes opening the city to the world. In other words, via port cities, agriculture was opened to foreign trade, which resulted in a necessity for advanced farming. There became an obvious shift in the distribution of goods in the nineteenth century. While early imarets as urban complexes in Ottoman cities had had an important function in the distribution of food in Ottoman cities formerly, roads, railways, and ports turned out to be new forms of provisioning in the nineteenth century. Thanks to the development of sea transportation in the nineteenth century, coastal cities developed in commerce. Commerce also developed in inland cities with

[790] Çelik, Z. (2008). *Empire, Architecture, and the City French-Ottoman Encounters, 1830-1914.* Seattle and London: University of Washington Press, p. 25.

[791] Aktüre, S. (1985). Osmanlı Devletinde Taşra Kentlerindeki Değişimler. In *Tanzimât'tan Cumhuriyet'e Türkiye Ansiklopedisi.* Vol. 4. İletişim Yayınları.

the construction of railways, which provided inland cities to become significant in both domestic and world market.[792]

Moreover, with the penetration of railways from the 1890s onwards into the areas where grain was produced, these areas of the Ottoman territory began to be involved in the world market.[793] The Ottoman governors were aware of the importance of railway transportation as a tool of economic improvement and of administrative penetration into other regions.[794] Meanwhile, train stations as transport nodes served as the connector between city edges, hinterlands and urban cores. Besides, as the cost of transportation decreased with these new means, economic relations between a city and its agricultural hinterlands improved, while the consolidation between industry and agriculture also became visible.[795]

The first project to construct a railroad was carried out in the United Kingdom in 1811.[796] In the following decades, railway constructions spread across Europe and the Ottoman Empire. European countries saw several benefits of the most significant inventions of the nineteenth century railways that led to many impressive changes in the world.[797] Such countries as Britain, France, and Germany had important profits in the lands of the Ottoman Empire, and for the Ottoman governors, railways held the same significance as for European countries in terms of enduring economic, military, and political advantages.[798] Meanwhile, with foreign trade and investments, the nineteenth century Ottoman cities started to differ compared to the sixteenth

[792] Güran, T. (1988). Osmanlı Tarım Ekonomisi, 1840-1910. *Türk İktisat Tarihi Yıllığı,* p. 232.

[793] Quataert, D. (1975). Dilemma of Development: The Agricultural Bank and Agricultural Reform in Ottoman Turkey, 1888-1908. *International Journal of Middle East Studies,* Vol. 6, No. 2, p. 210.

[794] Demirel, F. (2011). Sultan II. Abdülhamit'in Mirası İstanbul'da Kamu Binaları. *İstanbul Ticaret Odası, Kültürel ve Sanatsal Araştırmalar,* Yayın No. 2011-11, İstanbul, p. 244.

[795] Güran, 1988, p. 230.

[796] Önal, N. E. (2009). Tanzimât'tan Cumhuriyete Tarımsal Dönüşüm 1858-1918. *EconAnadolu 2009: Anadolu International Conference in Economics,* June 17-19, pp. 17-19.

[797] Bayraktaroğlu, S. (1995). Developments of Railways in the Ottoman Empire and Turkey, Master Thesis in Atatürk's Principles, Boğaziçi University, p. v.

[798] Ibid., p. 10

century.[799] The increase in population brought urbanization and problems associated with urbanization in cities.[800]

In this context, railway transportation was a way of the modernization of the Ottoman Empire by transporting sources of raw materials to industrial centers. As such, railways facilitated the connections between the Ottoman lands and abroad, especially the industrialized European countries. On the other hand, it should also be noted that the construction of railroads helped the Ottoman state to be independent from the European presence as it helped the development of its local industry and infrastructure. The introduction and development of railways in the Ottoman Empire had a great impact on the modernization process within the context of the European economic and political influence, aiming at integrating the Ottoman economy into the world economic system.[801] To this end, with the transformation from fortified to trading cities in line with open liberal economy and with the help of developed transportation, free flow of goods and people, the resultant increase in population, and the dissolution of enclosed cities were observed,[802] providing the spatial transformation beyond the urban core of cities with the construction of new buildings for transportation and commerce.

5.1.1 Crossing the Land and Meeting Water by Transportation

The construction of roads and railways became the modern way of crossing the land to overcome the distance between the urban core and the edges of a city especially in the second half of the nineteenth century. Although horses and camels continued to be commonly used, coaches became the new means of transportation. Although they began to be preferred due to their capacity, roads could only slowly become suitable enough for transportation via coaches towards the end of the century,[803] and railways

[799] Tekeli, İ. (1985). Tanzimât'tan Cumhuriyet'e Kentsel Dönüşümler. In *Tanzimât'tan Cumhuriyet'e Türkiye Ansiklopedisi,* Vol. 4. İstanbul: İletişim Yayınları, pp. 878-890.

[800] Ibid.

[801] Bayraktaroğlu, 1995, p. 10.

[802] Tekeli, 1985, pp. 878-890.

[803] Güran, 1988, p. 231.

emerged as an alternative transport system at the same time. Bridges were also constructed to adjust roads and railways according to the topographical features, passing through sloping or deep sets on the land as well as over natural boundaries like rivers. When meeting water after crossing the land, sea transportation came into foreground as the new means of providing relations with far places. This part of the chapter scrutinizes these newly developed ways of transportation on land and by the sea that affected the spatial transformation of Bursa in the late Ottoman period.

5.1.1.1 Connecting the Urban Core, the Periphery, and the Hinterlands to the Edges

This part of the chapter focuses on the infrastructural development of constructing roads, bridges, and the railway that connected the urban core, the periphery, and the hinterlands with the ports at the edges of the city of Bursa, which further facilitated the development of architecture of transportation and commerce as well as spatial transformation of Bursa.

5.1.1.1.1 Roads and Bridges

When the Ottomans seized Bursa, caravans coming from Tabriz aimed to arrive at the city that became the most significant center of silk trade and industry.[804] The silk coming from Iran was traded in Bursa by Genoese, Florentine, and Jew merchants who were mainly settled in Galata district of İstanbul.[805] Erzincan, Tokat, Amasya, Bitlis, Diyarbakır, and Mardin were also the other developed centers through the silk trade route and developing industry as located on the Tabriz-Bursa and Tabriz-Aleppo silk roads.[806] In the preindustrial period, the transportation routes from İstanbul to Anatolia used to passing around the city of Bursa. All the significant

[804] İnalcık, H. (2011/2013). *Kuruluş ve İmparatorluk Sürecinde Osmanlı Devlet Kanun Diplomasi.* İstanbul: Timaş Yayınları, p. 24.

[805] The Chinese silk was transported through caravans to the ports at the Black Sea and the Aegean Sea in order to be transported to Italy by ships in the thirteenth century (İnalcık, 2011/2013, p. 23). However, the silk production as well as trade was surpassed by northern states of Iran (Ibid., p. 24).

[806] İnalcık, 2011/2013, p. 25.

transportation routes of the time[807] from İstanbul to the east through Anatolia[808] aimed to reach the largest commercial centers such as İstanbul, Bursa, and İzmir. Bursa was the largest city in 1580 with its population including 1300 families according to the data presented by Ömer Lütfi Barkan in his study on Hüdâvendigâr Sandjak.[809] Besides, thanks to its geographical location, it was also easily connected to the Anatolian cities such as Diyarbakır, Tokat, Ankara, Kayseri, Kütahya, Afyon, and Burdur.[810] **(Figure 5.1)** These connections maintained their importance during the nineteenth century. After roads and the railway were introduced, the caravan routes continued to serve as a complementary transportation system.

As alternative to the caravan routes, the initial infrastructural development was the construction of roads between the urban core and its environs to reach the closer periphery, the hinterlands, and the farther edges of the city. The road construction was theoretically taken into consideration. The courses teaching modern engineering techniques, using theodolite[811], on the construction of roads and bridges were included in the curriculum of *Mühendishâne-i Berr-i Hümayun* (Imperial School of Military Engineering) in 1847,[812] and the term *şose* (road) started to be used at that time, as also understood from archival documents.[813]

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[807] Trade caravans coming from Iran were going to Anatolia through Kars-Erzurum route by getting connected to the third route, while trade caravans from Basra and Arabia were going to Anatolia through Aleppo-Diyarbakır route by getting connected to the first and second routes (Satıcı, E. (2008). 19. Yüzyılda Hüdâvendigâr Eyaleti. PhD Thesis. Ankara University, Social Sciences Enstitute, History Department, p. 358).

[808] These were: (1) from Üsküdar to Aleppo through Eskişehir – Akşehir – Konya – Adana – Antakya direction; (2) from Üsküdar to Diyarbakır through Gebze – İznik – Sapanca – Geyve – Hendek – Ayaş – Düzce – Bolu – Merzifon – Amasya – Turhal – Tokat – Sivas – Malatya direction; and (3) from Üsküdar to Kars through Gebze – İznik – Sapanca – Geyve – Hendek – Ayaş – Düzce – Bolu – Merzifon – Karahisar-i Şarki – Bayburt – Tercan – Erzurum direction (Satıcı, 2008, p. 358).

[809] Faroqhi, S. (2006). *Osmanlı Şehirleri ve Kırsal Hayatı.* (Trans.). E. S. Özcan. Ankara: Doğu Batı Yayınları, p. 20. Also see: Barkan, Ö. L. & Meriçli, E. (1988). Hüdâvendigâr Livası Tahrir Defterleri. Ankara: Türk Tarih Kurumu.

[810] Satıcı, 2008, p. 359.

[811] Theodolite "a piece of equipment like a small telescope, used for measuring horizontal and vertical angles" (dictionary.cambridge.org).

[812] Tekeli, İ. & İlkin, S. (1993). Osmanlı İmparatorluğu'nda 19. Yüzyıl'ın İkinci Yarısında Nafia Programları ve Teknoloji Gelişimi Üzerine. *Dünü ve Bugünüyle Toplum ve Ekonomi,* No: 3, p. 156.

[813] These were chronologically the proposal to build a school for the education on road and bridge construction in 1866; the establishment of *Mülkiye Mühendisi Mektebi* in 1867; the establishment of

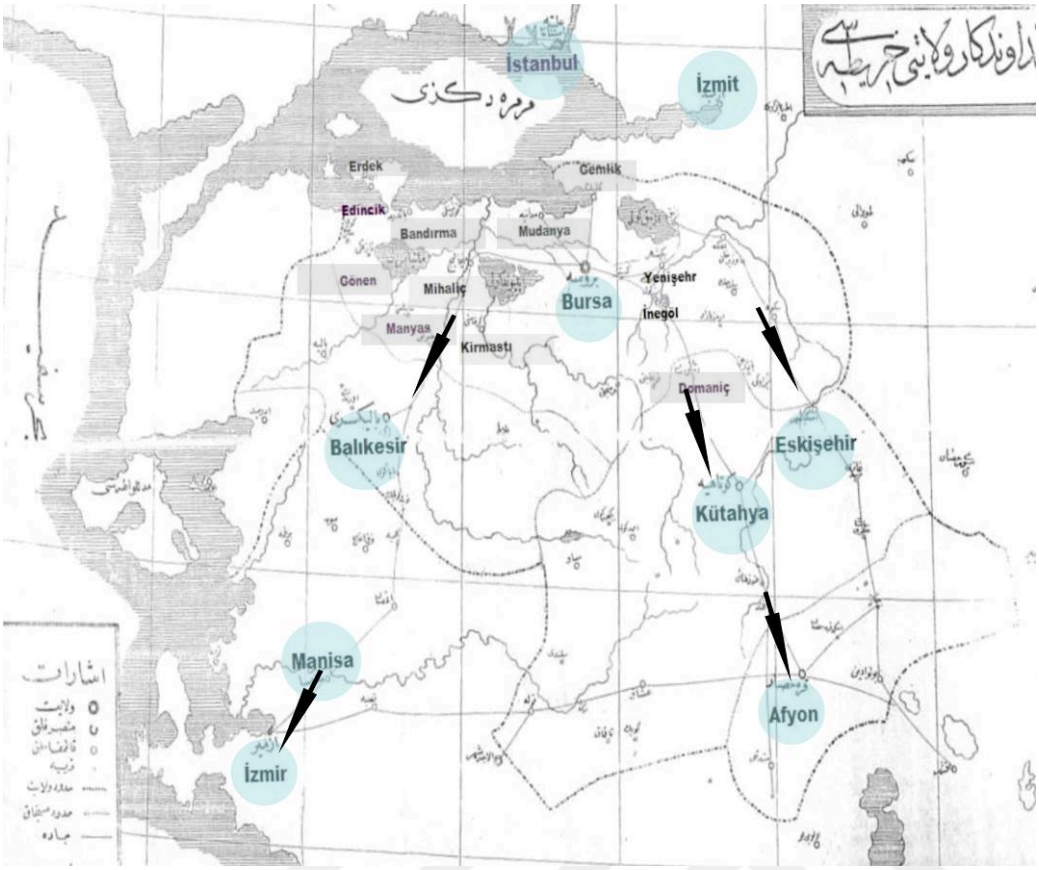


Figure 5.1 The connection between Bursa and surrounding cities in Anatolia.
Source: *Hüdâvendigâr Vilâyet Salnâmesi,* 1288 (1871/72), p. 134; accessed from: Satıcı, 2008, p. 430.

Since the construction of roads took several years, a new organization was required, and thereby, some regulations also started to be enacted.[814] The road regulations, *Turuk and Ebniye Nizamnamesi* (the Regulations for Roads and Buildings), were enacted in 1863 with the supervision of Ahmet Vefik Pasha.[815] Furthermore, when the main roads became the point in question, *Umur-u Nâfia* (public works) Programs were presented at three stages: (1) with the establishment of assemblies for construction *(imar meclisleri),* the officers were sent to the cities to prepare investigation reports for months, prioritizing roads, bridges, and canals, (2) an explanatory document, *"Anadolu'da İmalat-ı Umumiyye Dair Lâyiha"* (official

Hendese-i Mülkiye Mektebi in 1883, taking *Ecole des Ponts et Chaussees* in France as a model; and the realization of *Turuk-u Maabir Talimat-ı Umumiyesi* in 1898 to bring new road construction technology (Tekeli & İlkin, 1993, pp. 157, 158).

[814] Ibid., p. 156.

[815] Avcı, Y. (2016). *Osmanlı Hükümet Konakları Tanzimât Döneminde Kent Mekanında Devletin Erki ve Temsili.* İstanbul: Tarih Vakfı Yurt Yayınları, p. 81.

reports for construction of roads and railways), based on advanced engineering knowledge was prepared by *Nâfia Nazırı* Hasan Fehmi Pasha (the Minister of Public Works) in 1882, and (3) an official certificate (tezkere), signed by *Ticaret ve Nâfia Nâzırı* (the Minister of Commerce and Public Works) Gabriel Narodukyan, was sent to *Sadâret* (Prime Ministry) in 1908.[816] The construction process could be realized through three ways, either by the state, or giving liability to the locals, or giving tenures to foreigners. [817] For instance, *Memâlik-i Mahrûse-i Şahânede Turuk-u Maabirin Suret-i İmal ve İdaresine Ait Talimat-ı Umumiye* (a kind of order for the organization of road constructions) was enacted in 1856,[818] obliging people who were living in cities close to the roads to work on the construction of these roads.

From the mid-nineteenth century on, road transportation between Bursa and its districts in its periphery was developed. These peripheral roads were constructed also to connect Bursa, the center of Hüdâvendigâr Province, with other major provincial towns such as Kütahya, Eskişehir, and Yenişehir in Anatolia as well as widening the Gemlik and Mudanya roads at the same time.[819] **(Figure 5.4)** These two main roads lying towards the Gemlik and Mudanya ports were organized for the visit of Sultan Abdülmecid.[820] The Mudanya Road was widened in 1862,[821] and the project of widening the Gemlik road of the 1850s, which was separated from the Mudanya road in the north of the city center, was completed in 1865.[822] The roads[823] that connected

[816] Tekeli & İlkin, 1993, pp. 154, 155.

[817] Ibid., p. 159.

[818] Ibid., p. 157.

[819] Dostoğlu, N. T. and Oral, E. Ö. (1999). The Physical Transformation of the Ottoman Capital of Bursa from Tanzimât to Republic. In A. Batur and N. Akın (Eds.). *7 Centuries of the Ottoman Architecture.* İstanbul: YEM Yayınları, p. 237; Secer, E., Durak, S., & Vural Arslan, T. (2016). Reflections of Socio-Cultural Changes on Urban Space in the 19th Century: The Case of Bursa. *International Journal of Social Science and Humanity,* Vol. 6, No. 8, August, p. 629.

[820] Çiftçi, C. (2012). *Osmanlı Döneminde Mudanya İskelesi ve Gümrüğü.* Bursa İktisat Tarihi Araştırma ve İnceleme Dizisi: 1. Bursa: Bursa Kültür A. Ş., p. 29.

[821] Ibid.

[822] Saint-Laurent, B. (1999). Bir Tiyatro Amatörü: Ahmet Vefik Paşa ve 19. Yüzyılın Son Çeyreğinde Bursa'nın Yeniden Biçimlenmesi. In P. Dumont & G. François (Eds.). *Modernleşme Sürecinde Osmanlı Kentleri.* (Trans.). A. Berktay. Istanbul: Tarih Vakfı Yurt Yayınları, p. 86; Avcı, 2016, p. 84.

[823] The road was called as *"şose"* in Ottoman language at that period.

the port towns in the edges, namely Mudanya and Gemlik, to the city were constructed in this period along with the offices of new companies on these roads.[824] **(Figure 5.2, 5.3, 5.5)** Moreover, Çekirge road was widened, extended five kilometers more to the west and reached the Kütahya road to the east also before the expected visit of Sultan Abdülaziz in 1862.[825] **(Figure 5.8)** Therefore, the European merchants accommodating in *han*s traded their products, and travelers who wished to use thermal springs in Çekirge district benefited from these improvements.

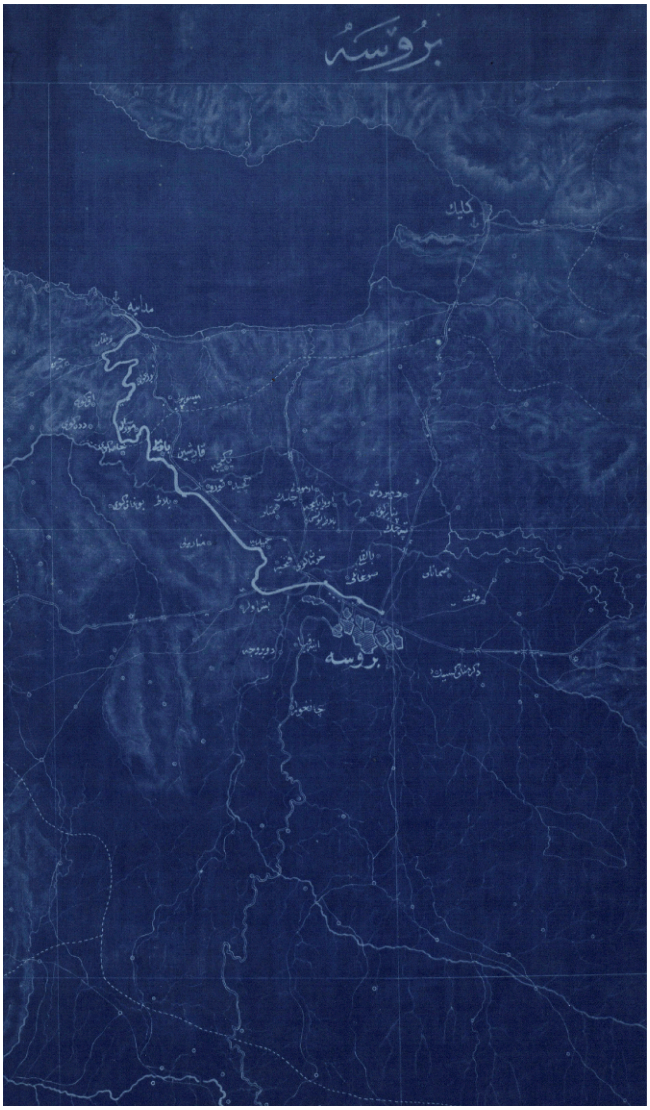


Figure 5.2 The map of Bursa-Mudanya Road.
Source: Presidential Ottoman Archive, HRT.h., 2031-1.

[824] Çiftçi, 2012, p. 29.

[825] St. Laurent, 1999, p. 86. The date of visit is given as 1861 by St. Laurent (1999), as 1862 by Çiftçi (2012).



Figure 5.3 The map of Bursa-Gemlik Road; scale: 1/20000; drawn by C. Padeano, road engineer.
Source: Presidential Ottoman Archive, HRT.h., 570-1 and HRT.h., 570-2; two pieces of the map are merged by the author.

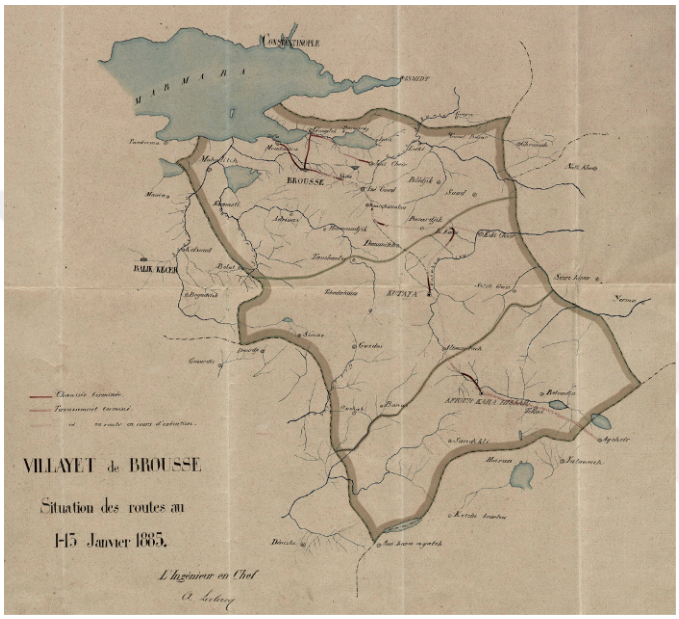


Figure 5.4 The map showing peripheral roads around Bursa.
Source: Presidential Ottoman Archive, HRT.h., 2012.



Figure 5.5 Mudanya Road.
Source: İstanbul University Rare Collections Library, 90752-30.

After these roads had been constructed, travelers easily stayed at Hotel de Anatolie near Ulu Mosque and other resorts (thermal springs) located in the district of Çekirge. Therefore, these constructions led also to the development of residential buildings such as hotels, which are discussed in this chapter. Besides, the construction of roads connecting the urban core to the hinterlands also facilitated the movement of goods from the environs to the commercial *han* district in the city center. The importance of Mudanya port, acting as a transfer point for industrial raw material and agricultural goods to Europe, was also enhanced by the further construction of railway, which integrated the coastal edge of the city not only with agricultural hinterlands but also with the heart of the city, i.e. commercial *han*s district.

Although cocoon appears to be the most significant for production in mulberry groves in the hinterlands of Bursa and silk reeling from cocoon in the filature factories in the periphery around the urban core, timber was also a significant material provided by natural sources of the city, and its transportation and trade were also important issues on the agenda of the government. Timber was important not only as an agricultural product to be transported and traded but also it was significant as a material for both building and heating.[826] Beyond that, a picture can be drawn to illustrate which mountains in Bursa region were significant in harvesting timber, which was transported more effectively by new roads, and ports for trade. For instance, according to the documents on the supply of timber, transportation of the material, and the workers responsible for the construction of ships by using it, timber was provided from Gemlik and Gönen mountains for the construction of ships in *Tersâne-i Âmire* (the Imperial Arsenal) that would be used in İzmir and Gemlik ports.[827] Ahu and Sündiken mountains were also significant natural sources of timber in the province of Hüdâvendigâr.[828]

According to an official report, written by Hüdâvendigâr *Meclisi* on May, 31, 1848, İsmail *Efendi*, the chief architect who was responsible for the repair and renovation

[826] MKT MKM 126 95, 87 32, 92 56.

[827] Ibid.

[828] A.MKT.135-7-1-1, 2.

of *Tersâne-i Âmire* in Hüdâvendigâr, was commissioned to organize the costs for the transport of timber harvested from Ahu and Sündiken mountains.[829] The districts (*kazâ*s) of Hüdâvendigâr were supposed to transport timber to *Tersâne-i Âmire*, as the sultan ordered.[830] As explained in the document, the transportation of timber, harvested from Ahu mountain, was sustained by the close districts İnegöl, Yenişehir, Pazarcık, Yerhisar, Domaniç, and İnönü. The timber harvested from Sündiken Mountains was initially transported to Pazarcık through the district of Bilecik, and then to Gemlik passing through the district of Hüdâvendigâr. The advancement of road transportation, therefore, came into foreground.

As also indicated in the official report dated 1848, despite high amount of timber harvested from Sündiken Mountains, some districts were not familiar with the transportation of timber, and the timber transporters declared that they could not transport that amount of timber.[831] On the other hand, some other districts were familiar with the transport of timber used as building material, and they had strong animals to carry them. Nevertheless, İsmail Efendi was sent there for the inspection of the capacity of animals and the amount of timber harvested from the mountains. As understood from the same report, the demand by the merchants for an increase in the cost of timber was not approved on account of the fact that it would cause a damage in the economy. Since Sündiken Mountains were located at a distance of two-three houses to Sakarya River, timber would be unloaded to the river on the rafts, and through the river, transported to Kirazlı Village close to the dock of İzmit. The river, as seen, was also used as an alternative way of transportation. According to the investigations of İsmail Efendi, Sündiken Mountains were six hours away from Sakarya River, and the roads in between included rocks and cliffs, making the passage of cars impossible. Timber collected, thus, was highly destroyed, and became shortened. On the other hand, since the waters of Sakarya River was expected to shrink in summer, the timber merchants of Hüdâvendigâr Sandjak were in a hurry to transport the timber that they harvested. Besides, pulling timber on the roads or carrying it excessively by animals instead of loading on cars would damage

[829] A.MKT.135-7-1-1, 2.

[830] Ibid.

[831] A.MKT.135-7-1-1, 2.

both the materials and animals. For all these reasons, İsmail Efendi was commissioned to investigate which roads would be preferred for easy transportation. A petition written by the local timber merchants, thus, expected an increase in the costs of timber since many of the harvested materials were destroyed.[832]

Timber merchants played a crucial role as carriers of timber in the establishment of a commercial network between districts. As timber was not only a material used in ship construction or for heating, but also for building construction, timber frame construction was prevalent in the urban core of Bursa for houses and also for factories and public buildings, as discussed in the previous chapters. As a material used for so many purposes, timber trade naturally affected the construction of roads.

On the other hand, sultans' visits to Bursa also took a distinctive role in the construction of roads. In 1900, a document addressing *Sadâret*[833] stated that the twenty-fifth anniversary ceremony for the accession of Abdülhamid II to throne would be held[834] and the celebration would incorporate the inauguration of road constructions and opening of newly constructed buildings[835]. For instance, the construction of a seventy-five km road *(şose),* covering 35 canals and 62 bridges and connecting the center of Bursa with Atranos District *(Kazâ),* and the construction of an eighteen km road *(şose),* covering 20 canals and 13 bridges and linking the roads of Bursa and Mihaliç to Bandırma would be celebrated. **(Figure 5.6)** The streets in the city were also interconnected with these peripheral roads. **(Figure 5.7)** According

[832] This issue was also discussed in *Meclis-i Bahriye.*

[833] The grand vezir and the head of the government *(sadrazamlık ve hükümet başkanlığı)* (source: *Tanzimattan Cumhuriyete Tarih Sözlüğü).*

[834] DH. MKT. 2391-39-1-1.

[835] The other constructions to be celebrated were also emphasized in the document. For instance, the construction of a silk factory and two cocooneries *(kozahane),* the building where silkworms were raised, which were all costed 50000 *guruş* and were built to provide income for *Hamidiye Mekteb-i Sanayi* in Bursa. The construction of a department annexted to *Mekteb-i İdadî-i Mülki* in Bursa, which costed 350000 *guruş*; the opening of the fountain made of marble, flowing on the road going to *Kasr-ı Hûmâyun;* and a madrasah rebuilt by Faik Bey, one of the notables in Bursa, were also included in the document. Meanwhile, the water of Bursa was exaggeratedly appreciated in this document, expressing that the water was made of golden and silver. Also see: Erkmen, Alev. (2011). Jübile Yapıları: Bir Bilanço. In *Geç Osmanlı Dünyasında Mimarlık ve Hafıza-Arşiv, Jübile, Âbide.* İstanbul: Akın Nalça Kitapları.

to the same document, the opening of the street lying between Sedbaşı Police Office and *Mekteb-i İdâdi-i Askeri* would also be celebrated.

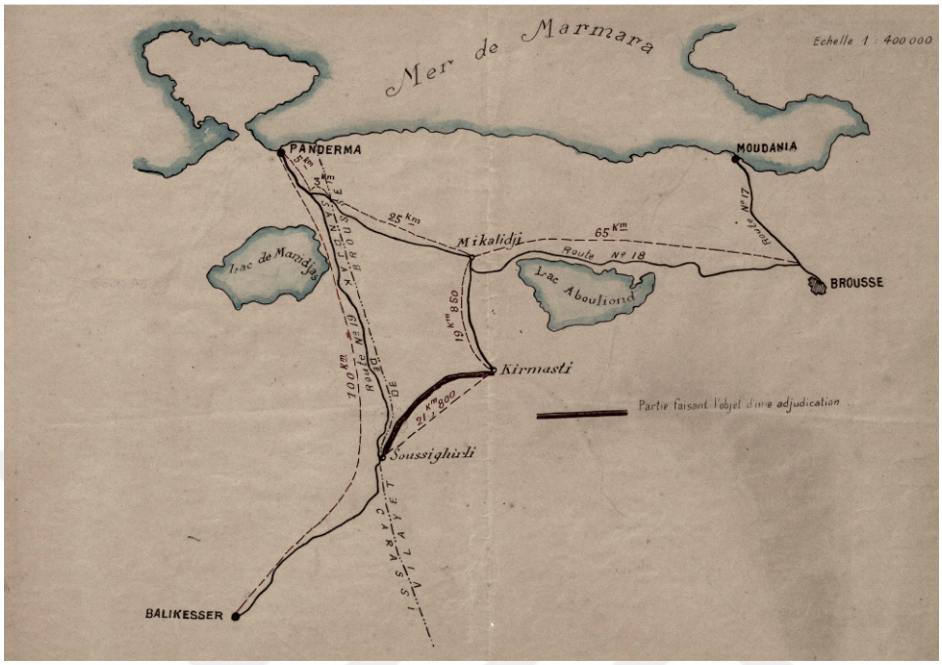


Figure 5.6 The map showing the distances between districts in the environs of Bursa.
Source: Presidential Ottoman Archive, HRT.h., 2291-1.

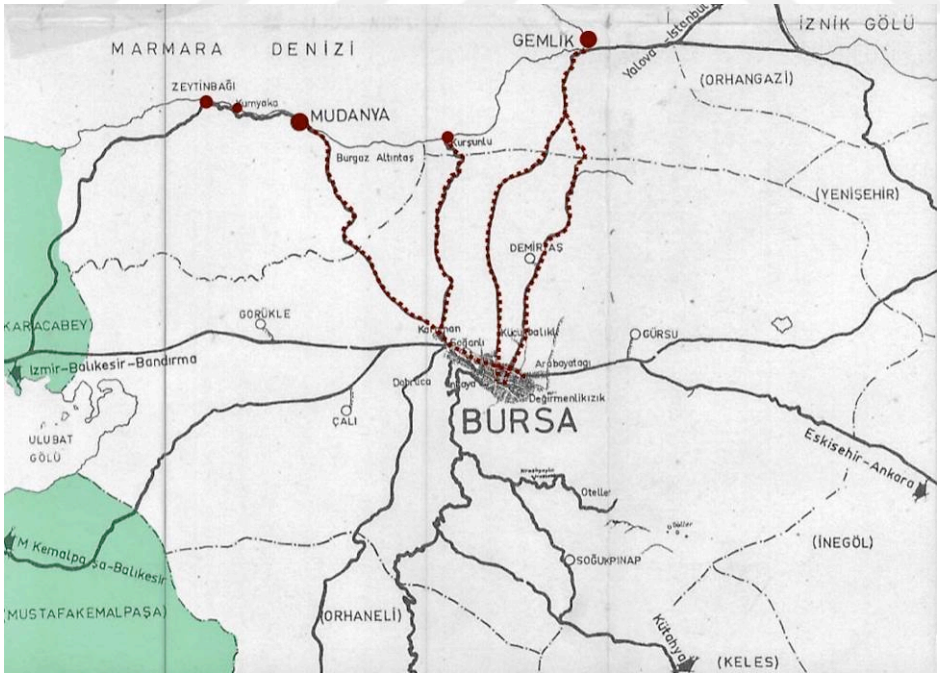


Figure 5.7 Bursa Map showing the roads lying towards the Mudanya and Gemlik Ports.
Source: *Nazım İmar Planlama Bürosu,* SALT Research Archive, APLBNP01; Cezar, M. (1983). *Typical Commercial Buildings of the Ottoman Classical Period and the Ottoman Construction System*. İstanbul: Türkiye İş Bankası Cultural Publications; marked by the author.

As another example, in addition to the improvement and enlargement of Saray Street lying from the east to the west in the south of Ulu Mosque, a new linear road, called Gemlik Street[836], cutting across Hükümet Street and linking the city center with Çekirge, was planned not only to facilitate the connection of the old city core with new Tanzimât buildings.[837] **(Figure 5.8)** The English Consulate, Mr. Sandison, also noted in 1864 that there was a magnificent boulevard linking the core to Çekirge, and this boulevard would be connected to a large street later for providing a connection to the neighborhoods in the upper parts of the city.[838] As he narrated, another street, perpendicular to this street, would also be constructed. As seen, Mr. Sandison illustrated the formation of streets in the urban core. Another street, İpekçilik Street, which extended from the Sedbaşı Bridge, passed through the Armenian Church, and came to an end with a kiosk built for the visit of Abdülaziz, was also a significant artery in the urban core.[839]

[836] It divided into two parts the Muslim cemetery, which was at the north of the commercial center, and connected to a large street on the east-west axis.

[837] Dostoğlu & Oral, 1999, p. 237; Saint-Laurent, 1999, p. 86; Secer, Durak, & Vural Arslan, 2016, p. 12; Avcı, 2016, p. 84.

[838] Sandison's Reports. (1864). The extracts from the report in: Günaydın, Nurşen and Raif Kaplanoğlu. (Prep.). (2000). *Seyahatnamelerde Bursa.* Bursa: Bursa Ticaret Borsası Kültür Yayınları, p. 135.

[839] Saint-Laurent, 1999, p. 88. Also see: **Figure 2.10** in Chapter 2.

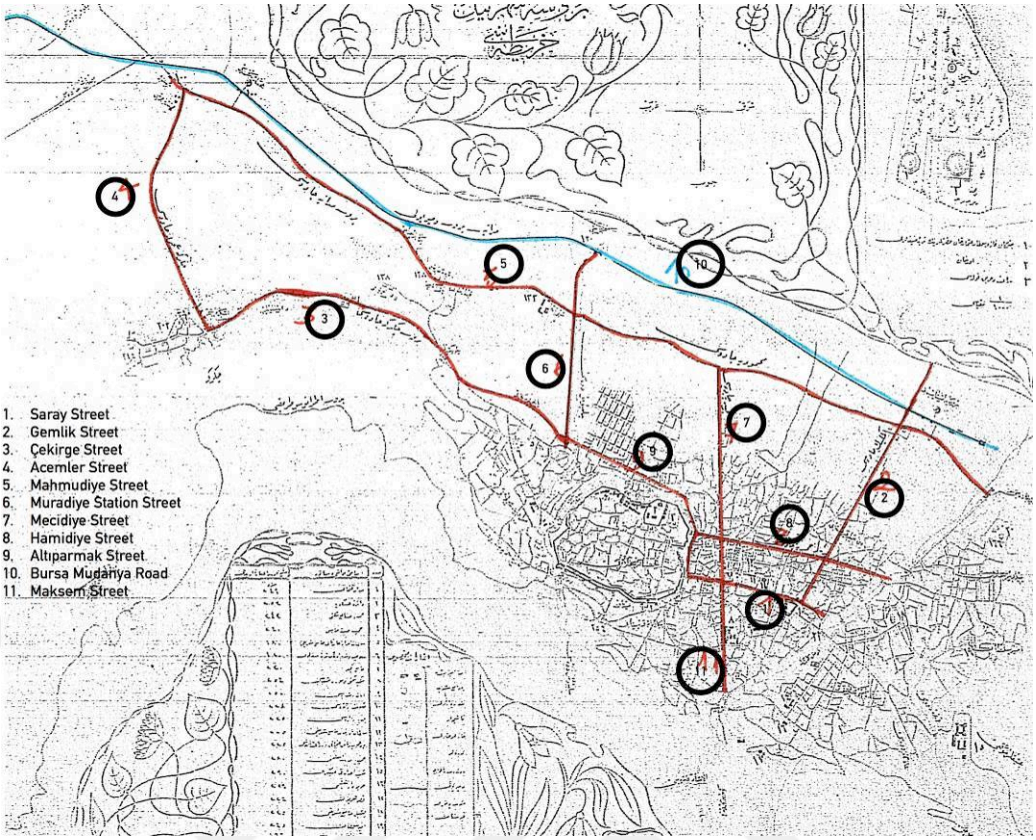


Figure 5.8 The map showing the streets in Bursa; base map: 1910 Map of Bursa.
Source: midafternoonmap.com; marked by the author.

Thanks to the development of these new arteries in the city and the renewal of existing roads, agricultural goods produced by farmers living in the hinterlands like Mihaliç and Kirmasti were easily brought to the commercial spaces in the city as well as to the ports to be traded in other places. The construction of roads between the urban core and its hinterlands as well as between the settlements in the hinterlands of the city were significant attempts for the improvement of the transportation of commercial agricultural goods.

Despite its high importance, there became also several obstacles in finding of funds and in proceeding of the construction of roads. According to the plan derived from the Ottoman Archive,[840] the road linking Kirmasti and Mihaliç districts to Tirilye would be constructed in 1895; the width of soşe had been planned to be four meters, and it was to be widened to five meters by grading the land. Besides, the road from Tirilye Nahiyesi to Mihaliç, was planned to be opened on 24 December 1895, and

[840] PLK.p. 2488-1.

the line passing through the villages of Yalı *Çiftliği*, Eşkel, and Kemerbent was to be 31 km and linked to Bursa-Mihaliç Road at its 45th km.[841] Hüdâvendigâr Province was asked to submit a report about the feasibility of this plan by *Umur-ı Ticaret ve Nâfia Nezâreti* (the Ministry of Commerce and Public Works). For this reason, based on the explanation attached to the plan, the head of engineers[842], Frankiya, from *Hüdâvendigâr* Province *Nâfia Nezâreti* (the Ministry of Public Works) prepared a document on 7 March 1896 to explain the expenses of the construction of the road and a bridge passing over Nilüfer Stream.[843] **(Figure 5.9)** However, according to the document, due to the lack of sufficient funding for the whole process of the construction, the widening and construction of road had to be postponed to a later period. The construction of a bridge over Nilüfer Stream was always possible at all times, so it was also postponed to a later period. However, the following process could not be traced in the archival documents.

In addition to the construction of roads and bridges, there also became necessities to repair and reconstruct the existing ones. As seen in a document, for example, water flowing from the fountains and sewages of houses located in the vicinity of Climboz Stream were about to damage the stone walls on both sides of the stream.[844] For this reason, there was an insistence on the initial reconstruction of the base of the stone walls and the walls themselves afterwards. According to the same document, although the Municipality of *Hüdâvendigâr* Province *(Daire-i Belediyye)* was funded 2500 *guruş* by the silk factory for the reconstruction of the side stone walls and the repair of the bridge passing over the stream, there was no attempt to reconstruct or repair the walls physically at first. However, since the considerable threat of flood damage continued, *Yaver* Mehmet, an officer, was sent for an urgent inspection of the site in order to solve this problem. As seen, the correspondences could also take much more time than predicted due to problems in finding funds and inspecting the site as well as according to the urgency of situations.

[841] PLK. p. 2488-4.

[842] *Turuk ve Meabir Sermühendisi.*

[843] PLK.p. 2488-1.

[844] HH.THR.1249-23-1-1.



Figure 5.9 Nilüfer Bridge; photo: G. Berggren, c. 1890.
Source: Özendes, E. (1999). *The First Ottoman Capital Bursa, A Photographic History. İstanbul*: YEM Yayın.

The roads and bridges connecting the urban core with its periphery, and the peripheral roads linking these with the hinterlands eased the transportation of commercial agricultural goods to other Ottoman cities and Europe. The development of roads also provided an advanced communication, flow of merchants, travelers, foreign investors, and immigrants. The developed infrastructure also facilitated the increased production in the city and its environs as well as the construction of new building types of the nineteenth century in Bursa.

5.1.1.1.2 The Railway

In addition to new roads, the construction of railways was the other important infrastructural development of the nineteenth century that connected the urban core, the periphery, and the hinterlands with the edges of Bursa, and hence made transportation easier for commerce of industrial and agricultural products.

Railway introduced modern technology and lifestyle to the cities in the nineteenth century by leading to the emergence of new hopes for the future. As a significant economic product of industrialization, railways encouraged the improvement of

economic situations of the nineteenth century cities. They also changed the appearance of the urban landscape by accelerating construction facilities all around cities. European cities initially undertook such a reconstruction process to respond to the needs of railways as well as the rapid growth in urban population. The horse-drawn vehicles were partly replaced by railway, which eased the transportation of goods and customers for long-distance travel. A railway journey, on the other hand, also provided travelers to experience different spaces at further distances.

The Ottoman lands had become a geography that included significant market areas for the European capital by the late nineteenth century. Since the road passing through Anatolia to the Middle East was rather shorter, English companies in business also wanted to reach the region by railway crossing the Ottoman lands. Therefore, before the operation of the Suez Canal, they offered to construct the railways in Anatolia. Railways, therefore, became a tool of a beneficial investment for European capitals. Cheap and easy transportation opportunities were offered by railways, enabling new agricultural areas to be cultivated more effectively on the Ottoman lands.[845]

As a result of the competition between the existing transportation systems with lower costs and steam transport technology with higher speed, the role of railways in trade continued to increase while camel caravans and non-mechanized transport vehicles still retained their importance. The construction of railways through the wide territories of the Ottoman Empire was an urgent necessity in the late nineteenth century in order to make the use of agricultural lands more efficient, to strengthen the relations with Europe, and to transport military equipment to the places where central authority weakened.[846] For instance, with the arrival of the railway to Ankara, agricultural production at the periphery of the city flourished through the establishment of an irrigation system as well as the agricultural knowledge of

[845] Yıldırım, İ. (2012). Osmanlı Demiryolu Politikasına Bir Bakış. *Fırat University Journal of Social Science,* Vol. 12, No. 1, Elazığ, 2012, p. 323.

[846] Hülagü, M. (2011). Sultan II. Abdülhamid Dönemi ve Demiryolu Politikası 1876-1909. In *Devr-i Hamid Sultan II. Abdüljamid.* Cilt 3. Kayseri: Erciyes Üniversitesi, pp. 137-138.

immigrants settled around the railway.[847] Railways, therefore, did not only contribute to the connection between vast agricultural hinterlands and the ports, but also brought the reduction in transport costs, speed, and new market opportunities.[848]

In that sense, the construction of railways provided the connections to inland cities and even to European cities with the supply of the ports, which consolidated the economic integration of the Ottoman state with the world economic system in some respects. Unlike some scholars judging the Ottoman economy as dependent on the European economy and its development as stagnant and some others supporting the idea of the economic integration of the Ottoman economy with the world economic system especially through commercialization of agriculture, Pamuk[849] does not argue for neither the economic integration nor dependent economy. On the contrary, as an economic historian, he claims that the Ottoman Empire participated in the European economic system as a peripheral country, and its economy was influenced by the competition between European powers. The foreign investment by European capital affected the Ottoman economy with the investment in the construction of railways particularly in Anatolia and Syria to link the fertile agricultural lands to main ports and the other infrastructural investments such as utility companies, insurance, and shipping.[850] Besides, the cities alongside the railway lines on the Ottoman lands were economically and socially restructured within the Ottoman modernization process especially in the late nineteenth century.

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[847] Ibid.

[848] Quataert, D. (1994). The Age of Reforms, 1812-1914. In H. İnalcık & D. Quataert (Eds.). *An Economic and Social History of the Ottoman Empire, 1300-1914*. UK: Cambridge University Press, p. 798.

[849] Especially emphasized in his books: Pamuk, Ş. (1994/2017). *Osmanlı Ekonomisinde Bağımlılık ve Büyüme (1820-1913)*. İstanbul: Türkiye İş Bankası Kültür Yayınları; Pamuk, Ş. (2007/2018). *Osmanlı Ekonomisi ve Kurumları Seçme Eserler I.* (Trans.). G. Aksay (Chapters: 5, 7, 9, 10, 11). İstanbul: Türkiye İş Bankası Kültür Yayınları.

[850] Pamuk, Ş. (2012). Ottoman Economic Legacy from the Nineteenth Century. In M. Heper & S. Sayarı (Eds.). *The Routledge Handbook of Modern Turkey*. London and New York: Routledge, Taylor&Francis Group, p. 46.

Since it would be possible to build the railways via contributions of skilled workers capable of operating the technology, the state also imported labor from Europe.[851] However, the Hejaz Railway, connecting Damascus to Mecca, was built by the Ottoman state with mainly the support of Ottoman labor, which was considered a unique example among other railroads in the Ottoman lands in terms of employing local workers.[852] Ottoman rulers considered railway technology as a way of solving the transportation problem of the country. The development of the Ottoman railways was realized as a result of not only the Ottoman interest but also the interests of foreign countries. Although all the interventions did not affect the whole corners of the Empire homogenously, the railway technology was introduced to the Empire.[853]

Railways physically connected the urban core of cities with their peripheries, hinterlands, and farther edges where ports existed, as in the case of Bursa, and also economically integrated these cities into the world economy. As Quataert noted, there were several benefits from the railways that the Ottoman state gained.[854] First of all, the interior regions were opened to be politically controlled and economically developed. Second, the Ottoman troops quickly moved in the Empire and became successful in the war of 1897 with Greece, the Balkan wars and the First World War. Third, after the wars, thanks to the settlement policy of the state, the immigrants were settled along the railways with greater safety and potential commercial agriculture. Forth, due to the decrease in transport costs, the circulation of many people was provided within the Empire by the railway while caravan transport also fed the network of the railways. And finally, railways acted as the conduits both for the export of industrial raw materials and agricultural commodities and for the import of finished European goods.[855]

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[851] Quataert, 1994, p. 806.

[852] Ibid.

[853] Tekeli & İlkin, 1993, p. 170.

[854] Quataert, 1994, pp. 812-815.

[855] In addition to all these benefits, Quataert (1994) claims that, due to the military reasons, it would also be beneficial to extend the İzmit-Ankara railway line to the fertile agricultural lands in Sivas instead of the line passing through the Eskişehir-Konya line.

Hülagü describes the historical processes of the construction of the railways on the Ottoman lands in four stages. First of all, the years between 1856-70 constituted the formation process of the railways.[856] British investors were active in Rumelian and Anatolian lands in this first stage. Secondly, by the 1870s, the railway construction was no longer maintained only by the British companies, but many other European companies were now active in gaining the tenures of both the construction and management of the railways.[857] At the time, the plans were realized by the assistance of foreign companies.[858] Thirdly, in the years between 1880-90, European connections were established; the Rumelian railway was completed And Britain was active in Anatolia. And, finally, in the years between 1890-1900, German companies were in the foreground in the construction process. In the end, the railways in Anatolia were all constructed by foreign entrepreneurs without secondary linkages, while railway bridges were constructed by the Ottoman Empire.[859] For instance, İzmir-Aydın Railway, built by the British companies, started operation in 1866.[860]

On the other hand, the resistance of the Empire to keep its sovereignty against the domination of European countries encouraged the initiation of some railway constructions, and the adoption of technology and its implementation especially in the critical points were realized at short notice, and the state attempted to construct three railways in this process: Haydarpaşa-İzmit line, a part of İzmir-Kasaba line, and Mudanya-Bursa line.[861] Hidjaz Railway was also an Ottoman Project, and it was planned to connect Istanbul, Aleppo, Damascus, and Beirut to the cities of Mecca and Medina.[862] The Hidjaz railway was planned as the most significant project in terms of its strategically important position in preventing the Arabian Peninsula from the invasion of Britain, which had already had dominance over Egypt and the Suez

[856] Hülagü, 2011.

[857] Tekeli & İlkin, 1993, p. 161.

[858] Quataert, 1994, p. 808.

[859] Kahya, E. (1994). The First Railways in Turkey. *Ankara University, the Journal of Faculty of Languages, History and Geography of the Department of Philosophy,* Vol. 15, p. 211.

[860] Ibid., p. 210.

[861] Tekeli & İlkin, 1993, pp. 163, 170.

[862] Çelik, 2008, p. 25.

Canal.[863] The construction of the railway proved that state was capable of financially supporting a well-developed transportation system and technically implementing it.

In 1856, the first railway in the Ottoman lands was built between İzmir and Aydın to connect to the port of İzmir to its hinterlands. The Rumeli Railway between Sirkeci and Küçükçekmece on the European side of İstanbul was constructed between the years of 1870 and 1872. The Anatolian Railway, a 100 km of track, from İzmit to Ankara, was constructed between 1890 and 1895 with a secondary link to Konya.[864] On the other hand, Mudanya-Bursa railway was also opened in 1892 to transport raw silk to Marseille Port and then to Lyon, the silk production center of France.[865] This railway was thus constructed to answer the demand of transportation of industrial and agricultural raw materials, which were produced in Bursa.[866] The railway bridges were also constructed on the line, considering the nature of topography. **(Figure 5.10, 5.11)**

The construction of Mudanya-Bursa Railway, a line of 42 km, was initiated by the state in the years between 1873 and 1874, but halted in 1875 due to economic reasons, and was finally completed in 1892[867] by foreign private companies.[868] **(Figure 5.12)** The last tenure of the construction was given to a Belgian private company, named Georges Nagelmackers, in 1891.[869] It should be noted here that the

[863] Tekeli & İlkin, 1993, p. 168.

[864] Quataert, 1994, p. 808.

[865] Aktar, A. (1996). Bursa'da Devlet ve Ekonomi. In Engin Yenal. (Prep.). *Bir Masaldı Bursa.* Istanbul: Yapı Kredi Yayınları, p. 629.

[866] Bağbancı, M. B. & Köprülü Bağbancı, Ö. (2010). Urban Reforms of Tanzimât: Early Urbanization and Transportation Practices in the Formation Process of Turkish Reconstruction System (1839-1908) in Bursa the First Capital City of Ottoman Empire. *International Journal of Social, Behavioral, Educational, Economic and Management Engineering,* Vol. 4, No. 6, p. 1132.

[867] Tekeli, İ. (2007). Anadolu'da Kent Tarihi Yazıcılığı Üzerine Bir Yöntem Önerisi. In C. Çiftçi (Ed.). *Bursa'nın Kentsel ve Mimari Gelişimi.* Bursa: Osmangazi Belediyesi Yayınları, p. 78.

[868] Durak, S. (2007). Bursa-Mudanya Demiryolu Hattı ve İstasyon Binaları. In C. Çiftçi (Ed.). *Bursa'nın Kentsel ve Mimari Gelişimi.* Bursa: Osmangazi Belediyesi Yayınları, p. 232; Tekeli, 2007, p. 78.

[869] EHT 1947 B 138; Durak, 2007, p. 232; Yazıcı, M. (2015). *Mudanya-Bursa Demiryolu Yapımı ve İşletmesi (1873-1908).* Bursa: AKMAT Akınoğlu Matbaacılık San. Tic. A. Ş., p. 60. The contract (A.DVN.MKL, 84-8), derived from the Presidential Ottoman Archive, and the agreement (EHT 1947

introduction of a railway in the region was not only imposed by the state with the support of foreign investors for modernization purposes, but it was also demanded by the local urban citizens and the peasants. For instance, a document dated 1891 gives information about the opening ceremony of Mudanya-Bursa railway and includes the gratitudes of the public of Bursa to the Sultan for this construction.[870]

B 138) derived from National Library, Ankara, are included in the appendices. For the articles of the agreement and the contract, see the Appendix B and C. The agreement including 44 articles was signed and printed in 1891 in İstanbul in both languages, Ottoman and French, and the contract comprised two chapters with thirty and forty-five articles respectively was signed in 1892. The contract and the agreement are also included in the appendices of Mustafa Yazıcı's Msc Thesis (Yazıcı, M. (2010). Mudanya-Bursa Demiryolu Yapımı ve İşletmesi (1873-1908). Msc Thesis. Marmara Üniversitesi Türkiyat Araştırmaları Enstitüsü) and book (2015), *Mudanya-Bursa Demiryolu Yapımı ve İşletmesi (1873-1908)*, in Turkish.

[870] Y.PRK.SRN 3 42.



Figure 5.10 22nd kilometer of Mudanya-Bursa railway.
Source: İstanbul Rare Collections Library 91548-4.



Figure 5.11 35th kilometer of Mudanya-Bursa railway.
Source: İstanbul Rare Collections Library 91548-5.

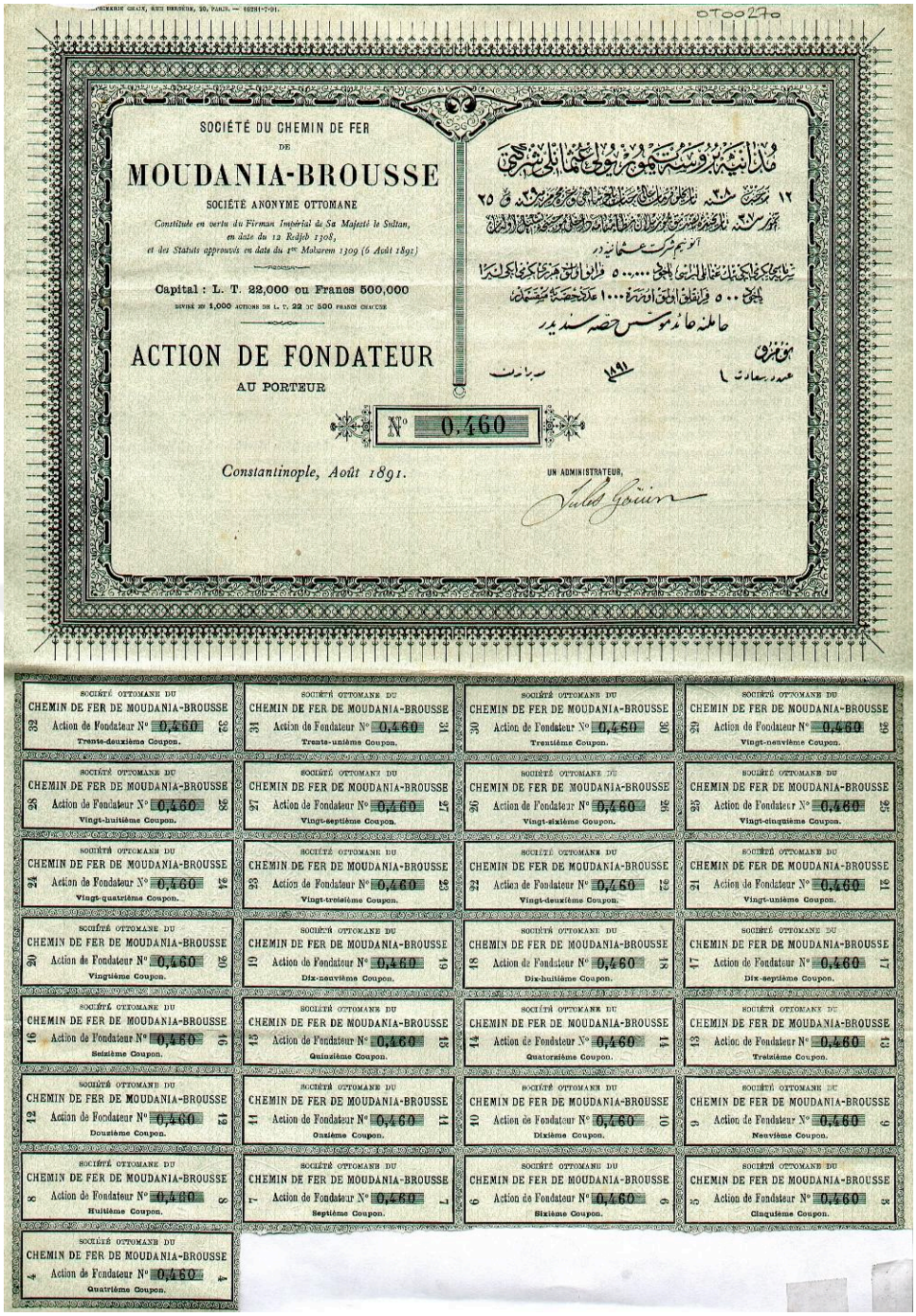


Figure 5.12 Mudanya-Bursa Railway Ottoman Company *(Société du Chemin de fer de Moudania-Brousse S.A.O. 500 FF action de fondateur; Demiryolu Osmanlı Şirketi),* 1891.
Source: SALT Research Ottoman Bank Archive, OT00270, Stock&Bond.

In the meantime, the railway that was to be constructed between Balıkesir and Konya, and which was planned to pass through a point between Bandırma and Mudanya, was commissioned also to Georges Nagelmackers in 1892, but remained

only as a project.[871] The connection of İzmir-Soma railway with Bandırma, going through Balıkesir-Mihaliç route, was another issue on the agenda of the government in 1906.[872] As another example, due to a technical inadequacy in the railway construction, the initiatives of the Ottoman state to construct the rails in order to connect İzmit and Mudanya with their ports failed.[873]

Despite such unrealized attempts, the establishment of steamship and railroad companies became the most significant way of supporting silk trade in Bursa.[874] There are two fundamental reasons behind the construction of the railway linking Bursa with Mudanya Port. One of these was the transport of raw silk produced in filature factories in the city first to the Mudanya port, and then to the Marseille Port by ships.[875] Another reason for the establishment of easy transportation between not only the urban core but also the hinterlands of Bursa and its coastal edge was the transport of agricultural goods produced in vast agricultural hinterlands for supplying food for the palace and the military forces in İstanbul as well as meeting the growing demands of Europe for agricultural raw materials.[876] Therefore, the development of an advanced transportation system brought the ease of access for agricultural goods both to the center via roads and to the port via the railway. As a result of both objectives, trading activities focused on the ports during this period, considering sea transportation as well as the import and export of properties. It should be noted that, in addition to those related with trade of products, the railway also provided the transport of travelers to thermal springs in Bursa. As understood from traveler notes, almost all the travelers who visited Bursa in the late nineteenth century used the

[871] Yalazı, Ş. (2016). *Nüfus ve Temettuat Defterlerine Göre 19. Yüzyılda Karacabey'in Toplumsal ve Ekonomik Yapısı.* Avrasya Etnoğrafya Vakfı Yayınları. No: 28, p. 295.

[872] Ibid., p. 296.

[873] Quataert, 1994, p. 808.

[874] Akkuş, M. (2008). 19. Yüzyılda Bursa'daki İpek Ticaretini Geliştirmeye Yönelik Bir Kurum: Vapur Kumpanyası ve Nizamnamesi. *Ankara Üniversitesi Osmanlı Tarihi Araştırma ve Uygulama Merkezi Dergisi OTAM,* 24, p. 1.

[875] Aktar, 1996, p. 133.

[876] Yazıcı, 2015, p. 95; Çiftçi, 2012.

railway.[877] Therefore, a gradual shift in the economic activity affecting not only the urban core and its periphery but also the edge of the city at the ports, was not only due to the growing demands of Europe for agricultural raw materials and silk transport, but it was also related to the transportation of people willing to benefit from natural sources in the city.

The railways of Ottoman cities especially in Anatolia were generally constructed between the agricultural hinterlands and their ports for the transportation of agricultural raw materials. Unlike this fundamental goal of Anatolian railways, Bursa-Mudanya railway was not connected to Bursa Plain, but rather extended in a linear way between the filature factories in Bursa and the Mudanya Port to facilitate especially the silk transport to Lyon through Marseille Port.[878]

The construction of Mudanya-Bursa railway did not only provide the transport of raw silk to Europe, but also stimulated the spatial transformation of Bursa with its environs. Since the railway provided the flow of merchants, travelers, foreign investors, and immigrants, the industrial and agricultural production increased in the city and its environs, which necessitated the construction of immigrant villages, planned neighborhoods, construction of factories and hotels and thereby resulting in the spatial transformation of the urban core of Bursa with its periphery as well as the hinterlands and city edges.

5.1.1.2 Connecting the Edges to the World Beyond the Sea: Ports

Industrialization and the resultant expansion of trade by European countries, as major determinants in the transformation of many Mediterranean seaports into international, commercial, and cultural channels with their harbors, led to the flow of capital, investors, and immigrant workers by long-distance vessels.[879] According to Hastaoğlu-Martinidis, the intense harbor building activity on the Eastern

[877] See: **Table 1.1** in Chapter 1.

[878] Aktar, 1996, p. 133; Secer, Durak, & Vural Arslan, 2016, p. 629.

[879] Zandi-Sayek, S. (2012). *Ottoman İzmir The Rise of a Cosmopolitan Port, 1840-1880).* Minneapolis London: University of Minnesota Press, p. 5.

Mediterranean shores took place especially in the second half of the nineteenth century, and harbors were the instruments of the renewal of urban space monitoring the activities in industry, services, and commercial relationships.[880] Correspondingly, an increase in trade triggered by architectural reflections of modernization such as new financial institutions, transportation buildings, and advanced technical facilities as well as new forms of urban management appeared in the lands of the Ottoman Empire.[881] Port cities such as Alexandria, İzmir, Selânik, and Beirut were opened to global networks of trade especially by the Anglo-Ottoman Commercial Trade Treaty of 1838, which also had an impact on the acceleration of the urban development.[882] According to Quataert, the most active Ottoman port facilities included in Selânik, İzmir, Beirut, and İstanbul in the late nineteenth century.[883] Considering each case, the flow of commerce was accelerated by new facilities at these ports.[884] First, the commerce of Selânik increased in the 1860s and 1870s with the construction of Selânik-Mitrovitza railroad. Second, port facilities in İzmir were improved in between 1867 and 1875. Third, Beirut port was developed by a Paris-based company in 1894 with the construction of a pier, a dock, new customs house, and a quarantine building. Fourth, the erection of quays of the İstanbul port by another French company provided the direct handling of large steamships. Besides, with modern construction technology in the nineteenth century, the new urban environment was produced through the rearrangement of new quarters in regular street pattern, the improvement of street paving, lighting, sewage, and water lines as well as the building of modern railway stations.[885] The other patterns of urban environment were customs houses, warehouses, and the subsequent construction of new bank and office buildings. In addition to these arrangements, manufacturing premises, department stores, and the like as well as apartment buildings were also constructed.

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[880] Hastaoğlu-Martinidis, V. (2010). The Cartography of Harbor Construction in Eastern Mediterranean Cities: Technical and Urban Modernization in the Late Nineteenth Century. In M. Toksöz & B. Kolluoğlu (Eds.). *Cities of the Mediterranean: From the Ottomans to the Present Day.* London: I. B. Tauris, pp. 69, 84.

[881] Ibid., p. 69.

[882] Zandi-Sayek, 2012, p. 5.

[883] Quataert, 1994, pp. 802, 803.

[884] Ibid., p. 803.

[885] Hastaoğlu-Martinidis, 2010, p. 83.

With its agricultural hinterlands and ports at its edges along the Marmara Sea, the city of Bursa also experienced a similar development process albeit more modest in all scales in comparison to the afore-mentioned port cities of the period. In relation to the increased production in the city, the use of technology for road and railway construction, and foreign and local investors' attempts for construction and management of transportation on land and by sea were the highly influential factors behind this process. To this end, Mudanya and Gemlik ports at the nearest locations to the city of Bursa along the Marmara Sea had leading positions in experiencing the contributions of urban shapers such as immigrant and local farmers and workers producing industrial and agricultural products, engineers using technology and working in companies and state institutions, foreign and local investors establishing and managing companies as well as the government for regulation of these processes.[886]

In this context, a special attention was appropriated to Mudanya Port since it experienced an urban and architectural transformation process at a considerable scale. **(Figure 5.13)** With the construction of the dock and the railway, the port advanced in economic and architectural terms. At the economic level, trading and travelling activities increased as production was upgraded through the mechanization of agriculture in the agricultural hinterlands of the port. The use of advanced machines in agriculture was also provided by export of foreign machines via the port. At the architectural level, Mudanya Train Station showed the common features of contemporary stations constructed at that time. The footprints of the age can be ideally followed through not only the main station at the port, but also through the stations along the railway. **(Figure 5.14)**

[886] See: **Figure 2.9** in Chapter 2.



Figure 5.13 Mudanya Port before the construction of the railway.
Source: İstanbul Metropolitan Municipality İBB Atatürk Library, Krt-11416.

Mudanya Port was working in relation to Mudanya-Bursa Railway interrelating the urban core of the city with its edge at the port. The port-railway relation in the Mudanya case can also be exemplified with similar cases in other Ottoman cities in the late years of the nineteenth century. This relation can be conceptualized by the concepts of hinterland-edge connectivity and their dependency on each other. This conceptual viewpoint explains how agricultural hinterlands played a role in the development of city edges to open the ports towards the world beyond the sea, and how sea transportation induced import-export activities that could also contribute to the mechanization and commercialization of agriculture. Beyond that, railway constructions would also open ways for merchants, foreign investors, travelers, and immigrants to trade in cities, construct factories and hotels, and stay in hotels as well as contribute to the level of production.



Figure 5.14 Mudanya Train Station.
Source: The author's photo, 2017.

The similarity between the ports and railways of Bursa and Mersin is worth to be discussed: First of all, the investments in the construction of the railway were financed and operated by foreign entrepreneurs both in the ports of Mudanya and Mersin. Secondly, the role of Mudanya and Mersin ports in the international commerce was widely that of a transit trade center. The reason behind the high import-export rates in Mersin port in the 1870s was the construction of Mersin-Adana Road in 1873 and the railway in 1886.[887] Likewise, the widening of Mudanya Road in 1862 and the introduction of railway in 1892 affected the international trade as well. Therefore, the flourishing international trade and growing commercial activity in port towns were the main influential factors behind the change at the coastal edges of Bursa and Adana. On the whole, the central authority, uniformity, and rationalization based on the Tanzimât ideals were strengthened via codifying new laws, offering equality for all citizens, and confirming private property. Thirdly, the production level in the hinterlands of these ports was absolutely the decisive factor behind their formation. Meanwhile, the hinterlands of Mudanya and Mersin were Bursa and Adana respectively. As industry and commerce developed, the cities of Bursa and Adana became the centers of the production of silk and cotton as well as the transport of these raw materials respectively. Bursa was on the foreground in the raw silk production while Adana was the center of raw cotton production in the second half of the nineteenth century with the factories established in these cities. The cities behind the ports, Bursa and Adana, underwent a process of industrial

[887] Ünlü, T. (2013). Transformation of a Mediterranean port city into a 'city of clutter': Dualities in the urban landscape – The case of Mersin. *Cities 30,* p. 177.

expansion to serve for international growing demands for silk and cotton. However, the factories constructed in Bursa and Adana not only adapted to the growing demands of Europe for raw materials but also served as the major conduits for their domestic markets. Mudanya and Mersin ports in turn became two most significant transit points at the coasts of Anatolia. To this end, the production of raw materials in factories and the transport of goods through railways and ports were the shared concerns for Bursa and Adana.

As mentioned before, Mersin, one of the port towns in the Mediterranean coast of Anatolia, had fertile agricultural lands and was located in Çukurova Region. It was founded by the French mandate in the first half of the nineteenth century. The modernization of the town was actualized by the reorganization of circulation routes, interrelated patterns of buildings, interconnected squares, and narrow streets.[888] In addition, Uray Street between Customs pier and the railway station was enhanced with the change on the waterfront through the establishment of banks, hotels, and insurance agencies.[889] Similarly, in İzmir, numerous hotels, maritime agencies, insurance companies, national post offices, and warehouses along Cordon Street assisted the merchants of İzmir to modernize their business practices within the international commercial networks.[890][891] Unlike Mersin and İzmir ports, there were few efforts in the ports of Bursa to form the waterfront as a planned settlement, probably because they were farther away from the urban core of the city. Nevertheless, also in the case of Mudanya Port of Bursa, the building of a new dock, a train station, and the port-related buildings were also important attempts to contribute to the development of Mudanya town at a considerable level.

Although not as developed as the afore-mentioned modern constructions in other port cities of İzmir or Mersin, the port at Mudanya together with the Gemlik port

[888] Ibid., p. 177.

[889] Ibid., p. 179.

[890] Zandi-Sayek, 2012, p. 29.

[891] İzmir port had a significant connection with Bursa as most of the silk produced in Bursa had been exported to Europe through İzmir port until the first half of the nineteenth century. On the other hand, goods such as Egypt's rice and Aegean islands' soap were also transported by caravans through İzmir port to Bursa (Satıcı, 2008, p. 360).

served the city of Bursa at its edges at the coasts of the Marmara Sea, also contributing to the transformation of these city edges into international, commercial, and cultural channels. Similar to the development of other Ottoman ports of the Eastern Mediterranean region, the Marmara coastal edge including Mudanya and Gemlik ports functioned as a bridge connecting Bursa with Europe. The docks of Mudanya and Gemlik were nodal points for causes that led not only to the transformation of city edges, but also to the changes in commercial practices in the nineteenth century, which were linked to the modernization process of the period. Especially Mudanya was a port that hosted various changes through the construction of a new dock accompanied by Mudanya-Bursa railway. Mudanya Port can also be considered as a significant point that acted as a channel between agricultural hinterlands, filature factories in the city, and European markets.

Before the nineteenth century, the managements of economic and provisioning issues were organized within the city of Bursa by consignments *(emânetler),* warehouses, banqueting halls *(divanhâneler),* and bazaars *(çarşıs)* not only to operate the transportation and marketing of goods, and the control of the costs, but also to enable the provision of military garnizons, waqfs, the kitchen of the palace *(matbâh-ı amire),* and the public in the capital.[892] Besides, there was a branch customs office of İstanbul *Emtia Gümrüğü* (Customs House) to take customs duty *(gümrük resmi)* in Mudanya.[893] The customs duty for the commodities and other products such as silk transported from Bursa to İstanbul, and for agricultural goods transported from Mudanya, was received not from Bursa or Mudanya, but İstanbul.[894] However, a customs house, which was later used as Mudanya Train Station with the construction of the railway, was built in 1849.[895]

Therefore, Mudanya Port was always a focal point in the edge of Bursa. It was not only a gateway to the Mediterranean Sea and Europe, but also a crucial hub for the

[892] Çiftçi, C. (2004). Osmanlı Döneminde İstanbul'un İâşesinde Bursa'nın Rolü. *Osmanlı Tarihi Araştırma ve Uygulama Merkezi (OTAM) Dergisi*, No. 16, pp. 154, 155.

[893] Satıcı, 2008, pp. 36, 373, 374.

[894] Ibid., p. 366.

[895] Durak, S. (2003). Bir Modernleşme Projesi Olarak Anadolu'da Demiryolları ve Bursa-Mudanya Demiryolu Hattı. Uludağ Üniversitesi, Fen Bilimleri Enstitüsü. Master Thesis, p. 143.

transport of goods of Bursa to İstanbul as one of lucrative provinces of the Empire. The port acted as an antrepo for provisioning the capital. Mudanya Port, in the west of Gemlik, was active in the transportation of goods to the other ports of the Empire as well. The goods such as olive, grapes, and mulberry produced in villages such as Tirilye (Zeytinbağı), Sii (Kumyaka), and Kurşunlu, where populations were mostly of Greek origin, were all transported to İstanbul through Mudanya port.[896] A variety of goods were produced in Bursa Sandjak. **(Table 5.1, 5.2)** Silk and agricultural goods were also transported to İstanbul and other ports of the Empire mainly through Mudanya Port.[897] In turn, the commodity brought from İstanbul and the other ports of the Empire were also transported to Bursa through Mudanya Port.[898] Moreover, at the end of the eighteenth century, silk from Kurşunlu dock and *kirbâs*[899] from Mudanya port were transported to İstanbul.[900] Therefore, the most active dock was the dock of Mudanya as the closest one to Bursa.[901]

[896] Satıcı, 2008, p. 365.

[897] Ibid.

[898] Ibid., p. 366.

[899] Kirbâs: a kind of cloth; linen or cotton like fabric produced in the Ottoman era (luggat.com).

[900] Aygün, N. (2008). XIX. Yüzyıl Başlarında İstanbul Merkezli Osmanlı Deniz Taşımacılığı. *Osmanlı Tarihi Araştırma ve Uygulama Merkezi (OTAM) Dergisi,* No. 23, Ankara, p. 72.

[901] Çiftçi, 2004, p. 157.

Table 5.1 The list of products in 1904 (H. 1322) in Bursa Sandjak.
Source: *Hüdâvendigâr Vilâyet Salnâmesi,* 1907 (H. 1325), p. 316.

Burusa Sandjak	Tütün (Gr)	Afyon (Gr)	Palamud (Gr)	Tereyağı (Gr)	Peynir (Gr)	Yün ve Yapağı (Gr)	Keçi Kılı (Gr)	Tiftik (Gr)	Soğan (Gr)	Patates (Gr)
Burusa	2	-	-	5	6	-	-	-	-	-
Adranos	4	3	-	10	24	15	15	-	-	15
Mihaliç	-	-	-	10	100	30	5	(12	200	-
Kirmasti	100	-	-	10	50	27	11	(20	-	-
Pazarköy	6	-	-	-	-	-	-	-	-	2
Gemlik	2	-	-	(500	6	25	20	-	-	-
Mudanya	-	-	-	-	-	-	-	-	2500	-
Total	112	3	-	35	186	97	51	(32	4500	17

Table 5.2 The list of products in 1904 (H. 1322) in Bursa Sandjak.
Source: *Hüdâvendigâr Vilâyet Salnâmesi*, 1907 (H. 1325), p. 314.

Burusa Sandjak	Buğday (Kilo)	Arpa (Kilo)	Yulaf (Kilo)	Kapluca Çavdar (Kilo)	Mısır ve Darı (Kilo)	Pirinç (Kilo)	Bakla (Kilo)	Fasülye (Kilo)	Nohud ve Mercimek (Kilo)
Burusa	480	250	12	25	13	-	20	3	10
Adranos	200	150	400	23	20	-	470	1	6
Mihaliç	493	142	107	126	90	4	107	816	1
Kirmasti	400	240	80	16	24	-	80	13	3
Pazarköy	167	57	70	170	3	6	75	400	1
Gemlik	78	39	15	-	42	-	250	-	200
Mudanya	77	17	25	18	9	-	-	-	-
Total	1995	885	309	208	210	10	207	18	21

As seen, although the signs of a physical transformation had not apparent until the nineteenth century, there were significant attempts to functionalize and revive the dock of Mudanya in the middle of the nineteenth century.[902] For instance, captain Miralay Osman Bey was charged with examining the port in 1845 before the visits of Georges Perrot, an archaeologist, to investigate the ruins of Apomeia/Myrleia two

[902] Çiftçi, 2012, p. 52.

times in 1857 and 1881.[903] Besides, in the second half of the nineteenth century, telegraphs were also sent and received, and the steamboats were active between Mudanya and the capital city of İstanbul on each day, except Thursdays, as stated in an archival document.[904] The regular running of the steamboats between Mudanya and İstanbul, delivering of telegraphs, and accepting deposits in the post offices were also the services provided by the sultan at the time.[905] For this reason, a letter of gratitude for the ease and comforts provided by the sultan were written by the public on 28 April 1886 to the governor's office.[906]

Mudanya was in a leading position in provisioning İstanbul, especially in the transport of agricultural goods until the 1840s, while the other port of Bursa in Gemlik was on the foreground in timber shipping.[907] Timber, brought from Ahı and Domaniç mountains, was a material that was used at *Tersâne-i Âmire* (the Imperial Arsenal) in Haliç and at the state shipyard in Gemlik.[908] As Marie de Launay also stated, since Gemlik Port was suitable for anchoring ships and proper to the construction of bigger ships for *Tersâne-i Âmire*, the port had a shipyard.[909] When a steamboat, called *"Mısır-i Bahri,"* started the transportation between Gemlik and İstanbul in 1844, Gemlik became a significant port for trade and transport for the city of Bursa.[910] Another reason behind the prominence of Gemlik in the 1840s was the construction of a modern road *(şose)* between Gemlik and Bursa in 1851.[911] *Gemlik Vapur Şirketi* (Gemlik Shipping Company), later named *Şirket-i Mahsusa*, was also

[903] Quoted from: Ciftçi, 2012, p. 52.

[904] Y.PRK.AZJ.11-35-1-1.

[905] Ibid.

[906] Y.PRK.AZJ.11-35-1-1.

[907] Satıcı, 2008, p. 366.

[908] Ibid., p. 361.

[909] Marie de Launay – Bonkowski Bey (1872/2015). *Bursa ve Civârı.* (Eds.). B. Kurt & İ. Yaşayanlar. İstanbul: Heyamola Yayınları, p. 124.

[910] Satıcı, 2008, p. 361.

[911] Ibid., pp. 362, 363.

established in 1864; and, maritime transportation started from Gemlik to İstanbul in 1865.[912]

Especially in the second half of the nineteenth century, the silk produced in Bursa was transported to France via both Mudanya and Gemlik Ports. In this regard, an archival document revealed the active status of Gemlik Port and difficulties encountered during the transfer of silk.[913] According to the document, in the 1860s, the obstacles for factory owners of Bursa silk trade were that the ships were not sufficient in number to transport the bales of silk, a situation which resulted in the waste of bales in the docks. Since silk trade is a vulnerable process due to the delicacy of the material, the silk had to be transported on time in good condition to the factories in France. Therefore, the difficulties in finding enough ships to transport the bales of silk played a role as a deterrent factor for the development of silk trade and the establishment of a shipping company by the endeavors of factory owners. As a result, the proposal of a French company to establish a line between the French ports and Gemlik dock was evaluated by the government, although a high price had to be paid.[914] However, according to the archival documents, the possible benefits to start a line from Gemlik to France was highly disputed among the offices in the government and the merchants who would become the investors later. The possible benefits of the establishment of a shipping company were clearly highlighted in the archival document. If this line was to be established, the marine trade could be strengthened and the ships could be active not only between France and Gemlik but also between the docks around Marmara Sea. Despite all these concerns, all the Muslim and non-Muslim merchants of Bursa were immediately informed and encouraged to collect a certain amount of money,[915] prioritizing the city's economic development rather than their own financial profits. Therefore, the expectations from such a maritime investment were not limited only to the development of the city of Bursa. The aim was also to produce scientific knowledge about sea and sea trade and

[912]Akkuş, T. (2010). *Meşrutiyet'ten Cumhuriyet'e Bursa Kent Tarihinde Gayrimüslimler.* İstanbul: Libra Kitapçılık ve Yayıncılık, p. 8.

[913] İ.MVL.502-22714-1-1.

[914] İ.MVL.502-22714-1-1.

[915] a fund of 7000 gold.

transmit that knowledge to the next generation, which would constitute an economic base to improve and encourage sea trade further. Paying attention to these reasons, Ahmet Vefik Pasha sincerely offered to allow ships to approach the docks as soon as possible on 21 April 1864.[916] The official report prepared by *Meclis-i Vâla* under the supervision of the inspector, Ahmet Vefik Pasha, was presented to the government. An offer for the establishment of a steamboat company was presented to the sultan *(Saltanat-ı Seniyye),* collecting signatures, and informing and encouraging Muslim and non-Muslim merchants.[917]

Afterwards, Ahmet Vefik Pasha, the inspector, reported his demand for the establishment of a shipping company to *Meclis-i Vâlâ-yı Ahkâm-ı Adliyye* (the Supreme Council for Judicial Regulations), and the issue was discussed in the government's office.[918] According to this document, although this process, which included the supply of ships for the dock and the preparation of a project (*lâyiha*) and an explanatory proposal for the establishment of the company, would take a certain time, the proposal was initially submitted to the sultan *(Saltanat-ı Seniyye)* with the annex of Nizamnâme (*Regulations*) of the Steamboat Company for the Gulf of Gemlik and Bursa.[919] **(Figure 5.15)** If the demand were approved, it would be expected to fulfill the proposal by the managers after the establishment of the company. Ahmet Vefik Pasha's demand to establish sea transportation between Gemlik and France was ultimately considered in *Kavânin ve Nizâmet Dairesi* (Department of Reform Council) and was accepted by *Meclis-i Vâlâ.* However, although it would take quite a long time to supply ships for the line, prepare an official project, and finalize the explanatory proposal, the inspector, Ahmet Vefik Pasha finally achieved his goal, and the project and the proposal was offered to the sultan in detail.

[916] İ.MVL.502-22714-3-1.

[917] Ibid.

[918] İ.MVL.502-22714-2-2.

[919] The regulation of the Steamboat Company for the Gulf of Gemlik and Bursa (*Gemlik Körfezi ve Bursa Vapurları Şirketi Nizamnamesi*, İ.MVL.531-23811-3-2): see Appendix A for the articles of the regulation.

The proposal *(lâyiha),* which would be valid for ten years starting from 15 March 1864, was approved by *Meclis-i Vâlâ-yı Ahkâm-ı Adliyye*.[920] A group of investors for maritime transportation comprising of Muslims and non-Muslims was gathered by order of the Sultan (*İrade-i Seniyye)* to invest in shipping goods from the capital, İstanbul, to Gemlik and other docks. The proposal also included some other concerns about the management of a road between Gemlik and Bursa.[921] Therefore, the proposal that included the articles for shipping and financial issues was sent to the sultan *(Saltanat-ı Seniyye)* for his approval.[922] In short, the fundamental aim of the proposal was to regulate a steamship company and to improve silk trade from Dersaadet to Gemlik and other docks, and this was especially emphasized in the report.[923] As seen, the agencies of reforms were encouraged not only by the government, but also by foreign and different local investors.[924]

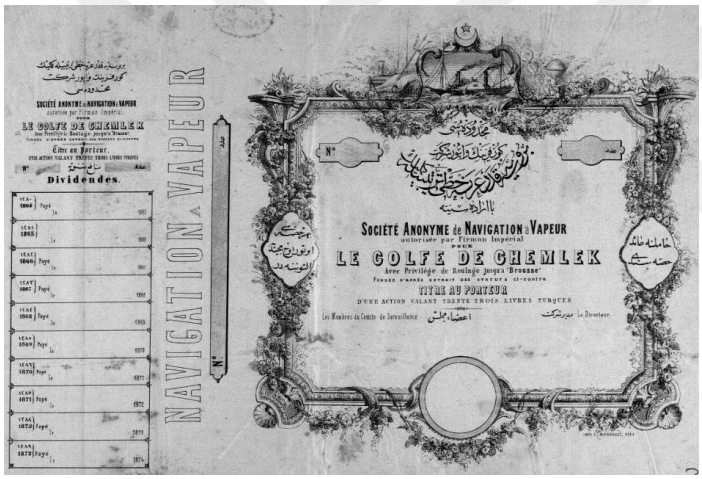


Figure 5.15 Cover Page of the Regulations of the Steamboat Company for the Gulf of Gemlik and Bursa *(Gemlik Körfezi ve Bursa Vapurları Şirketi Nizamnâmesi).*
Source: Presidential Ottoman Archive, İ.MVL.531-23811-2-1.

[920] İ.MVL.531-23811-4-1.

[921] İ.MVL.531-23811-5-1.

[922] İ.MVL.531-23811-4-1. Since the document was written for the approval of the proposal by the sultan, this proposal was also recorded to the unit of *Divan-ı Hümayun (Divan-ı Hümayun Kalemi),* and an official certificate was sent to *Nâfia Nezâreti* (İ.MVL.531-23811-5-1). Besides, the company would conform to all the regulations offered by the sultan (*Saltanat-ı Seniyye).*

[923] İ.MVL.531-23811-5-1.

[924] Neumann, C. K. (2002). Ottoman Provincial Towns in the Eighteenth to the Nineteenth Centuries. In J. Hanssen, T. Philipp, & S. Weber. (Eds.). *The Empire in the City: Arab Provincial Capitals in the Ottoman Empire.* Beirut and Würzburg: Orient-Institut der Deutschen Morgenländischen Gesellschaft, p. 132.

When Gemlik port became a significant transportation hub due to several afore-mentioned reasons, the outstanding importance of Mudanya port declined to a certain extent towards the end of the nineteenth century.[925] However, with the construction of the road *(şose)* and the railway between Mudanya and Bursa, Mudanya port acquired its former accustomed intensity.[926] Silk, brought to the ports of Bursa, was transported to Lyon, Marseille, Paris, Nottingham, and London via private shipping companies such as Fraissinet, Paquet, and Messageries.[927] Meanwhile, in addition to these foreign companies, the Ottoman *Ticaret-i Bahriye Şirketi* was also active in Mudanya Port while Fraissinet was also active between Mudanya and Marseille and Genoa.[928] With these developments, the export of goods from Mudanya to France became larger than the import of Mudanya from France.[929]

As for the variety of products, the storages of olive were especially found in Mudanya and Gemlik.[930] **(Table 5.1, 5.2)** A large amount of olive was transported to Europe, while a small amount was sent to Alexandria and Bulgaria.[931] The sericulture was also improved in the vicinity of Mudanya. Even though it is generally repeated in the literature that factories were always built in the city, it is also necessary to draw attention to the existence of factories in the port towns like Mudanya as well. In the center of Mudanya,[932] there were two docks, a government hall, a municipality building, a telegraph and post office, a customs office, a quarantine building, a port department, a few factories, and an office of the Public

[925] Satıcı, 2008, p. 372.

[926] Ibid.

[927] Akkuş, 2010, p. 8.

[928] Ibid.

[929] Düvenci Karakoç, F. (2008). *Modernleşmenin İçinden Çıkan Mudanyalı Aile: Ahmet Rüştü Efendi ve Oğlu Mehmet Hayri Bey (İpar).* Bursa: Gaye Kitabevi, p. 32.

[930] Ibid., p. 27.

[931] Ibid.

[932] There were also a *han*, two baths, forty-six small shops, three filature factories, fourteen rendering plants, a carpentry, a bakery, a gas storage, a coal storage, six hotels and entertainment places like restaurants and coffee-houses, twelve bakeries, ninety-eight bigger stores, three pharmacies, a butchery, sixteen ateliers, two stone quarries, two windmills, a quarantine building, a wholesale fish market, two hundreds and ten coffeehouses, a tilery, three stone quarries, and four farms (*Hüdâvendigâr Vilâyet Salnâmesi*, 1316 (1900); quoted from: Düvenci Karakoç, 2008, p. 31).

Debt Administration.[933] The variety of functions in the center of the district proves that the town, beyond only being a rural settlement, also carried urban features serving as an industrial and agricultural production center as well as a commercial space.

Although there were probably two docks in Mudanya Port **(Figure 5.16),** it became necessary to construct a new dock after the construction of the railway and the train station. As stated in a document,[934] if *İdare-i Mahsusa* (the State Shipping Company) would attempt to construct a new dock for their own steamboats in Mudanya Port, *Seyr-i Sefain İdaresi,* established by Mudanya-Bursa Railway company, would inevitably have financial difficulties and be negatively affected by this situation. *İdare-i Mahsusa* eventually attempted to construct a new pier in 1897, and Tokas, the deputy *(vekil)* of the company from *Dersaâdet*, contacted *Bahriye Nezâreti* (the Ministry of Marine Affairs), presented a railway contract, and demanded the reevaluation of this situation.[935] Although it is not known whether a new dock was constructed or not at that time, this issue came into the agenda again in later years. The opinion of *Harbiye Nezâreti* (the Ministry of Military Affairs) on the necessity for the construction of a new dock in the place of the older dock of Mudanya was notified to Hüdâvendigâr Province on 5 July 1910.[936] For *Harbiye Nezâreti*, in order to increase trade and to ease military services, a new dock that could accommodate 2.000 ton steamboats should be planned, taking ship tolls at the customs.

[933] Düvenci Karakoç, 2008, p. 35.

[934] BEO, 975-73066-1-1, 2.

[935] Ibid.

[936] DH. MUİ, 110-25-1-1, 2.



Figure 5.16 The docks in Mudanya Port.
Source: Çiftçi, 2012, p. 56.

Another document addressing *Bahriye Nezâreti* (the Ministry of Marine Affairs) and *Hariciye Nezâreti* (the Ministry of External Affairs) also stated that the establishment of a shipping company which was to work between Mudanya and Marseille and to land on the docks of İzmir, Pire, and Napoli, was planned on 26 July 1907.[937] The document stated that the opening ceremony were to be held in Mudanya in a ship named İstanbul. However, the government questioned whether foreigners should be allowed to operate their ships on the Ottoman docks, defending internal cabotage rights (*küçük kabotaj*), and did not accept foreign ships to land on there. Despite all negative views, a French company was finally established and started its route from Marseille and ended it in Mudanya. On the other hand, it was impossible for the government to officially cease the serving of foreign ships on this sea transport line and landing on Ottoman docks. To avoid this situation, a proposal was offered that, if domestic ships by the shipping companies, *İrade-i Mahsusa* and *Şirket-i Hayriyye*, would work at these docks regularly and properly, there would not be a necessity for foreign ships to land there. As the right of the government to operate these docks independently had to be preserved and maintained, this demand had to be notified by the order of the Sultan *(İrade-i Seniyye)* to *Hariciye Nezâreti* immediately.[938] As can be seen here, although the Ottoman government wanted to be active and dominant at

[937] BEO.3116-233673-1-1.

[938] Ibid.

local docks and preclude the establishment of foreign shipping companies for some specific cases, there was no direct interference attempt by the state, but some correspondences were made in the offices of the government in order to increase the working efficiency of local ships and to protect the rights of domestic shipping companies. It should also be underlined that the previously mentioned initiatives of Ahmet Vefik Pasha were extraordinarily useful to establish a company in Gemlik Port. In that case, there were several outstanding aims such as the formation of a partnership by local and foreign entrepreneurs, the transfer of silk properly, which was the most sensitive industrial production of the city, and the establishment of a shipping company for the development of maritime trade. All these initiatives were special, and these developments are required to be positioned in a more special place in the discussions that are generated in the context of the modernization of the state and the transformation of city edges into modern and active docks as a result of scientific and technological development.

Another important initiative in the field of transportation and industrial development of the city after the construction of the railway was the construction of a hydroelectric power plant and a tramway project. The project was brought to the agenda to use the natural resources around the city in the very early years of the twentieth century. In addition to tramway project, the development of Gemlik-Bursa road was also brought to the agenda on this occasion again. Before going into the details of the project with reference to the archival documents and maps, it can be highlighted that Gemlik Port stood out with the natural water resources around it and hosted the tramway project. This indicates that the port was one of the important nodes of the city in its history.

A French company, Omnium D'Entreprises,[939] prepared a preliminary project[940] for the construction of a canal around İznik Lake and a hydroelectric power plant in Gemlik in 1913.[941] **(Figure 5.17)** The project included the construction of a factory,

[939] It was located in Paris.

[940] The title of the report: The Investigation on Natural Water Powers in Bursa Region. The report was originally prepared in French.

[941] PLK.p., 6251.

depots, and ateliers, presenting plans of İznik Lake and the swamp areas in the environs of the Lake, the canal lying between the valley and the Lake, and a preliminary project for a hydroelectric power plant of 3.000 horsepower. The cost of the project costed 25.000.000 Fr. The initial aim of the company was to establish the power plant by using the water of İznik Lake. According to the proposal outlined by the French company, the canal and the dam carrying water to the power plant would be erected alongside the Lake; the power plant would be constructed in Gemlik, and the tramway would also be constructed between Gemlik and Bursa.

The report prepared by the French Company, *Omnium D'Entreprises*, initially presented an investigation on natural water powers in Bursa region, including the basins of Sakarya, Simaysu, independent small basins, and İznik Lake. The attached folder of the proposal included the reservoir map of the lake, 1/100.000 in scale, and the map of the valley, 1/5.000 in scale. According to the maps, the lake was providing the flowing water, especially from the swamp areas covering the land between the lake and the roads lying from Gemlik to Başarköy and Yenişehir. The swamp areas caused negative situations in this context. The level of the swamps was equal to the lake. These swamps were also fed by water of the lake, leaking from sand that was 3 meters in thickness. Additionally, the level of the lake was high, so the winds in the region formed the waves that were passing over the sand, the water was flowing into the swamps. Fortunately, before this proposal, *Nâfia Nezâreti* (the Ministry of Public Works) had already started some significant works including the rectification of the sand and the deepening of the water along the canal as well as the reduction of the level of the lake to prevent the formation of swamps since the swamps posed health risks for people living around the lake. However, these works were interrupted by the Balkan Wars that started in 1912.

Afterwards, when the French company offered the afore-mentioned project, the firm attempted to complete the management of swamp areas. After all the investigations, the water of İznik Lake was decided to be used for the establishment of a hydroelectric power plant. According to the structural and infrastructural proposals of the project, the factory was to be built near the road, i.e. three km away from

Gemlik Port.[942] The transportation would be easy, and the ships would unload the equipment brought from Europe to Gemlik Port to produce electricity. The road lying from the factory to Bursa would be thirty-eight kilometers, and the transportation on this road would take less than an hour. The communication between Bursa and the factory would also be provided by telephone. Consequently, this project, outlined in the very early years of the twentieth century, illustrates the advanced use of transportation and communication technologies, which had already been experienced in the nineteenth century at a considerable scale. To this end, the rational use of natural resources and industrial materials and the collaboration between the state and foreign companies can provide technological progress on a grand scale. However, no significant record of the realization of this project has unfortunately been found in either the literature or the archive.

[942] PLK.p., 6251 (The Investigation on Natural Water Powers in Bursa Region).

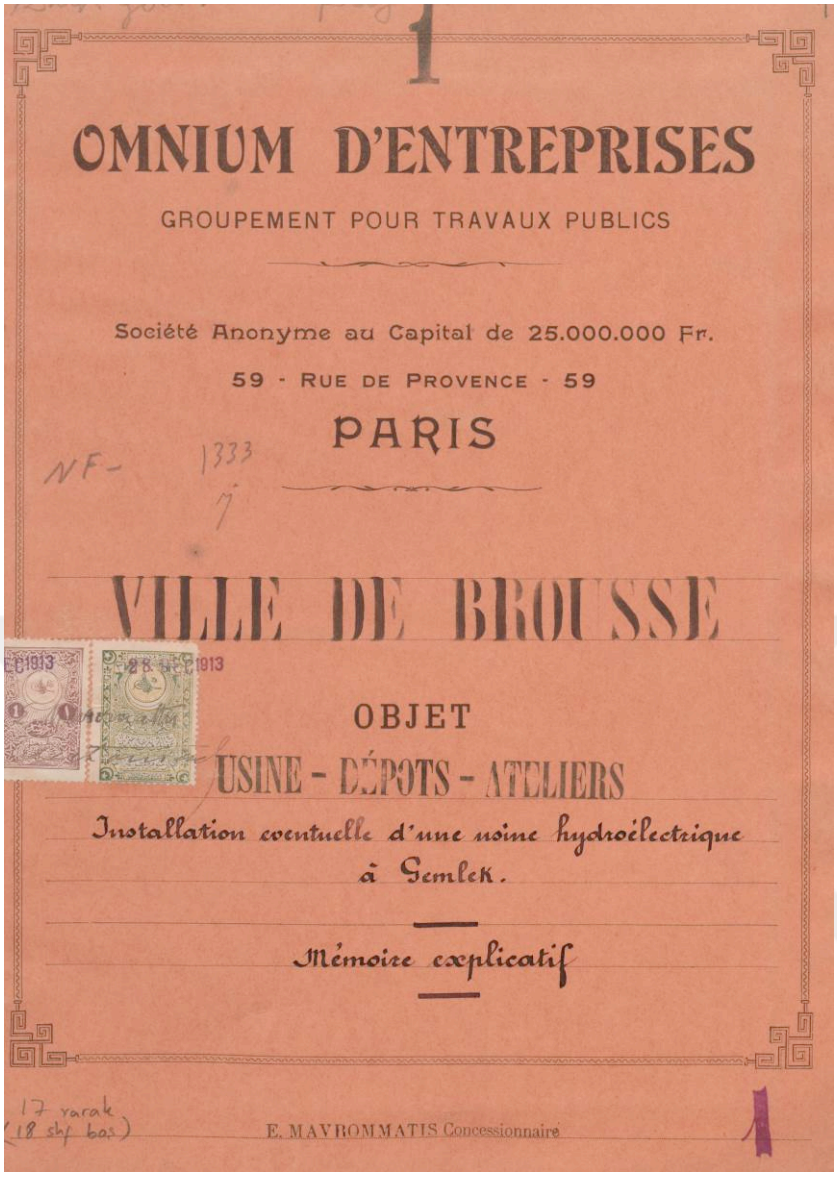


Figure 5.17 Cover Page of the Proposal (The Investigation on Natural Water Powers in Bursa Region for the Project of Tramway and Hydroelectric Power Plant).
Source: Presidential Ottoman Archive, PLK.p., 6251-2.

The most crucial way of transportation in Bursa to get connected to İstanbul and Europe was the ports at the Marmara coastal area. As Bursa had played a significant role in provisioning the capital throughout its history, it was the most important Ottoman city in terms of its active docks, proximity to the capital, and a wide range of products such as grain, vegetable, fruit, and meat.[943] For example, the agglomeration of goods before the nineteenth century had been seen in the docks of Armutlu, Fıstıklı, Kapaklı, Karaca Ali, Büyük Kumla, Küçük Kumla, Gemlik,

[943] Çiftçi, 2004.

Kurşunlu, Altıntaş, Mudanya, Tirilye, and Mihaliç.[944] **(Figure 5.18)** In addition to the transportation of people, the transportation of agricultural goods was a significant factor for the development of urban economy. The most active port towns during the nineteenth century were Gemlik and Mudanya, as examined so far; nonetheless, Mihaliç, Bandırma, Erdek, and Sazlıdere ports, stretching from Gemlik Gulf to Kapıdağı Peninsula, were also supporting the transportation load of Bursa.[945]



Figure 5.18 The ports near Mudanya and Gemlik Ports.
Source: Ankara National Library, H4073.

Within the Anatolian urban network, export-oriented economy was put into practice by the afore-mentioned ports with the later supply of İzmir-Aydın and Mudanya-Bursa railways.[946] The agricultural goods of Manyas and Gönen Plains were also transported to İstanbul and other Marmara ports through Bandırma Port while the boats coming from Aegean islands reached Bandırma Port to take cereal and grain.[947]

[944] Ibid., p. 156.

[945] Satıcı, 2008, p. 360.

[946] Çadırcı, M. (1991). *Tanzimât Döneminde Anadolu Kentlerinin Sosyal ve Ekonomik Yapısı.* Ankara: Türk Tarih Kurumu Yayınları, p. 369.

[947] Satıcı, 2008, pp. 376, 379.

In the west of Bandırma,[948] at the frontier of South Marmara coastal area, there were Sazlıdere[949] and Erdek ports. Erdek port was not as active as Bandırma because of its location in rugged Kapıdağı Peninsula.[950] The most common feature of these port towns was their role in transporting agricultural goods and strategic raw materials like timber produced in the agricultural hinterlands to İstanbul and Europe. The transportation of agricultural goods was a significant factor for the development of urban economy. Despite the differences in the growth level of cities and regional development processes, the urban network of Ottoman cities, especially those in Anatolia, was established by direct interactions between inland cities and the major port cities. This situation accelerated the process of the integration of the Ottoman economy with the European-dominated world economic system during the nineteenth century.

In Bursa region, the agricultural hinterlands served for the production of goods while the ports were used to transport them, all contributing to the development of commerce and hence urban economy. Although each port had a significant role in transportation in the region, Mudanya and Gemlik Ports, two significant ports in the city edges of Bursa, **(Figure 5.19, 5.20)** played remarkable roles in the increase in the volume of Ottoman external trade. In the late Ottoman period, especially the Mudanya Port became the most significant port of the city with the construction of the railway that connected the city to the port.

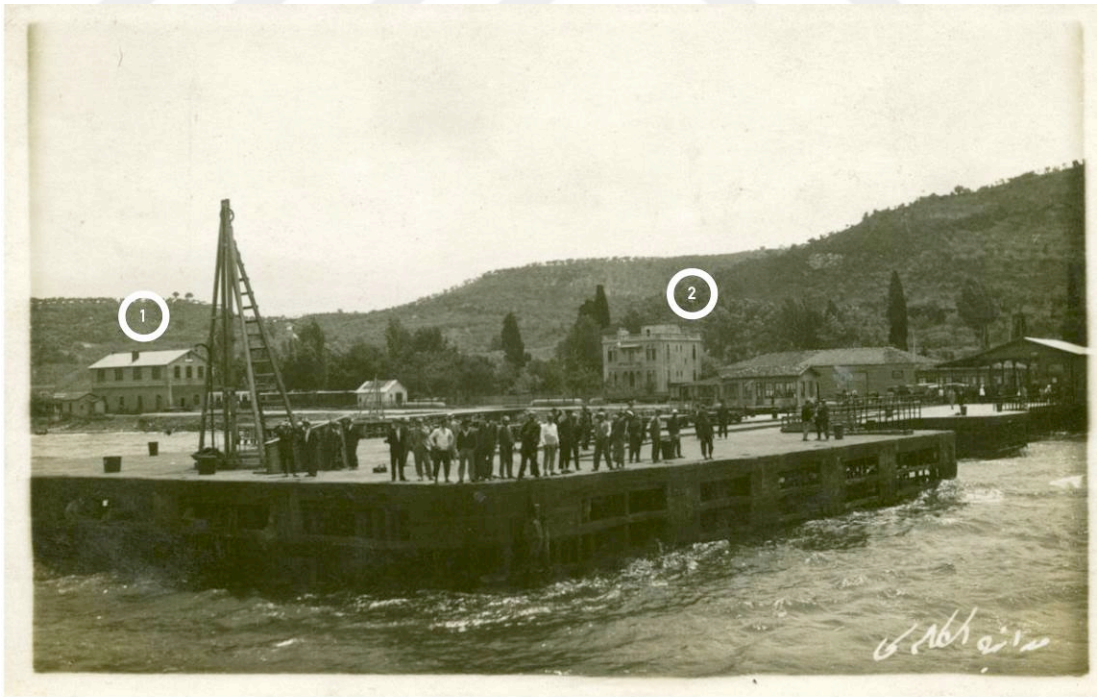
[948] *Miri* and *rayiç* goods produced in the vicinity of Bandırma Port were also transported to İstanbul through the port, and there was a customs house in the ports of Bandırma and Erdek, which functioned as the branch offices of İstanbul *Emtia Gümrüğü* (Satıcı, 2008, p. 376, 378).

[949] Timber brought from Sülera Mountains near Manyas Plain was also transported through the Sazlıdere Port (Satıcı, 2008, p. 379).

[950] Satıcı, 2008, p. 377.



Figure 5.19 Mudanya Dock.
Source: İstanbul University Rare Collections Library, 91548-1.



1, building in the place of Mudanya Train Station before the construction of the Customs House
2, building used as Administrative Building of Mudanya Train Station after the construction of railway

Figure 5.20 Mudanya Dock before the construction of the railway.
Source: accessed from: Çiftçi, 2012, p. 57; marked by the author.

5.1.2 Institutionalizing Transportation and Commerce

The nineteenth century was a significant period that witnessed changes in economic, social, military, and architectural fields initially in Europe and gradually in other parts of the world, including the Ottoman Empire.[951] The European trade developed and opened up to the world, and a new social and economic order, therefore, began to dominate the whole world during the nineteenth century.[952] In this way, European countries initially became the center of industrial production, whereas peripheral countries contributed to this process mainly through producing agricultural goods and industrial raw materials.[953] Railways functioned as one of the main tools of European countries for the reorganization of the world economy in this process. There was also a growth in the competitive market and an easy and cheap access to everything.[954] In order to respond all these changes, the Ottoman government developed strategies for the institutionalization of transportation and commerce. Therefore, this part of the chapter will initially emphasize how laws and regulations affected commercial relations and land use. Since the commercial developments and the changes in land use necessitated advanced transportation system, the institutionalization process brought by regulations and laws is studied.

On the economic level, the Ottoman economy, due to trade restrictions, could not be fully integrated into international trade at the beginning of the nineteenth century. Due to these restrictions, the European states had to limit their commercial connections with the Ottoman traders and producers. However, these restrictions were gradually lifted first by the Anglo-Ottoman Trade Treaty of 1838, and later on by the Tanzimât Edict of 1839 that also stimulated the commercial interrelations by leading European merchants to become active in the Ottoman market. When the Anglo-Ottoman Trade Treaty of 1838 was signed, monopolies were eliminated and

[951] Ertuğrul, A. (2009). Different Types of Buildings Emerging in the 19th Century Ottoman Empire. *Türkiye Araştırmaları Literatür Dergisi 7,* No. 13, p. 293.

[952] Bayraktaroğlu, 1995, p. 1.

[953] Ibid., p. 7.

[954] Hobsbawm, E. (1975). *The Age of Capital 1848-1875.* Charles Scrinber's Sons, pp. 1-5.

the obstacles faced by European merchants were removed,[955] and the Empire started to attract foreign capital.[956]

The saving of capital through agricultural products and incomes through economic penetration of Europe accelerated the nineteenth century industrialization movements in the Ottoman Empire.[957] The establishment of the new organization was the first step towards centralization and reformation movements, which were mainly initiated by Mahmud II.[958] With the declaration of Tanzimât Edict in 1839, many innovations were also fostered in the economic, political, and social system of the Ottoman Empire. The Tanzimât era was regarded as a period of "re-awaking," which is the beginning of an era of "artistic, industrial and scientific efflorescence" by many historians.[959] The military failures against European countries also encouraged the Ottoman Empire to make several reforms in order to adopt European culture and civilization.[960] Yerasimos also highlights that the first efforts of urban development in the European manner were seen at the beginning of the reform period in the nineteenth century.[961]

The reforms of the period enhanced the control mechanism of the capital on the construction activities all around its territories.[962] New reforms were regularized to reconstruct cities. The major modernization projects in the second half of the nineteenth century were the construction of land roads, railroads, ports, and telegraph

[955] Quataert, 1994, p. 764.

[956] Çelik, Z. (1986/1993). *The Remaking of Istanbul: Portrait of an Ottoman City in the Nineteenth Century.* Seattle and London: University of Washington Press, pp. 31-48.

[957] Cerasi, M. (1988). Late Ottoman Architects and Master Builders. *Muqarnas, 5,* pp. 87- 102.

[958] Cerasi, 1988, pp. 87- 102; Batur, A. (1985). Batılılaşma Döneminde Osmanlı Mimarlığı. In *Tanzimât'tan Cumhuriyet'e Türkiye Ansiklopedisi.* Vol.4, pp.1038-1067.

[959] Ersoy, A. (2015). *Architecture and the Late Ottoman Historical Imaginary: Reconfiguring the Architectural Past in a Modernizing Empire.* Burlington VT: Ashgate, pp. 1-28.

[960] Secer, Durak, & Vural Arslan, 2016, p. 628.

[961] Yerasimos, S. (1999). Tanzimât'ın Kent Reformları Üzerine. In P. Dumont & G. François (Eds.). *Modernleşme Sürecinde Osmanlı Kentleri.* (Trans.). A. Berktay. Istanbul: Tarih Vakfı Yurt Yayınları.

[962] Cerasi, 1988, pp. 87-102.

lines, the improvement of waterways, and the introduction of a postal system.[963] Highlighting the second half of the nineteenth century in Europe as the age of flourishing capitals, Çelik points out that contemporary Ottoman rulers sought to compete with the European countries.[964]

The integration of the Ottoman economy into the world economic system was defined by two fundamental events, the 1839-1856 Reform decrees and the 1876 Constitution.[965] Therefore, with the equal rights for local and European merchants, free trade and the production of goods and property gained acceleration. In addition to trade treatises made with European states, with the Land Law Code of 1858 and *Tabiyet-i Osmaniye Kanunnâmesi* (Ottoman Nationality Law) of 1869, the number of Europeans who came to the Ottoman lands for investment purposes increased especially in the second half of the nineteenth century. Besides, *Tabiyet-i Osmaniye Kanunnâmesi* of 1869 stimulated foreign investments in the establishment of filature factories, the introduction of railway, and the management of hotels,[966] although all these developments had already been started beforehand. This legislation rather granted foreigners' property rights.[967]

As a result of these developments, a correspondence between the European interests in the political and economic arena of the Ottoman Empire and the needs of the Ottoman state emerged.[968] The Ottoman state gave concessions to foreigners especially for the construction of railways in order to utilize engineering knowledge and technical capacity. Therefore, the privileges and concessions taken from a centralized Ottoman state increased the role of foreign powers in the Ottoman lands and the expansion of their activities in the nineteenth century, which had been harder

[963] Çelik, 2008, p. 25.

[964] Çelik, 1986/1993.

[965] Quataert, 1994, p. 764.

[966] Yaşayanlar, İ. (2013). *Osmanlı Dönemi Bursa Otelleri.* Bursa: Nilüfer Belediyesi Yayınları, p. 34.

[967] Ibid.

[968] Quataert, 1994, p. 761.

to achieve within the fragmented state structure of dynasts and notables of the Ottoman Empire in the earlier centuries.[969]

The laws were not the mere factors behind the commercial development that necessitated an advanced transportation system and new buildings of transportation and commerce such as train stations, banks, and hotels. The regulations such as *nizamnâme*s (regulations) for shipping and the companies for building the railway were also significant agents of institutionalization.

5.2 Spaces of Transportation and Commerce from the Urban Core to the Edges: Sites and Architecture of Transportation and Commercial Buildings

The earlier forms of commercial spaces such as *han*s and bazaars were transformed into new building types in the nineteenth century such as hotels, train stations, etc. This part of the chapter will initially explain the early forms of commercial spaces and then focus on the sites and architecture of train stations, banks, and hotels of the late Ottoman period.

Although the bazaars as early forms of commercial spaces, and *han*s as early forms of accommodation, continued to function in the nineteenth century, with the rising commercial interactions between European and the Ottoman State, new commercial buildings such as shops, warehouses, passages, banks, and offices and new accommodation buildings such as hotels emerged in the Ottoman cities. Cezar asserts that the bazaar, around which the city had grown and developed, constituted the core of the city, thus allowing the city to expand naturally through the formation of neighborhoods around it.[970] Bazaars[971] in Anatolian cities were usually comprised of

[969] Ibid., pp. 761, 762.

[970] Cezar, M. (1983). *Typical Commercial Buildings of the Ottoman Classical Period and the Ottoman Construction System.* İstanbul: Türkiye İş Bankası Cultural Publications, p. 57.

[971] While shops selling valuable goods were located around the bedesten at the center of the bazar, commercial khans occupied a wider area in the commercial quarter of the city (Cezar, 1983, p. 61). A close contact existed between the commercial activities at the ground floors of khans and shops in the covered bazar often existed (Ibid.). For example, in the classical period of Bursa, commercial *han*s were scattered over a large area around Uzunçarşı, Gelincik, and Sipahi *Çarsısı*. Mosques like Ulu Mosque and Ivaz Pasha Mosque, and baths like Orhan and Şengül *Hamam*s were all located near the bazaar for the service of religious needs (Ibid., p. 66). Ivaz Pasha Madrassah was built close to the

*han*s and shops alongside covered or non-covered streets.[972] The Ottoman city of Bursa was not only a world trade center, but also a regional commercial center especially with the production of agricultural goods that both served the local economy and the world market.[973] The city maintained its prominent position with new hotels constructed in the city center, especially in Çekirge, train stations in the periphery towards the city edges, warehouses and trade agencies in the port at the city edge.

New types of commercial buildings of nineteenth century were initially seen in port cities of İzmir, Selânik, and Beirut, and then in other parts of the Empire. As mentioned above, although hans and caravanserais had offered significant accommodation services for travelers since the time of Anatolian Seljuks, with the change in socio-economic conditions in the nineteenth century, hotels as the new form of accommodation services emerged. Because the Ottomans were not familiar with the concept of a hotel, almost all the hotels were built by foreigners to serve mostly foreign travelers in the nineteenth century.[974] The hotels were established by foreigners also in the case of Bursa.

Together with an increase in industrial and agricultural production, incremental visit of travelers and commercial activities of merchants also necessitated a more advanced transport technology and train stations and buildings related to the transport and commercial purposes of ports were constructed in this context. This part of the chapter investigates these spaces of transportation and commerce from the urban core, to the periphery, the hinterlands and the edges of the city by analyzing the sites and architecture of the buildings that were constructed to connect the urban core of the city to its edges via transportation for commercial purposes.

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bazar while such significant other madrassahs like Murad Hüdâvendigâr, Yeşil, and Emir Sultan were built outside the bazar area (Ibid.).

[972] Cezar, 1983, p. 61.

[973] Köprülü Bağbancı, Ö. (2012). Commerce in the Emerging Empire Formation of the Ottoman Trade Center in Bursa. In Mohammad Gharipour (Ed.). *The Bazaar in the Islamic City Design, Culture, and History*. Cario, New York: The American University in Cario Press, p. 108.

[974] Ertuğrul, 2009.

The nineteenth century is the period when the study of architecture became more systematic than ever before.[975] Using new materials such as wrought iron and glass was a way to meet the new criteria of architecture such as lightness, transparency, and brightness.[976] Besides, the new urban image included two components at the time: new building types and new architectural styles.[977] New functions appeared and spread in the built environment in the nineteenth century.[978] Due to the increase in population in the period, the necessity for markets and stations, schools and government halls, hospitals and prisons, thousands of houses and blocks of flats increased in this age of industrialization.[979] Furthermore, public buildings as the new social function of architecture had been extremely rare before 1800; however, a vast majority of them emerged and/or spread in the nineteenth century, including governmental, municipal and later private office buildings, museums, galleries, libraries, universities and schools, theatre and concert halls, banks and stock exchanges, train stations, department stores, hotels, and hospitals, and new styles accompanied these new building types.[980] In that sense, Bursa stood out especially with its prominent structures such as train stations and hotels in the urban landscape of the late Ottoman period.

Keeping their commercial functions on one side, transportation constructions such as railways and port-related buildings can be considered as means of modernization, a symbol of speed and time, and modern carriers of travelers, thoughts, and products, leading to the transformation of the urban environment. For this reason, transportation buildings, especially train stations as thresholds of the city of Bursa, are of special importance. Besides, the Ottoman Bank was one of the main contributors to the urban development. The bank with its branches in the Ottoman

[975] Bergdoll, B. (2000). *European Architecture 1750-1890.* New York: Oxford University Press, pp. 139-206.

[976] Ibid.

[977] Çelik, 1986/1993, pp. 126-154.

[978] Ching, F. D. K., Jarzombek, M. M. and Prakash, V. (2007). *A Global History of Architecture.* John Wiley & Sons, pp. 583-686.

[979] Ibid.

[980] Çelik, 1986/1993, pp. 126-154.

cities in Anatolia represented shared architectural features, and induced modernization and economic development. Hotels, on the other hand, emerged with a strong connection to the development of transportation facilities, and their architecture was also a way of structuring vernacular architecture and took an important role in representing the new modern life of the age. Examining train stations, banks, and hotels as exemplary of new building types to shape the urban core as well as the hinterlands and edges of the city of Bursa and comparing them with examples built in other Ottoman cities, this part of the chapter discusses the process of modernization and development of the city in transportation and commercial area, and evaluates the urban and architectural results in this context.

5.2.1 Train Stations

According to Conzen,[981] town plan, land use pattern, and use of buildings were three main elements of urban form.[982] Especially town plans as "the cartographic representation of a town" display "street system," "individual plots," and "ground-plan of buildings."[983] The pressure on the urban formation of cities stemmed not only from environmental problems but also from new forms of technological change and new necessities within an adaptation process.[984] Examining cases from Britain and United States, Krim claims that large areas at urban fringes were more suitable for placing rail tracks rather than existing dense environments, which led to the transformation in spatial extension of the city.[985] This can also be seen in the Ottoman cities that linearly extended through railways.

[981] Conzen, M.R.G. (1968). The Use of Town Plan Analysis in the Study of Urban History. In Dyos, H.J. (Ed.). *The Study of Urban History.* Leicester: Leicester University Press.

[982] Quoted from: Simms, A. (1992). The Early Origins and Morphological Inheritance of European Towns. In J. W. R. Whitehand & P. J. Larkham (Eds.). *Urban Landscapes International Perspectives.* London and New York: Routledge Taylor&Francis Group, p. 23.

[983] Kostof, S. (1991). *The City Shaped Urban Patterns and Meanings Through History.* London: Thames and Hudson Ltd., p. 23.

[984] Krim, A. J. (2014). Squeezing Railroads into Cities Creating Variable Solutions in Britain and the United States, 1820-1900. In P. J. Larkham & M. P. Conzen (Eds.). *Shapers of Urban Form Explorations in Morphological Agency.* New York and London: Routledge Taylor&Francis Group, p. 137.

[985] Krim, 2014, p. 137.

The first railway connected Europe to İstanbul ended in Sirkeci. Due to its strategic location, Sirkeci Train Station was seen as "the gate of the East" by Europeans, and also as "the gate opening to" Europe for the Ottomans.[986] For this reason, it was meticulously designed as a main building in order to reflect architectural considerations of the age. The train station was designed by German architect A. Jasmund in an orientalist architectural manner with a rectangular plan and symmetrical organization according to the axis of the entrance, including a customs department, a post and telegraph office, a police station as well as departure and arrival lounges.[987] The features of the orientalist design included large canopies, circular-framed windows, horse-shoe pointed arches, clock towers, and a classical Ottoman bulbous dome *(soğan kubbe)* that evokes the "Eastern" architecture in the minds of Europeans.[988]

The Anatolian Railway, which connected the Asian side of İstanbul to İzmit, was completed in 1872.[989] Since Haydarpaşa Train Station was the beginning point of Anatolian-Bagdad and Hidjaz railways, the building was the most splendid and the largest building constructed in 1872 in a classical and eclectic style.[990] The train stations built in the cities on the Anatolian Railway shared architectural features but other train stations on this line did not have such a magnificent architectural form as Haydarpaşa Train Station. These stations were secondary main structures at the same time, depending on whether the cities, where train stations were located, were large cities and commercial centers. In addition to the classical design principles such as "order," "symmetry," "axiality," and "clarity,"[991] the shared features of these rectangular buildings with symmetrical plans included traditional architectural

[986] Demirel, 2011, p. 41.

[987] Demirel, 2011, pp. 45, 47; Başar, M. E. & Erdoğan, H. A. (2009). Osmanlı'dan Cumhuriyet'e Türkiye'de Tren Garları. *Journal of Faculty of Engineering and Architecture Selcuk University,* Vol. 24, No. 3, p. 34.

[988] Demirel, 2011, p. 49.

[989] Kösebay Erkan, Y. (2007). Anadolu Demiryolu Çevresinde Gelişen Mimari ve Korunması. PhD Thesis. Architecture, Restoration Program, İTÜ, The Institute of Science and Technology.

[990] Ibid.

[991] Maro Kiriş, İ. (2013). Re-Exploring Late Ottoman Buildings in Today's Istanbul. *Archnet International Journal of Architectural Research,* Vol. 7, No. 2, July 2013,pp. 318, 319.

components such as porticoes and domes to emphasize the gates, using round-shape windows on the attic surfaces, different window shapes and separated floors by moldings on the façades, and wide canopies at the roofs, as well as residence units on the upper floors.

When Mudanya-Bursa Railway was considered together with the train stations located along the railway line, several issues could be analyzed: (1) construction technology and financial supports in this process, (2) the ease of transportation of agricultural goods, raw materials, and people, (3) the development of peripheral areas with the extension of rails and the construction of train stations along the rails, and finally (4) the decision-making process in the placement and design of train stations. Most of these issues have already been discussed in the earlier parts of this study while the focus of analysis here will be the fourth issue about the sites and architectural features of train stations, ranging from the layout of train stations to the design of their masses on the urban and architectural scale.

The location of urban railways designed in linear and continuous forms depended on the closeness to city centers and the extension from inner-city train stations towards suburban districts with a connection to water transport.[992] Therefore, the railway lines that extended from the periphery of a city into the plain and beyond towards its environs and edges included many stopping points that were not open-air stations but station buildings. Hüseyin Vassaf noted this on his railway journey from Mudanya to Bursa by expressing almost each stopping point on the line. According to his travel notes, a musical was coming from Bursa Hamidiye Industrial School in Koru Station; Acemler Station was placed at a point near Çekirge where thermal springs were located; Yahudiler *(Bursa Beklemesi)* Station was near Yahudiler Neighborhood; and the last station was Bursa Station.[993] Hawley also took an attention to the last station, Bursa Station, by stating that the last station was located

[992] Krim, 2014, p. 138.

[993] Vassaf, Hüseyin. (1901/2010). *Bursa Hatırası.* M. Kara & B. Kemikli (Prep.). Bursa: Bursa Kültür A.Ş.

in the plain in the northeast of the city.[994] Kınçov and Miret (1899) also emphasized three main stations of the city by expressing their strategic importance.[995] The first station was located at the entrance of Çekirge village since thermal springs were located there; the second station was on the periphery near Yahudi Neighborhood, and the third station was in the east of the city to be used for unloading. Therefore, the location recognition along the line was based on stopping at a point where a settlement was formed at a very short distance.

Since the locations of the train stations were determined according to the economic and strategic significance of the places, their architecture was designed considering the importance of the location.[996] Apparently, the design of train stations according to their locations was highly influenced by the importance of the stopping points, i.e. whether they were located at welcoming positions or on the line in the environs. In other words, the ones in the city center and at the port were designed in a majestic way, while the others in between were plain. For instance, Mudanya Train Station was an outstanding building with its design, and the building served together with the dock of Mudanya and warehouses related to the port activities. The building,[997] which was later used as an administrative building of the train station, was also located at the cross road of the station. All of the buildings as a complex were located in the coastal edge of Bursa, Mudanya. The façades of the main train station buildings had more details than the other buildings along the rail lines did, as seen in the historical photographs, particularly in the Abdülhamid's Photograph Collection. As Arnaud also states, the train stations were built along railway lines, and some of which located in the city and in the coastal edge were often monumental buildings as

[994] Hawley, Walter A. (1918). *Asia Minor.* London, New York. The extracts from the book in: Yıldırım, F. (2014). *14. Yüzyıldan Cumhuriyet Dönemi'nde Kadar Yabancı Seyyahların Gözünden Bursa İlindeki Mimari Eserler,* Vol. 1. Bursa: Nilüfer Belediyesi Akkılıç Kütüphanesi Yayınları, p. 515.

[995] Mevsim, H. (2009). *Bulgar Gözüyle Bursa.* İstanbul: Kitap Yayınevi; Rasico, Philips D. (2005). *Café I Quilombo: Els Diaris de Viatge de Joaquim Miret I Sans.* Barcelona. The extracts from the book in: Yıldırım, 2014, p. 515.

[996] Kahya, 1994, p. 211.

[997] The building was specified as rail yard in an archival plan (PLK.p., 4533-1). **(Figure 5.22)**

welcoming places.[998] The train station buildings along the rails were continued to be built of masonry; they were mostly one- to two-storey buildings based on rectangular plans and covered with saddle roofs. Since the railway stations included workshops for the maintenance of the machine, warehouses for storage of coal, and similar establishments, they occupied a considerable area.[999] **(Figure 5.21)**



Figure 5.21 The train station and port related buildings.
Source: İstanbul Rare Collections Library 91548-3.

Mudanya Train Station was designed as a rectangular planned building with a 13.60-meter width and a 129.45-meter length, consisting of symmetrical masses in an order within buildings with different heights.[1000] The highest middle axis was a three-storey building with its semi-open gate, connecting the railway and the sea.[1001] An

[998] Arnaud, J. (2008). Tradition and Modernity in the Nineteenth Century Modernization of the Cities of the Ottoman Empire (1800–1920). In S. K. Jayyusi (Ed.). *The City in the Islamic World,* Vol. 2. Leiden, Boston: Brill, p. 970.

[999] Ibid.

[1000] Durak, 2007, p. 221.

[1001] Durak, 2007, p. 221. The semi-open gate in the middle on the symmetry axis was 7-meter wide and 6-meter high (Durak, 2007).

emphasis in the center of the façade can also be seen in this building, as observed in other train stations built in those times. There was a pediment at the middle block that was seen at the façade. The windows at the upper floor were in different forms and sizes, and the places and the windows at the left and the right were also opening to this gate **(Figure 5.14).** The blocks on each side of the central block consisted of large single places **(Figure 5.22).** As its surbased vaulted windows at the facades reveal, these single places can be said to have been used as freight storages, and the height of the blocks located next to these storage units were lower than that of the blocks of storage areas, which must have been used for passengers and served as ticket office, waiting lounge, employee office, customs office, and port agency as well as the office of the director in the basement floor.[1002] Moreover, there were also rooms for the accommodation of the staff such as the station director and post-officers, and therefore, the upper floor was used as residences.[1003] Considering that especially the units of port agency and customs house had functions of a central character, it is thought that those units might be located on the ground floor of the main building in the middle, not on the outer wings. In the ground floor plan of the station, found in the archive, what kind of functions the building and surrounding buildings contained can be seen, and main building (as noted unit 2 at **Figure 5.22**) in the middle was specified as post office.[1004] **(Figure 5.22, 5.23)**

[1002] Durak, 2007, pp. 222, 225; Düvenci Karakoç, 2008, p. 33.

[1003] Düvenci Karakoç, 2008, p. 33; Durak, 2007, p. 225.

[1004] PLK.p. 3134 (1290 N 08).

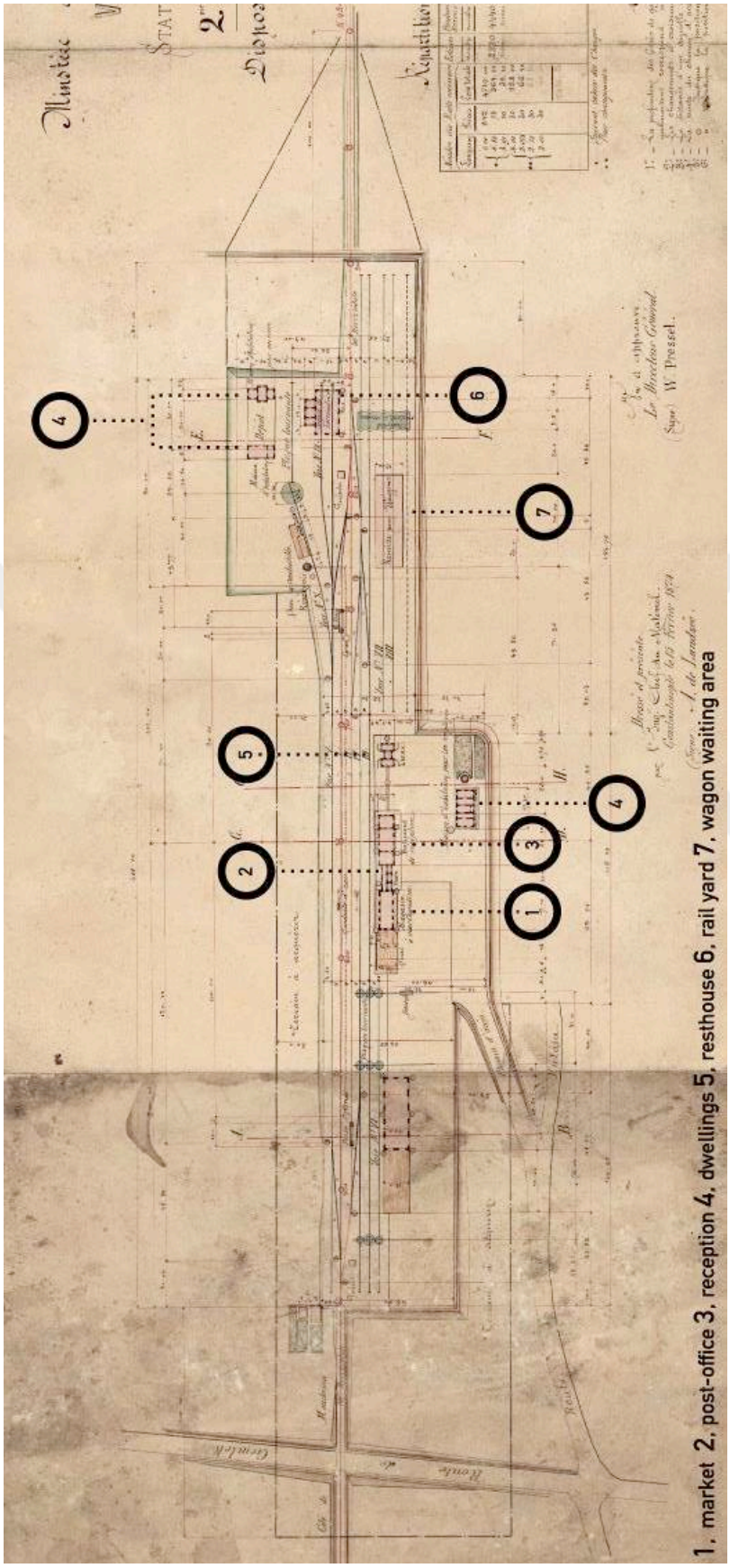


Figure 5.22 The plan of Mudanya Train Station and the surrounding buildings.
Source: Presidential Ottoman Archive, PLK.p., 4533-1; marked by the author.

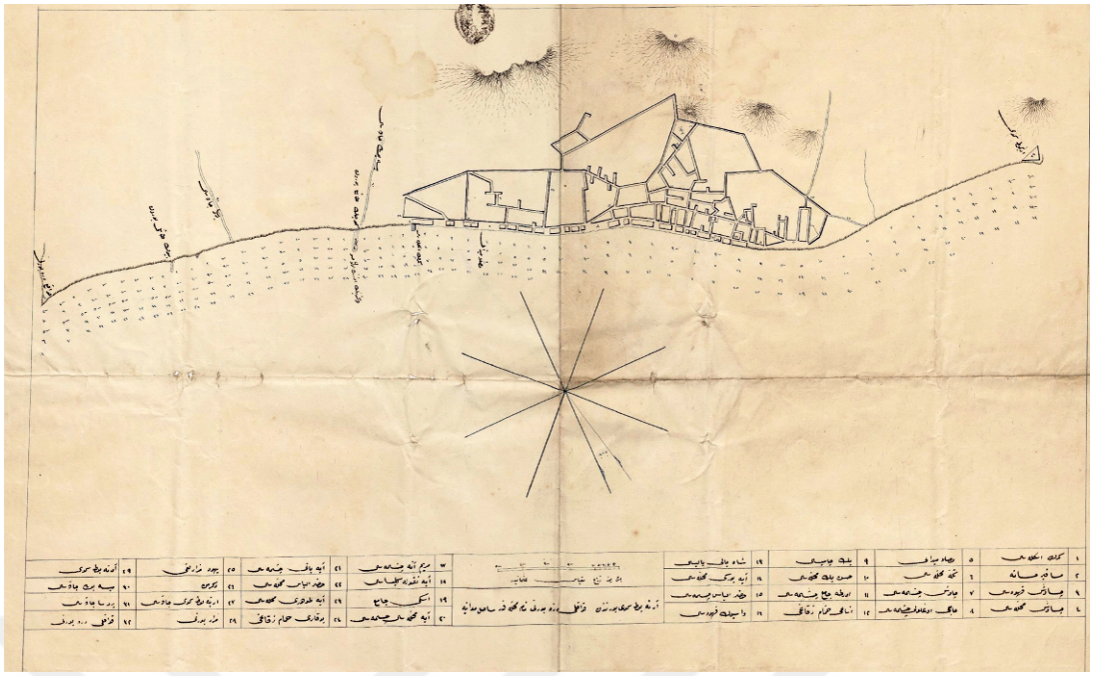


Figure 5.23 The schematic plan of Mudanya Dock.
Source: Presidential Ottoman Archive, PLK.p., 3643-1.

Fundamental architectural characteristics of other train stations buildings located alongside Bursa-Mudanya Railway can be defined as single-storey buildings and masonry constructions with saddle roofs.[1005] **(Figure 5.24, 5.25)** As stated in *Hüdâvendigâr Vilâyeti Salnâmesi* (1907), the train stations between Bursa and Mudanya were Demirtaş, Merinos, Acemler, Koru, and Yörükali.[1006] **(Table 5.3** and **Figure 5.26)** The frames of vaulted windows and doors were made of brick, and the floors were covered by burnt clay ceramic while ceilings were covered with timber.[1007] In short, fundamental architectural characteristics of other train stations buildings located alongside Bursa-Mudanya Railway can be considered as masonry modest structures with saddle roofs, as also seen in historical photographs.

[1005] Durak, 2007, p. 214.

[1006] *Hüdâvendigâr Vilâyet Salnâmesi*, 1907 (1325 H.), p. 277.

[1007] Durak, 2007, p. 214.

Table 5.3 The list showing distances between the stations and the altitude (above the sea).
Source: *Hüdâvendigâr Vilâyet Salnâmesi*, 1907 (H. 1325), p. 277.

	The Distance to the Previous Station (Kilometer)	**The Altitude (Meter)**
Mudanya	---	2,40
Yörükali	10	217
Koru	12	68,22
Acemler	13	100,40
Burusa (Bekleme)	2	120,75
Burusa	2	152



Figure 5.24 Train station on Mudanya-Bursa Railway.
Source: İstanbul Rare Collections Library, 91548-2.



Figure 5.25 Koru Train station on Mudanya-Bursa Railway.
Source: İstanbul Rare Collections Library, 91548-6.

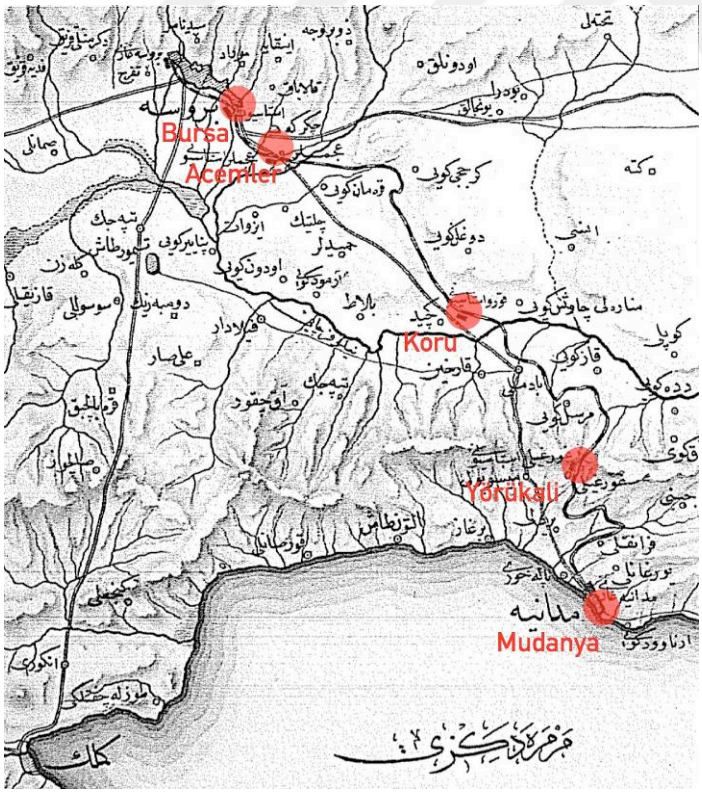


Figure 5.26 The map showing the stations on Mudanya-Bursa railway.
Source: Y.PRK.SRN 3-42, 1309.Za.23; accessed from: Yazıcı, M. (2010). Mudanya-Bursa Demiryolu Yapımı ve İşletmesi (1873-1908). Msc Thesis. Marmara Üniversitesi Türkiyat Araştırmaları Enstitüsü, p. 105; marked by the author.

Train stations acted as transportation hubs and thresholds between the urban core, the periphery, the hinterlands or the edges of Bursa; as such, they played the most significant role among other spaces of transportation that made communication easier and further facilitated the development of the city in all terms.

5.2.2 Banks

With the financial developments in the Empire, the state recognized an urgent necessity to establish a state bank. From a broader perspective, according to Clay, there were several reasons to establish a state bank:[1008] (1) investing in the construction of railway and in public works, (3) transferring taxes to the capital, İstanbul, and (4) serving for the organization of financial and administrative structure. Therefore, in 1856, the Ottoman *Bank (Bank-ı Osmâni)* was established with British capital, whose center was in London.[1009] In 1863, the bank was named as Imperial Ottoman Bank *(Bank-i Osmâni-i Şâhâne/Banque Imperial Ottomane)* after the participation of French capital as a shareholder.[1010]

The Ottoman Bank played a role as the bank of the state, investment, and commerce. As one of the significant financial factors, the Ottoman Bank did not only encourage the European entrepreneurs to invest in the Empire, but also led to the acceleration of the integration process of the Ottoman economy into the European economic system as well as the development of banking and financial system of the Empire.[1011] Acting as a guarantee for internal and external loans, the bank provided bank credits to farmers and merchants. In 1867, with the enforcement of the Country Chests Regulation *(Memleket Sandıkları Nizamnâmesi),* the national funds started operating,

[1008] Clay, C. (2008). State Borrowing and the Imperial Ottoman Bank in the Bankruptcy Era (1863–1877). In I. L. Fraser, M. Pohle & P. L. Cottrell (Eds.). *East Meets West Banking, Commerce and Investment in the Ottoman Empire.* USA: Ashgate Publishing Company, p. 109.

[1009] Eldem, E. (1999a). *A History of the Ottoman Bank.* İstanbul: Ottoman Bank Historical Research Center, p. 69.

[1010] Apak, S. & Tay, A. (2009). Osmanlı Devleti'nin 19. Yüzyıldaki Finansal Sisteminde Osmanlı Bankası'nın Yeri ve Faaliyetleri. *Bulletin of the Transilvania University of Braşov,* Vol. 6 (51), Series VI, pp. 64, 69.

[1011] Toprak, Z. (2008). The Financial Structure of te Stock Exchange in the Late Ottoman Empire. In I. L. Fraser, M. Pohle & P. L. Cottrell (Eds.). *East Meets West Banking, Commerce and Investment in the Ottoman Empire.* USA: Ashgate Publishing Company, pp. 143, 154.

and Agricultural Bank, which was founded with the capital accumulated by the farmers in its time, was also officially established in 1888.[1012] Although Agricultural Bank started its operations and particularly supported farmers and agriculture, it was necessary to wait for the beginning of the twentieth century for the concretization of architectural reflections of Agricultural Bank buildings in the cities.

Since the Ottoman Bank successfully completed several infrastructural projects, it earned the trust of the public. Serving as a central bank, it was cherished by the public since it protected the public treasury.[1013] Thus, the bank opened branches in the provinces of the Empire from the 1890s onwards thanks to the growing bank customers.[1014] Simply put, the opening of new branches of major banks in all corners of the Ottoman cities in conjunction with the European agricultural and commercial interest.[1015] The first branch of the bank was opened in Galata in 1856, later in İzmir, Beirut, and in Moldavia sequentially in the same year.[1016] While questioning whether the Ottoman Bank was an instrument or an actor of the ongoing westernization process, Eldem considers the bank as a means of modernization of the Ottoman state to achieve the general goals of the government.[1017] During this process, the Ottoman state drew long-term benefits. As the state was aware of its responsibilities of functioning as a state bank, it initiated commercial activities and invested in profitable ventures particularly in the construction of infrastructural projects.

The establishment of the bank under the influence of the European model provided an opportunity for the gradual development of the Ottoman Empire as a modern state

[1012] Yazan, Ömer. (2017). Ziraat Bankası'nın İlk Yirmi Yılına Ait Bazı Kayıtlarının İncelenmesi. *AİBÜ Sosyal Bilimler Enstitüsü Dergisi*, 2017, Cilt:17, Yıl:17, Sayı: 4, 17, pp. 221-237.

[1013] Eldem, E. (1999b). The Imperial Ottoman Bank: Actor or an Instrument of Ottoman Modernization? In K. Kostis (Ed.). *Modern Banking in the Balkans and West-European capital in the Nineteenth and Twentieth Centuries.* Aldershot, Ashgate, pp. 50-60.

[1014] Ibid.

[1015] Kuran, T. (2005). The Logic of Financial Westernization in the Middle East. *Journal of Economic Behavior & Organization,* Vol. 56, p. 609.

[1016] Eldem, 1999a, p. 55; Apak & Tay, 2009, p. 69.

[1017] Eldem, 1999b.

in line with Tanzimât reforms.[1018] It was an attempt to solve the financial problems and troubles going on almost for two decades. Additionally, the bank encouraged to increase the value of the public's savings, especially of those engaged in agricultural activities.[1019] The banks did not only lend to the state but also financed large industrial, agricultural, and commercial works of the private companies in the mid-nineteenth century.[1020] The establishment of the Ottoman Bank and the construction of bank buildings in many Ottoman provinces had a great impact on the acceleration of the Ottoman modernization at the time. The construction of railways and the improvement in agriculture with the credits provided by the Ottoman Bank led to the economic integration of the Ottoman economy into the European-dominated world economic system.

The architecture of banks, as the buildings offering financial services, therefore, should be studied because their designs directly affected the strength of the representation of the state. As Booker states, many bank buildings in the nineteenth century were inspired by Palazza Thiene, Pallodio's work in Vicenza, signifying a return to neoclassicism in style and having masonry facades on the ground floors.[1021] The design of masonry facades was a way to convey the idea of "massive strength" while the embellishment of the buildings was a "display of wealth".[1022] **(Figure 5.27)** The erection of magnificent buildings in Ottoman cities also meant that the state initiated the management of financial situations by establishing the infrastructure in the provinces, constructing railways and mining facilities as well as improving agriculture by supporting farmers economically.

[1018] Eldem, 1999b, pp. 50-60.

[1019] Apak & Tay, 2009, pp. 88, 89.

[1020] Kuran, 2005, p. 609.

[1021] Booker, J. (2016). From Florence to Foster. The Financial Services and Their Buildings. *Bulletin Architecture & Finance, Newsletter form the EABH,* p. 10; http://bankinghistory.org/wp-content/uploads/EABH-bulletin_small-resolution-with-cover-for-web.pdf.

[1022] Booker, 2016, p. 11.



Figure 5.27 The Ottoman Bank in Beyoğlu.
Source: SALT Research Ottoman Bank Archive, IMHAL002BEY1.

A common tendency in bank designs of the Ottoman Bank, observed both in the main building in İstanbul and its branches in many Ottoman provinces, was designing an opulent facade with a major gate defined by columns at two sides in order to lead the customers into the interior space. The Imperial Ottoman Bank in İstanbul was a large-scale building serving as the head office. The difference between the Imperial Ottoman Bank and its branches was widely observed in scale since the branches were not as grand as the head office. Considering the branch network especially in Anatolia, each branch of the Ottoman Bank was built as single structures in a variety with local considerations and having a consistent and uniform architectural scale. **(Figure 5.28, 5.29)** Most of these minor branches were located in the centers of the provinces at the end of the nineteenth century. With reference to Baruh's study, it can be interpreted that the construction of the branches took time since the projects were confirmed by the committee located in Paris, and the staff of the bank had to wait until the early years of the twentieth century to move from a rented space to a permanent building, although the projects had been carried out in the late years of the nineteenth century.[1023]

[1023] Tanatar Baruh, L. (2018). Mülkiyet, Finans ve Mimarlık: Osmanlı Bankası Şube Binaları. *Toplumsal Tarih,* No: 290.



Figure 5.28 Samsun Branch of the Ottoman Bank.
Source: SALT Research Ottoman Bank Archive, IMHAL002SAM.



Figure 5.29 Eskişehir Branch of the Ottoman Bank.
Source: SALT Research Ottoman Bank Archive, IMHAL002ESK.

Bursa branch of the Ottoman Bank was also opened in 1875.[1024] Although there is not detailed information about the architecture of the building of the branch in the literature, based on archival historical photographs and documents, it can be interpreted that the building also carried similar features of civic buildings constructed in the late Ottoman Period. **(Figure 5.30, 5.31)** The financial services of the branch might have been provided in a space in the Commercial Han District in

[1024] Dostoğlu & Oral, 1999, p. 211; Bilenser, E. (Prep.). (2014). *Prusia'dan Bursa'ya: 8500 Yıldır Üreten Kent.* Yapı Kredi Yayınları, p. 203.

the urban core, as seen in the historical maps of Bursa before the bank moved to the building.[1025]

The Ottoman Bank was an investment bank, carrying out railway projects.[1026] Furthermore, agricultural development was not the mere concern of Agricultural Bank, it was also financed other components of modernization such as the development of education and construction activities while providing credits for peasants.[1027] As such, the banks can be considered as financial shapers of urban development since they played a role in the development of infrastructural projects.



Figure 5.30 Bursa Branch of the Ottoman Bank.
Source: SALT Research Ottoman Bank Archive, IMHAL002BUR.

[1025] See: **Figure 2.10** in Chapter 2.

[1026] Apak & Tay, 2009, pp. 79-88.

[1027] Quataert, 1975.



Figure 5.31 An envelope sent by Isaac Bensaason from Ottoman Bank, İstanbul, to the Bursa Branch, 1831.
Source: SALT Research Ottoman Bank Archive, AINDS00094.

5.2.3 Hotels

Hans and caravanserais, as earlier forms of accommodation, were built in order to serve for long-distance trade.[1028] Koza Han in Bursa was one of the commercial places at the end of the Silk Routes of Tabriz-Erzurum-Tokat and Makkah-Damascus-Aleppo-Konya-Kütahya in the 1400s.[1029] However, because hans and rent houses in the city did not meet the expectations of wealthy merchants, they tended to stay at hotels that emerged in the nineteenth century as more comfortable spaces compared to other appropriate accommodation opportunities in Bursa. Potential customers for the hotels in the city were wealthy merchants, foreign travelers[1030], some of whom visiting the city for consulate services, and local and foreign travelers trying to find remedy in thermal springs.[1031]

[1028] Dumper, M., Thomas, R., & Stanley, B. (Eds.) (2007). *Cities of the Middle East and North Africa: A Historical Encyclopedia.* The United States of America: ABC-CLIO, Inc., p. 101.

[1029] Ibid.

[1030] George Perrot claims that Bursa was the only city that included a hotel among other Anatolian towns, except İstanbul, in 1863 (quoted from: Yaşayanlar, 2013, p. 42).

[1031] Yaşayanlar, 2013, pp. 41, 42.

One of the significant attempts that contributed to the modernization of the Ottoman Empire was the flood of foreign tourists who were influential especially in the hotel management in the city. The development of the railway and the road system in the city of Bursa accelerated the improvement of tourism in the city. The advances in the tourism sector directly influenced hotel designs that were shaped according to the European standards of comfort as well as the European lifestyle looking for entertainment. For the Bursa case, the reason behind the change in accommodation purposes and types were several. These included, firstly, European travelers and merchants' pursuits for hotels that were common in Europe; secondly, the development of the transportation system between the capital and Bursa as well as within the city; and, lastly, the development in commercial activities with the development of industrial and agricultural production.

Apart from these reasons, the possible other dynamics behind the establishment of hotels in Bursa were tourism in thermal springs, change in the perception of comfort, changing diversity in entertainment practices, and the demand of foreigners for the investment to the untouched hotel management sector in the city.[1032] **(Table 5.4, 5.5)** Foreign investors must have occupied the field of hotel management because this field was not seized by local investors.[1033] Based on several traveler notes, it can also be claimed that the hotels were managed mainly by foreigners. For instance, the manager of Hotel Bellevue was Bay Charles, as Macfarlane narrated;[1034] and the owner of Hotel de Anatolie was a French woman, Madam Brotte, with her perfect service for silk merchants coming from Lyon, as Bent noted. [1035] The fundamental aims of local and foreign travelers going to the city of Bursa were their quest for a remedy in thermal springs, curiosity for discovering the historical pattern of the old capital of the Empire, and climbing the Olympos Mountain as well. What made it easier for travelers to visit the city was the initiation of the steamship transport

[1032] Ibid., pp. 97, 106.

[1033] Ibid., p. 98.

[1034] Macfarlane, C. (1850). *Turkey and Its Destiny,* Vol. 1 and 2. The extracts from the book in: Yıldırım, 2014, p. 433.

[1035] Bent, J. Theodore. (1889). *On the Slopes of Olympus.* Littell's Living Age. Vol. 180. The extracts from the book in: Yıldırım, 2014, p. 434.

between Gemlik and İstanbul in 1865 by the efforts of Ahmed Vefik Pasha.[1036] The improvements in road transportation system, and the introduction of the railway between Mudanya and Bursa in 1892 were also options for travelers,[1037] which all contributed to the development of tourism.

Table 5.4 The list of hotels in Bursa.
Source: compiled from the book written by Yaşayanlar, 2013.

Hotels	**Location / Date**
Hotel Olympos	on Çekirge Road (old) / c. 1843-46
Hotel Bellevue	on Altıparmak Street in the urban core / c. 1847
Hotel d'Europe	Çekirge / c. 1853
Hotel Splendid	near Boyugüzel Hamam in Çekirge / -
Hotel Continental	Near Servinaz Hamam in Çekirge / -
Hotel d'Anatolie	Yahudiler Neighborhood / c. 1882
Hotel Nuriye	near Sedbaşı Bridge / known as Hotel Jozef in 1883-84 *Hüdâvendigâr Vilâyet Salnâmesi*
Şark Oteli	Sedbaşı / Nafizâde Ahmed Fuat stayed in Nazlıyan Misafirhane, c. 1897
Gönlüferah Otel	Çekirge / c. 1890
Hotel Dudanube (Tuna Otel)	on Çekirge Road (old) / c. 1890s

Hotels were especially located in Çekirge district for the customers coming for thermal springs. Due to the fact that there was an increase in foreign population in the districts such as Çekirge, Altıparmak, and Sedbaşı, where thermal springs were located, and that the managers tried to attract travelers to the thermal springs, European-style restaurants and entertainment places were mainly located on the routes going to the thermal springs.[1038] On the other hand, Sedbaşı district was also

[1036] As mentioned in this chapter beforehand. See Appendix A for The regulations of the Steamboat Company for the Gulf of Gemlik and Bursa.

[1037] Yaşayanlar, 2013, pp. 32, 33.

[1038] Ibid., p. 37.

for the customers coming for restaurants and entertainment places.[1039] There were also hotels appealing to foreigners in Yahudiler Neighborhood and on Altıparmak Street, and Hotel d'Anatolie was also located in this street.[1040] **(Figure 5.32)**

Table 5.5 Hotels in Bursa in 1920/21.[1041]
Source: Hacıbeyzade Ahmed Muhtar. (Ed.). (1920/21). Guide for Bursa Exhibition (1920/21 *Bursa Sergisi Rehberi*). İstanbul: Ahmed İhsan Matbaası, 1339.

Hotels in Bursa	Location	Accommodation fee	Number of rooms	Bed capacity
Karadeniz Oteli	Mecidiye Street	15 *guruş*	7	12 beds
Karacabey Oteli	Mecidiye Street	20 *guruş*	11	2 beds
Şeref Oteli	On new road	25 *guruş*	10	15 beds
Anadolu Oteli	On new road	25 *guruş*	10	18 beds
İstanbul Oteli	On new road	25 *guruş*	11	25 beds
Esadiye Oteli	At *Tuz Pazar*	25 *guruş*	12	18 beds
İzmid Oteli	Kuruçeşme Street	30 *guruş*	4	6 beds
İkbal Oteli	On new road	35 *guruş*	6	16 beds
Rumeli Oteli	Altıparmak Street	40 *guruş*	6	11 beds
İstiklal Oteli	On new road	40 *guruş*	4	10 beds
Bosna Oteli	On new road	40 *guruş*	22	30 beds
Osmaniye Oteli	On new road	50 *guruş*	12	24 beds
İzmir Oteli	On new road	50 *guruş*	15	18 beds
Nuriye Oteli	Sedbaşı	50 *guruş*	14	20 beds
Bağdat Oteli	Sedbaşı	50 *guruş*	19	30 beds
Türkiye Oteli	Sedbaşı	50 *guruş*	3	8 beds
Kükürtlü Oteli	Kükürtlü Thermal Springs	150 *guruş*		
Madam Brut Oteli	Yahudiler Neighborhood	150 *guruş*		

[1039] Ibid., p. 97.

[1040] Ibid., p. 67. Also see: See: **Figure 2.10** in Chapter 2.

[1041] According to the guide, only two or three of hotels had a restaurant and the rest provided meals from outside and tailored to their customers. As seen in the table, the hotels constructed in the nineteenth century were almost gone, except Madam Brotte Hotel and Hotel Nuriye. The accommodation fee was also higher than many hotels constructed in the nineteenth century due to most probably its established quality and experiences inherited from the previous century. Besides, the tradition of constructing a hotel near a thermal spring also continued in the early twentieth century as seen in Kükürtlü example.



Figure 5.32 Hotel d'Anatolie, Postcard, c. 1910.
Source: Özendes, 1999, p. 127.

Georges Perrot stated that many merchants, who came to Bursa for selling silkworm seeds, stayed in Hotel Olympos built as the first European style hotel in Kaplıca Street in 1863.[1042] In spite of the existence of competing hotels, Hotel Olympos sustained its existence until the late years of the nineteenth century.[1043] The hotel competing with Hotel Olympos was Hotel Bellevue, as stated by Mac Farlane.[1044] After his visit to the hotel in 1847, Macfarlane noted that the building must have been converted from a house to a hotel, because it reflected the architectural characteristics of traditional houses in Bursa, and according to his notes, Hotel Bellevue was a perfect place with its clean and tidy rooms and its large balconies, but the view from the hotel was not as beautiful as he expected.[1045] Taylor described the hotel as designed in the European style located in the west side of the city close to

[1042] Perrot, G. (1864). *Souvenirs D'un Voyage en Asie Mineure.* Paris: Michel Levy Freres (quoted from: Yaşayanlar, 2013, p. 46).

[1043] Yaşayanlar, 2013, p. 48.

[1044] Macfarlane, C. (1850). *Turkey and Its Destiny,* Vol. 1 and 2 (quoted from: Yaşayanlar, 2013, p. 45).

[1045] Macfarlane, C. (1850). *Turkey and Its Destiny,* Vol. 1 and 2 (quoted from: Yıldırım, 2014, p. 387). Also see the extracts from the book in: Yıldırım, 2014, pp. 433, 434).

baths.[1046] Walker, on the other hand, illustrated the hotel located at high hills as a modest building with a signboard at the entrance displaying the inscription: "Hotel du Mont Olympe".[1047] As Walker described, it was an unostentatious building including a dining hall on the basement and rooms on the second floor. Higginson and Haeckel also emphasized the comfort of the hotel.[1048] As understood from the inscriptions as "hotel and restaurant" on historical photographs, hotels did not only serve as accommodation places but also as restaurants.[1049] In addition, the hotels were not only serving travelers and guests but also the local people looking for the entertainment in restaurants on the basement of hotels.[1050]

Based on the travel notes of Bayard Taylor, Hotel d'Europe was known to have been situated on the top of a slope, and it was designed according to the European standards with its large and clean rooms.[1051] Hotel Splendid, located in Çekirge district as a thermal hotel, included Boyugüzel *Hamam* known from the fifteenth century onwards, and the building was four-storey in height, consisting eighty rooms, a bath *(hamam),* and a large garden.[1052] **(Figure 5.33)** Hotel Continental, located in Servinaz Street in Çekirge district, was also adjacent to Servinaz *Hamam*,[1053] and the building was three-storey in height and a wooden construction.[1054] **(Figure 5.34)**

[1046] Taylor, Bayard (1852/1862). The Lands of Saracen. New York. The extracts from the book in: Yıldırım, 2014, p. 435.

[1047] Walker, Mary Adelaide. (1886). Eastern Life and Scenery, Vol. 2. London. The extracts from the book in: Yıldırım, 2014, p. 437.

[1048] Higginson, George (1854/1916). *Seventy-One Years of a Guardsman's Life.* London. The extracts from the book in: Yıldırım, 2014, p. 437.

[1049] Yaşayanlar, 2013, p. 36.

[1050] Ibid., p. 98.

[1051] Taylor, Bayard (1862). *The Lands of Saracen*. New York (quoted from: Yaşayanlar, 2013, p. 56).

[1052] Yaşayanlar, 2013, pp. 57, 58.

[1053] Yaşayanlar, 2013, pp. 57, 58; Dörtok Abacı, Z. (2018). II. Abdülhamid Döneminde Bursa'nın mekânsal ve Kültürel Dönüşümü. *Bursa Günlüğü,* No: 2, p. 9.

[1054] Yaşayanlar, 2013, p. 65; Dostoğlu, N. T. (2001). *Osmanlı Döneminde Bursa: 19. Yüzyıl Ortalarından 20. Yüzyıla Bursa Fotoğrafları (Bursa a l'epoque Ottomane: Photographies de Bursa du milieu du XIXeme au XXeme siecle: Bursa in the Ottoman Period: Photographs of Bursa from Mid 19th to the 20th century).* Antalya: AKMED, p. 328.



Figure 5.33 Hotels Splendid in Çekirge; postcard, Dimitri G. Kechaja, c. 1910.
Source: Özendes, 1999, p. 126.

The location of hotels near thermal baths was not of course a coincidence. Tourists who wanted to take advantage of thermal baths for health purposes were very pleased to stay in these hotels in European standards. This satisfaction can be understood from travelers' notes and the idea of the placement of hotels and baths in close proximity. Hotel Nuriye, previously named as Hotel Jozef in 1883/1884 Salname, and located next to Sedbaşı Bridge, also included a restaurant, and the hotel as a house/apartment like building, was three-storey in height with fourteen rooms.[1055] Çekirge, Altıparmak, and Sedbaşı districts hosted many house/apartment or guesthouse like hotel buildings, and Hotel Dudanube was also a hotel of this kind. **(Figure 5.35)** The hotel, established in 1890s and situated in Kaplıcalar Street (Old Çekirge Road), was preferred by travelers and visitors because it was close to the thermal springs; it was affordable and had a theatre-hall inside.[1056]

[1055] Yaşayanlar, 2013, p. 79.

[1056] Ibid., p. 89.



Figure 5.34 Hotel Continental and Servinaz *Hamam*; postcard, c. 1900.
Source: Dostoğlu, 2001, p. 329.

The archive and literature about the hotels built in the second half of the nineteenth century in Bursa provide scarce information on their architectural designs, but more information about the estimated establishment date, owner, operator, and quality of services. This type of data is given in a limited form in this study as the focus is on the urban and architectural features of hotels. The most significant source for providing historical data about the hotels was traveler notes; nonetheless, almost all travelers emphasized only the European aspects of the hotels such as their comfort, taste of meals, and cleaning standards as well as some characteristics of their owners, but did not give detailed information on their spatial features.



Figure 5.35 Hotel Dudanube.
Source: IRCICA; accessed from: Yaşayanlar, 2013, p. 90.

Due to the lack of information about architectural features also in traveler notes, the historical photographs are also investigated in detail and several interpretations on the architecture of hotels can be made accordingly. The architecture of grand hotel buildings in the city differed in their size and design. The middle axis with pediments at the top of the hotel buildings constructed in the nineteenth century in Bursa were emphasized by projecting balconies, and an uplifting middle block. The projecting balconies of the middle block was a way of imparting comfortable, clean, wide, refreshing, and bright interior spaces. Besides, massive plain façades of the hotel buildings were alleviated by numerous tall windows, although the windows were sometimes covered by shutters.

As mentioned before, travelers stayed at hotels instead of houses and *han*s by the second half of the nineteenth century with the construction of hotels because they were offering services in European standards. Moustier stated that the hotels were established only in the cities of Bursa and İzmir in Anatolia.[1057] It is understood that there were adequate and qualified hotels in these cities. Similarly, Walker claimed

[1057] A. De Moustier (1864). *Voyage De Constantinople A. Ephese, Par L'interieur de I'Asie Mineure, Bithynie, Phyrgie, Lydie, Ionie.* Le Tour Du Monde, Vol. 9. The extracts from the book in: Yıldırım, 2014, p. 432.

that Bursa was now appropriate for travelers with the construction of hotels and the development of transportation.[1058] Higginsen emphasized his astonishment in seeing such a comfortable and refreshing hotel while expecting a dilapidated *han* like buildings those in other Anatolian cities.[1059] As seen, the accommodation services were also provided in other provinces, but Bursa was one of unique cases in terms of having hotels in high standards; it was also significant in offering specified hotels that used water for health purposes, bringing the natural specificities of the city together with contemporary expectations of modernizing life style..

5.3 Concluding Remarks

The development in agricultural production led to the necessity of distributing agricultural products to the whole Empire and to Europe. The flow of immigrants and the distribution of goods were facilitated through seaways from the ports, the newly constructed roads, and railways, as well as caravan transport that continued to be an alternative transport system. To this end, the main focus of this chapter has been the spaces of transportation, i.e. train stations, and ports, as well as infrastructures such as roads and railways, which eased especially the distribution and thus trading of goods.

These places of transportation with their unique architectural characteristics formed under the European and traditional influences, undertook roles as thresholds, corridors, gates, or intermediary passageways between different cultures and manifold dynamics of urban life. These places, together with those buildings that supported the commercial practice such as banks as well as hotels, became determining in the expansion of the city boundaries through the edges, also facilitating the city's economic relationships with its hinterlands and the world.

[1058] Walker, Mary Adelaide. (1897). *Old Tracks and New Landmarks.* London (quoted from Yıldırım, 2014, p. 385).

[1059] Higginson, George (1916). *Seventy-One Years of a Guardsman's Life.* London (quoted from Yıldırım, 2014, p. 384).

CHAPTER 6

CONCLUSION

The Ottoman city of Bursa was situated at a strategic geographical position on the silk road connecting the Middle East and Europe, making it a center of trade and production as well as urbanization for centuries. In this context, the choice of Bursa as a case study in this dissertation forms an understanding of urban and architectural history of the city with an emphasis on its natural resources that engraved the influential effects of the productive ways in the fields of industry, agriculture, and commerce on the advancement of modern urbanism. Bursa, the first capital of the Empire yet a middle-sized and modest city in the nineteenth century, transformed into an international trade center and a site of spatial transformation from its urban core to the edges during the late Ottoman period.

This dissertation initially has undertaken three main inquiries into the late nineteenth century Ottoman city of Bursa in Anatolia within the context of spatial transformation. First of all, the three inputs of nature, technology, and immigration, effective in the process of urban development, have been addressed to study the architecture of industry, agriculture, commerce, and transportation. Since the significant spatial transformation in the city of Bursa in the nineteenth century had its roots in industrial, agricultural, and commercial developments, the second inquiry has followed the argument on how the level of urban development affected the spatial transformation of Bursa in the nineteenth century. While considering this, the correlations between the urban core, the closer periphery, the farther hinterlands as well as the edges of the city have been investigated as the third inquiry through an analysis of the spatial organization and architectural features of newly constructed buildings.

The study, therefore, has had three crucial targets. One of the main targets has been to articulate the changing spatial structure of industrial, agricultural, and commercial components of the city of Bursa during the nineteenth century. These spatial components have been explored through the analysis of significant cases at urban and architectural scales. These primary cases are filature factories, and Bursa-Mudanya Railway as signs of architecture of industry; Hüdâvendigâr Agricultural School with the annex of Hamidiye Model Farm and the buildings of Mihaliç *Çiftlikât-i Hûmâyun* as signs of architecture of agriculture; and the port of Mudanya, Mudanya Train Station, hotels and banks as signs of architecture of commerce. For instance, the Mudanya-Bursa railroad was constructed as a unique example in the late Ottoman period to link the city to the Mudanya port. The function of the railway was not to connect agricultural hinterlands with the city nor the ports with the agricultural hinterlands, but rather it initially aimed to link the city to the port. Bursa-Mudanya railway was a pivotal component for both the import of finished industrial goods and the export of industrial and agricultural raw materials produced in the urban core, the periphery and the hinterlands of the city. Besides, the development of the road system and the railway in the city of Bursa accelerated the improvement of tourism. Agricultural lands in Mihaliç, the port settlement areas in Mudanya and Gemlik, filature factories, transport facilities, and agricultural and financial institutions were all contributors to the economic and spatial development of the city. In other words, the economy of the city was activated by the combination of industry, agriculture, transport, and commerce, and culminated by the construction of urban and architectural components with their spatial, technological, and functional aspects. Industrial and agricultural production affected urban and architectural production. The level of industrial and agricultural production also stimulated commercial relations and necessitated buildings of transport and commerce. In the nineteenth century, with the support of the agricultural and industrial institutions located in the city, commercial activities continuing by new means of transportation such as the construction of the dock, the railway, and the train station transformed the coastal edge of the city into a modern and an advanced gateway to the sea and the world beyond.

Another main target of the study has been to depict the degrees of the impacts of the lucrative agricultural hinterlands, the industrial districts, and the housing neighborhoods, on the urban expansion and architectural development of the city. For instance, at an urban scale, the agricultural inland towns such as Mihaliç and Kirmasti[1060], where agricultural hinterlands occupied a wide area, Çekirge, known for its thermal springs, the vicinity of Gökdere and Climboz Streams, where filature factories were scattered in their vicinity, immigrant neighborhoods such as Hocahasan, İntizam, Rusçuk, and Çırpan, where immigrants were settled, and the historical Commercial *Han* District, where the commercial relations were active in and around *han*s, were the main producing and marketing places. When the guild system based on traditional methods of production lost its efficiency in the nineteenth century with the change in the modes of industrial production, the filature factories, which were constructed mostly by foreign investors, were the new means of industrial production.

The last main target of the study has been to investigate not only how the ports of Mudanya and Gemlik as spatial borders affected the urban transformation of the waterfront, but also the interactions between the producers inhabiting inland towns and the consumers/merchants trading at the edges of the city. Since the ports of Mudanya and Gemlik flourished as focal points in the nineteenth century, the relationship between the ports and their vast and diverse hinterlands in the late years of the nineteenth century is also worth to be studied. Along with being a significant transport, import, and export hub, Mudanya was also one of the prominent productive hinterlands of the city of Bursa, not only with its mulberry groves and factories but also its agricultural goods. Especially, considering commercial acts and urban transformation, the coast of Mudanya changed through the construction of a few factories, warehouses, new dock, the railway, and the train station. Taking a comprehensive look at these coastal settlements as a whole, the study has offered to place these specific ports within the various urban networks that connected the hinterlands as the sites of production with the ports as the sites of commerce. Correspondingly, it has further examined trade networks that linked Bursa with the Anatolian cities and connected the ports with the other ports of the Empire and the

[1060] Today known as Karacabey and Mustafa Kemal Paşa.

European ports. The introduction of new technologies that led to the transport of industrial and agricultural raw materials, commodities, people, and information has also been another concern of the study in this connection.

The roots of urbanization at the intersection of the *production* and *distribution* milieu can be revealed by studying the buildings that allowed the production of industrial and agricultural goods and the export of these products. Each case, therefore, has been introduced also with reference to its construction process. The changes in production, distribution, and commercialization activities compared to those of previous centuries and the factors behind these changes have also been explored. These cases are taken to illustrate how deeply the transformations affected architecture and how the dynamics of change influenced the spaces of the city from the urban core to the edges. These afore-mentioned architectural focuses, which were closely related to the industrial, agricultural, and commercial developments in the nineteenth century Ottoman cities, have been discussed, moving from the analysis of the production of agricultural goods and industrial raw materials to the analysis of their distribution and commercialization via the spaces of transportation such as port-related buildings and train stations with the support of hotels and banks.

Examining the urban architecture with respect to the arguments on centralization and modernization, the cases examined represent a unique form bringing together urban implementations brought forward by Tanzimât and the changing aspects of industrial production, commercial agriculture, and technological progress. Meanwhile, the changes in production, distribution, and commercialization activities compared to those of previous centuries and the factors behind these changes have been explored in this study. When investigating the spatial interventions both in the city edges and the urban core and periphery of Bursa, it has become obvious that architecture of industry, agriculture, and commerce affected the urbanization process in the nineteenth century spatially. Providing case areas from Mudanya in the city edge, agricultural farms in the hinterlands, and commercial spaces and industrial facilities in the urban core and its periphery, this study has assembled the spatial transformation of the city and its urban development process in a comprehensive

understanding of how the urban core, the periphery, the hinterlands, and the edges of the city interacted during the nineteenth century.

The city of Bursa was among several significant cases where the reflections of the urban reforms of Tanzimât on the urban pattern can be ideally observed. Therefore, the spatial transformation of the Bursa province can be examined under the basis of the transformation in the economic and political structure of the Ottoman Empire and in the manufacturing and trading industrial and agricultural products. The processes of modernization, and the integration into the world economy, on the other hand, have formed the basis of the analysis for the spatial transformation of an Ottoman city in the nineteenth century in a comparative frame of discussion.

The modernization in spatial terms in the urban core and its periphery was realized in nineteenth century Bursa by the introduction of new architectural building types such as factories and manufacturing workshops, as well as the restructuring of earlier places such as residential districts according to new needs of workers and immigrants. The transportation means radically changed at the time with the innovation of steam engine and its usage in ships and railway vehicles, which necessitated new buildings such as train stations, warehouses, and customs houses that modernized the spaces of the hinterlands in the inland and the edges at the coasts of Bursa. As such, the agricultural and industrial products as well as raw materials could be transported from the industrial urban core and periphery and the agricultural hinterlands to the ports at the edges to be distributed to the world and vice versa.

Thus, this study has examined how the city of Bursa transformed spatially by the institutionalization of agriculture and industry as well as the changing means of transport and commerce, and the different spaces of the city from its urban core and periphery to its hinterlands and edges transformed through this process of modernization in an interconnected manner. While the urban core and its periphery gained a new appearance with the establishment of filature factories as well as the construction of new neighborhoods for workers, and agricultural farms and institutions together with villages of immigrant farmers were located in the hinterlands, the edges transformed at the same time with the construction of

buildings for transportation and commerce. Through this process of modernization, the city developed in economic terms and became into a productive and commercial center at a new scale, using and providing technology in the fields of industry, agriculture, and transportation. The ports and the railway both acted as a bridge between the production in the hinterlands of the city and the world outside.

The nineteenth century was not the first period during which industrial, agricultural, and commercial developments existed in Ottoman towns. Nonetheless, the nineteenth century witnessed the attempts of institutionalization of these processes, as exemplified in the case of Bursa, both by administrative efforts such as regularization of laws, local municipal organizations, and infrastructural and new building constructions, and by the establishment of schools in related fields such as the agricultural school and the Institute of Sericulture, and model farms as well as banks to finance the processes. As seen in the case of Bursa, modernization should be analyzed as an interrelated process, and the connections among its multiple actors such as the state, and foreign and local people and investors should be explored as a network rather than isolating any of these from the others.

As one of the actors, the state played a significant role in the process of the spatial transformation. Mihaliç *Çiftlikât-i Hûmâyun*, Bursa *Fabrikâ-î Hûmâyun*, and Hüdâvendigâr Agricultural School were significant examples that show how the state[1061] contributed to the economic development of the city in addition to the contributions of foreign investors. The transformation of the role of the state from a protector to a facilitator of the commercial development strengthened the solidarity between the state and various actors involving craft guilds, urban governments, citizens, local entrepreneurs, and foreign investors as urban shapers. To ensure the consolidation of this solidarity, the state also initiated the reassessment of the natural aspects of the city rather than the detachment of economic decisions from ecological considerations. Taking precautions such as the placement of cemeteries far from the city, the establishment of hospitals and quarantines to prevent the spread of diseases, the use of Pasteur method to remedy the silkworms, and the enactment of building

[1061] The considerable revenue of *Hazine-i Hâssa* was devoted to financing these urban constructions in the Tanzimât era (TDV, İslam Ansiklopedisi, *Hazine-i Hâssa*, https://islamansiklopedisi.org.tr.).

regulations often required the redesign of spatial formation of the city. Archival documents dated 1890 and 1891 indicate that the state afforded at the time for the development not only of industry but also of agriculture and commercial spaces. The aim was to establish *Osmanlı Anonim Şirketi* for the construction of the railway and the management of sea transportation.[1062] A proposal *(layiha)* was offered for the construction and renovation of railways, roads, and bridges, and agricultural and commercial activities.[1063] The stud farms were also established in the proper places for the improvement and rising of poultry animals.[1064]

After the entry of foreign capital into the Ottoman Empire in the 1860s, the railways started to be constructed mainly by foreign companies, while the construction of the roads were promoted by the state. With the efforts of the state and foreign entrepreneurs, the urban development and the investments in agriculture, industry, and commerce enhanced the states' centralization policy to control the provinces. The main tools of achieving the urban development were the construction of agricultural schools with their model farms, the arrival of the railway, the building of train stations on the railways, the erection of branches of the Ottoman Bank, and the consolidation of ports in addition to the spread of building activities of other public monuments. The study, therefore, has shown that the productive and commercial city of Bursa of the late Ottoman period was not confined to its urban core but spatially transformed and developed to its edges by the utilization of its natural resources and the construction of industrial, agricultural, transportation and commercial buildings and sites.

Rather than examining the modernization of Ottoman cities in the late nineteenth century with reference to the underdevelopment theories, or the insistent desire of the Empire to reach the developments in Europe, together with an emphasis on the deficiencies it is identified with, this study has attempted to evaluate the process in its own internal dynamics, possibilities, and conditions. Industrialization that shaped modernization in the case of Bursa, cannot be equated with the metropolitan

[1062] Y PRK TNF 2 24.

[1063] Y PRK TNF 2 38.

[1064] Y PRK TNF 2 41.

European cities, but instead it can be claimed that its scale and meaning can be evaluated in its own possibilities, ecological dynamics, and the level of its adaptation capacity for the use of technology.

Furthermore, it should be noted that the study is an urban and architectural history research engaged in environmental and ecological dynamics. The involvement of the environmental factors in the process of the developments in economy and technology contributed to the formation of urban identity, decisions and economy, which led to the formation of settlements in the hinterlands. This involvement process was based not only on the existence of natural resources but also on the efforts for the mitigation of natural disasters by enacting regulations, planning new settlements and drying swamp areas.

From a chronological perspective, there were three major phases of the spatial transformation of Bursa during the nineteenth century: (1) the establishment of filature factories in the urban core and the periphery starting from the 1840s, (2) the spatial developments in the hinterlands especially after the enactment of Land Law of 1858 and immigration following the wars, and (3) the introduction of the railway from the urban core to the edges of the city at the end of the nineteenth century. Although the Ottoman economy did not totally integrate into the world economy, Bursa experienced a specific economic integration process. When the archival documents concerning the import and export activities at the ports and building construction activities together with agricultural and industrial productivity in the city and its environs are considered, all the phases witnessed the economic integration process at a certain level. The commercialization of agriculture together with the establishment of factories were fundamental factors in the integration of the Ottoman economy into the world economic system. As mentioned in the introduction of this study, considering the urban form, the main structure of the city comprises the urban core, its periphery, hinterlands, and city edges. Therefore, as the city has been analyzed from both chronological and geographical perspectives, the chapters are structured through studying the developments on first industry, then agriculture, and lastly commerce and transportation.

Since the study has dealt with the city both from a chronological and geographical perspective, the analysis has been structured in parallel terms following the sequence of industry, agriculture, and transportation and commerce. When viewed from a chronological perspective, the establishment of filature factories was the principle event of the city's industrial development in the 1840s. Additionally, Land Law of 1858 and similar laws and regulations together with trade treatises introduced the development of agricultural hinterlands. The immigration process that occurred after the wars facilitated the formation of immigrant settlements and the development of agricultural farm lands with the contribution of immigrant farmers as well as the planned settlements in the urban core accommodating immigrant workers. The increase in agricultural production and industrial silk production led to the development of transportation technology, maritime transportation, and commercialization of agriculture. All of these developments reached their peak when the railway and the new dock was constructed in the late nineteenth century. On the other hand, when viewed from a geographical perspective, the city's urban architecture started to be formed in the urban core and its periphery. The citadel and *han*s district constituted the urban core while the periphery was formed by the complexes in the pre-industrial period. The urban core with its periphery took its new form in the second half of the nineteenth century with the construction of filature factories and hotels. The agricultural hinterlands beyond the periphery also gained their new appearance with the elimination of swamps and security problems and the construction of new villages for immigrant farmers. The coastal edge also entered a transformation process together with the construction of a new dock and the railway in the very late years of the nineteenth century. As seen, parallel developments can be observed when viewed from both perspectives.

The study, therefore, has searched ways to form a connection between the city and the industrial, agricultural, and commercial developments by exploring the urban formation, extension, and expansion of the city. According to the map showing the geographical features of the environs of Bursa, lowlands were developed on the east-west direction and lied mainly towards the east. The ports were formed on the northeastern part of the city alongside the Marmara Sea. According to the archival documents, the ports of Bursa especially in Gemlik and Mudanya also acted as

antrepos for provisioning the capital city of İstanbul. Based on the geographical and physical formation of the city, the roads and the railroad as well as the expansion of the city developed towards this direction. The new roads and the railway connecting the surroundings with the central urban areas such as the commercial *han*s district, other public buildings, as well as the agricultural hinterlands also expanded the city beyond the urban core.

Based on the literature on urban and architectural history, environmental history, and economic history, the conceptual framework of this study has been formed to reveal the intersecting concepts and to explore the processes of the infrastructural and urban development in a relational perspective of analysis. As Baweja claims, the flow of ideas, cultures, technologies, and people across various lands transcending borders such as empires and states have necessitated a new urban and architectural history to be written not through movements, Eurocentric approaches, and styles, but rather through the combination of economic and cultural actors as well as environmental aspects.[1065] Instead of a conventional stylistic emphasis, the main concern of the study has been to understand architecture with a focus on spatial and functional transformation of spaces, and architectural concepts such as location, scale, and site arrangement of buildings, and the impacts of diverse actors on the urban development. When the city is considered, the processes of development formed under the environmental aspects and scientific and technological progress have also been other main concerns of this study.

The arguments developed in this study do not support the scenarios based on the backwardness of the Ottoman Empire. Binding different perspectives together opened a way to structure the study and draw a framework based on the association between the land-use and transportation patterns and urban expansion. The conceptual framework of the study has also fortified the new approach in writing an architectural history by considering the collaboration among actors as well as the strong association between urban economy and urban expansion structured by commercial activities, production and distribution processes, land-use and

[1065] Baweja, V. (2014). Sustainability and the Architectural History. *Enquiry The ARCC Journal for Architectural Research,* Vol. 11, No. 1, 12, Dec. 2014, p. 46, https://doi.org/10.17831/enq:arcc.v11i1.207.

transportation patterns, technology, and the utilization of nature. By reading land as a landscape including natural resources, examining land use possibilities, and understanding economic thoughts of the Ottoman Empire, this study has attempted to conceptualize urban expansion of settlements in the core and beyond with a direct understanding of the combination of nature, economy, and technology.

Bursa, one of the significant trading Ottoman cities like Selânik, İzmir, and Aleppo, was not simply a supplier of raw materials for Europe but, as these cities, it rather experienced a process to become an integral part of the world economic system through its contributions in the field of production realized by its modernized institutions as well as the Empire's comprehensive reform and regulation programs. As exemplified in the case of Bursa, the Ottoman Empire itself was not only a supplier of raw materials for the European market, but it became a part in the contemporary processes of production and commerce. The new scale of transformation in the nineteenth century Ottoman Empire neither went forward nor remained behind the developments in the world at large. Similarly, the spatial transformation of Bursa during the late Ottoman period studied in this dissertation attests the fact that urban and architectural development of the context was also a part of the contemporary process of modernization experienced worldwide in the nineteenth century.

Nevertheless, the uniqueness of Bursa should also be underlined in comparison to other similar contexts. Ottoman cities in the nineteenth century have been studied in a variety of ways. A tentative categorization of cities has been defined by Khoury according to their positions in the regional and international commercial relations and within the Ottoman Empire: (1) "provincial administrative centers" functioning as provisioning and trade centers, (2) "port cities" serving as "the conduits of international and regional trade" at the edges of cities, (3) "interior towns and cities" with lesser population and fewer linkages to the provincial large centers and the capital, and (4) "urban pilgrimage centers" including essential religious centers.[1066] The city of Bursa, on the other hand, cannot be defined as limited to only one of

[1066] Khoury, D. R. (2008). Political Relations Between City and State in the Middle East, 1700-1850. In P. Sluglett (Ed.). *The Urban Social History of the Middle East 1750-1950.* Syracuse, NY: Syracuse University Press, p. 77.

these categorizations. The city featured as a provincial administrative and trade center because it included administrative functions at the center and considerable commercial activities with the most significant port town of Mudanya acting as a conduit between the hinterlands of the city and European countries. However, beyond this, Bursa devoutly assumed some essential roles in producing raw materials and transporting them. Thus, the city utilized its natural sources in the production of agricultural goods and technology in reeling silk in factories and mechanization of agriculture as well as the construction of roads and railway to facilitate its transformation into a producing and commercial city. This can also help place Bursa as a commercially thriving, producing, and distributing city among other Ottoman cities with the utilization of nature and technology.

In the introduction part of the dissertation, the reasons behind the choice of Bursa as a case study is mainly stated as related to the emphasis on its natural resources that engraved the relations between the industrial, agricultural, and commercial developments and spatial transformation. In order to conclude the analysis, it should firstly be underlined that the dissertation has revealed how being the first capital of the Empire aroused the constant interest of the Ottoman Sultans in Bursa. As discussed in the Chapter Three, the opening and widening of roads and the construction of buildings came to the foreground especially for the visit of the Sultan. Governors were also appointed in Bursa for carrying out construction processes, and their activities were carefully followed by the central government. Inspectors were also assigned to inspect farms and factories. Secondly, although the city of Bursa had always been a hinterland of İstanbul in its history, provisioning especially the palace, the agricultural lands beyond the urban core and the periphery of the city were transformed into the hinterlands of Bursa in the nineteenth century. Especially the shift from subsistence to commercial agriculture affected this transformation. The reasons behind this shift, on the other hand, were the increasing European demand for agricultural raw materials,[1067] and the urban demand within the

[1067] Tekeli, İ. (2019). Cumhuriyet Dönemi Boyunca Kırsalın Geçirdiği Dönüşüm ve Kırsaldan Kopuş. *Efil Journal of Economic Research,* Vol. 2, No. 6, p. 11; Karpat, K. (2019). *Osmanlı Modernleşmesi Toplum, Kuramsal Değişim ve Nüfus.* İstanbul: Timaş Yayınları, p. 97.

city for agricultural production.[1068] Therefore, as the agricultural lands of Bursa produced not only for the international market but also for the domestic market, these lands became the hinterlands of the city (core and periphery) during the late Ottoman period while the city maintained its role as a hinterland of the capital and also exported to Europe. Thirdly, natural resources such as water and fertile lands were utilized through the developments in the fields of industry, agriculture, and commerce. This utilization of nature combined with the utilization of technology and facilitated the spatial transformation of Bursa, which provided the unique character of Bursa, taking the city as a whole comprising its urban core, periphery, hinterlands, and edges. The railway and roads crossing the land and meeting water were modern ways of transportation and commerce of industrial and agricultural products. The industrial raw silk was produced in factories in the city with the utilization of water while agricultural goods were produced in the fertile agricultural lands irrigated by water sources behind the city in the hinterlands. The Mudanya-Bursa railway was also a unique case in comparison to other cases in the Ottoman Empire as it extended from the port to the city in order to transport raw silk while also transporting the goods produced in Bursa and the cities around to other Anatolian cities and Europe with the support of roads. The railway, reaching the port, also differed from the other railways that reached towards agricultural hinterlands.

In the core and the periphery of Bursa, the construction of new building types such as hotels, factories, and civic buildings as well as the widening of streets and the opening of new streets and the arrival of the railway, are typical developments in late Ottoman cities. Nonetheless, when these developments in the city (core and periphery) are considered together with those in the hinterland and the edges of the city by also considering its natural resources and their utilization for the formation of its producing and commercial character, the uniqueness of Bursa can be better recognized.

The main contribution of the dissertation to the urban and architectural history of Bursa is the conceptual framework of the study. The main arguments that provided the conceptualization of urban history of Bursa are framed around the concepts such

[1068] Tekeli, 2019, p. 11.

as utilization of nature and technology, the idea of institutionalization, and the process from nature to production and commerce. The urban development levels, i.e. industrial, agricultural, and commercial developments, are intertwined with these concepts, which contributed to the spatial transformation of Bursa.

Scrutinizing the land-use and natural resources management in Bursa, the dissertation has revealed that the hinterlands as well as water sources such as rivers and sea were primary natural resources of the city. The land in the urban core and periphery became a site for the new buildings of industry, finance, hotels, education, and government; in the hinterlands, it became fertile lands and the way for the railway crossing the land to reach the port; and in the edge of the city, the land became a site for redefining the waterfront for the ease of sea transportation and commerce. As another primary natural resource of the city water was utilized in the urban core and periphery as power for factory-based industrial production, in the hinterlands as drainage system, and at the edge of the city as a way of sea transportation. The negative effects of the natural disasters such as earthquake and fires as well as the swamp areas were also mitigated to utilize the natural resources more efficiently.

Discussing the mechanization of agriculture, factory-based industrial production, and the establishment of the schools of education in Bursa, the dissertation has also revealed that technology and scientific knowledge were utilized and contributed to the modernization of the Ottoman Empire and the city of Bursa.

Another main argument of the dissertation is based on the conceptualization of "institutionalization." The enduring impact of nature on the spatial transformation was achieved through the introduction of technology. The new methods in industrial production in factories and the use of agricultural machines especially with the contribution of immigrants were ultimately decisive in redefining the process from nature to production. The new transportation technology brought by industrialization, i.e. steamboat and railway, was also decisive in redefining the process from production to commerce. This dissertation has conceptualized how land and water triggered the process from nature to production and commerce.

As another significant argument, the study has argued for the endurance of tradition that was reflected on the continuation of the traditional ways of spatial design-making and traditional use of timber, small-scale land holdings, the production of weavers' cottages, and traditional way of agriculture, which were inherited from the previous centuries, while new and modern ways of production and building were also utilized.

One of the main arguments has been the wholeness of the urban core, periphery, hinterlands, and edges of Bursa that was realized by the construction of advanced transportation and new building types. The leading role of the state in the institutionalization process of the fields of industry, agriculture, and commerce was not limited to the urban core and periphery but also extended through the hinterlands and reached at the edges of the city by enacting laws, regulations, and reforms. The strategic and convenient timing of land-use and natural resources management included drying swamp lands, redefining land property rights as well as reconstructing spaces for production. The continuation of the construction process beyond the city affected not only spatial transformation but also transformation of natural environment into producing and commercial spaces. These efforts witnessed in the case of Bursa proved that the state consciously aimed at transforming each corner of the empire into a modernized built environment. This process also confirms that the modernization efforts were not limited to the capital and its close environs but also aimed to reach each corner of the empire.

Beyond the role of the state, the dissertation has also clarified the unprecedented efforts of various actors such as foreign investors, merchants, workers, and farmers, which intensified not only with the construction of settlements, and the institutionalization of governmental structure, finance, education, and production but also with the introduction of science and knowledge as well as the implementation and spread of technology.

The dissertation has aimed to contribute to the urban, architectural, and environmental history by interpreting the spatial environment of Bursa as a whole under the discussions of three urban development levels of the industrial,

agricultural, and commercial developments. Rather than studying the city as a single entity limited to its urban core and periphery, the dissertation proposes that the economic and spatial expansion of the core and periphery towards the hinterlands and edges promoted the spatial transformation of the city. Thus, with the utilization of nature and technology under the supervision of the institutionalization of education and construction, the spatial transformation was achieved through the unprecedented construction of infrastructure and spaces of production and commerce.

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APPENDICES

A. THE REGULATIONS OF THE STEAMBOAT COMPANY FOR THE GULF OF GEMLİK AND BURSA[1069]

The proposal was signed between the French Company and Pavlo Gorlara and his shareholders in 1865.

The First Article: A permission was demanded for the establishment of a steamboat company by Pavlo Gorlara and his shareholders. In addition to the ships which would run between the vicinity of the Gulf of Gemlik and *Dersaadet*, a highway transport would also be provided for the transport of passengers and commodities between the dock of Gemlik and the urban core of Bursa. The aim of the company was to ease sea and highway transport.

The Second Article: The name of the company would be the Gulf of Gemlik Steamboat Company, *Gemlik Körfezi Vapur Şirketi.*

The Third Article: The fund for the establishment of the company was determined as a certain amount of money[1070] and this fund was shared into 250 portions. However, *Lonca Cemiyeti,* the selected members, was allowed to increase the fund in order to increase the equipment and steamboats when required for the company. The other shareholders had also right to purchase a share from the increased fund.

The Fourth Article: The certificates of the shares would be held by each shareholder.

[1069] *Gemlik Kröfezi ve Bursa Vapurları Şirketi Nizamnamesi,* İ.MVL.531-23811-3-2. The document (original in Ottoman Turkish) is translated from Turkish translation to English by the Author.

[1070] 8250 *mecidiye altını.*

The Fifth Article: The company could start operating on condition that the shareholders paid some certain of their shares, which was allocated for them, and the total amount of money was put into the bank through *Lonca Cemiyeti.*

The Sixth Article: The stock certificates[1071] would be given to the shareholders providing that the sum of money had to be paid. If those who did not pay that amount of money, anyone could become the shareholder when he paid the share.

The Seventh Article: The center of the company would be in *Dersaadet*.

The Eight Article: The *nizamname* would be valid for ten years starting from March, 1864. However, at the end of the first five years, the council of the company could have a decision on the abolishment of the company and the closure of the accounting department.

The Ninth Article: The steamboats of the company would be under the domain of the Ottoman Empire.

The Tenth Article: The company and the administrators were tied to the courts of *Devlet-i Aliyye*[1072].

The Eleventh Article: The spendings of the shareholders would be limited to the shares that they previously paid.

The Twelfth Article: A council whose members were comprised of some selected merchants, Kerope Şerbetçi, Serkiz Peryanis, Bonal and Moyne was established in *Dersaadet.*

The Thirteenth Article: This council would be responsible for collecting the shares, depositing them in the bank, deciding on the shares of the portions, increasing the shares, determining the routes of the steamboats, changing scheduled services of

[1071] *Hisse senetleri.*

[1072] The courts of the state.

steamboats, implementing services suitable to the legislations, buying the steamboats and any equipment necessary for the port, providing a licence (ruhsat) for the company, receiving confirmation of *nizamname*, assigning Hanpar Kar Bogos and Pavlo Gorlaro as the administrators.

The Fourteenth Article: The founder, *Mösyö* Pavlo Gorlaro, would have five percent of the profit (yüzde beş resim) as a reward (mükâfat).

The Fifteenth Article: As long as the company run smoothly, *Mösyö* Gorlaro would have the right to have ten shares as guarantee for the council.

The Sixteenth Article: The officers in the docks were chosen and assigned by *Mösyö* Gorlaro. Each officer would give ten shares as a guarantee to the council, and their official working conditions would be defined in detail by the council.

The Seventeenth Article: At the end of each year, *Mösyö* Pavlo Gorlaro would present income and outcome details and general economic balance between them to the council (cemiyet). After all the costs were met, twenty percent of the rest of the capital would be reserved for any extra necessities such as providing equipment.

The Eighteenth Article: The scope of the services of steamboat company would be expanded, which is another issue to be decided at the end of each year.

The Nineteenth Article: The money of assurance for reserving *(ihtiyat akçesi)* would be kept in the bank or in the treasure's office.

The Twentieth Article: The rest of the profit (kâr) would be distributed among the shareholders.

The Twenty-First Article: The managers were responsible within the legislations. The administrators, Hanpar Kar Bogos and *Mösyö* Pavlo Gorlano, were all responsible for giving services and for the company itself.

The Twenty-Second Article: These two managers were appointed to act as the deputies of the company for the issues related to the court. The council would instruct the managers and they had to obey all the instructions.

The Twenty-Third Article: Some merchants inhabiting in Bursa were also chosen to become the members of the council in Bursa, and they had also responsibilities the same with the council established in *Dersaadet*. These prominent merchants, Kayserili Mehmet Bey, Muhtar Efendi, Sucuoğlu Kiğork Ağa, Boduroğlu Artin Ağa, Tomas oğlu Çelebi İstavraki, Mösyö Şodab, and Mösyö Seuni, would always communicate with the council in *Dersaadet* and they would be responsible for sea and highway transportation, as well.

The Twenty-Fourth Article: The arrangement of the share of the company and the sultan's order *(emr-i âli)* as needed would be announced according to the official regulations and legislations.

B. THE CONSTRUCTION CONTRACT OF MUDANYA-BURSA RAILWAY

The document (A. DVN MKL, 84-8)[1073] listed the terms of the construction contract agreement about the construction of *Mudanya-Bursa* Railway and the management of the ship company between *Mudanya* and *Dersaadet*[1074]. The contract was signed with the engineer *Mösyö Evarist de Kriko* in 1892.

PART 1

1st Section of the contract was about the maps, explanatory documents on projects, construction, and equipment.

1st Article: The concessionaire would undertake to complete and to operate the railway properly within the stipulated time defined by the construction contract agreement.

2nd Article: As all the equipment necessary for the railway construction would be provided and implemented according to the maps and sections which had been already prepared by *Hükümet-i Seniyye,* the Ottoman State, all these documents were to be delivered by *Nâfia Nezareti*[1075] to the concessionaire in a month after signing the contract. However, if any change in the provisions of the contract became necessary during the process, these amendments were to be presented to the approval of *Nâfia Nezareti,* and the revised provisions were also presented to the approval of the Ottoman state. The site section of the the railway line would be drawn according to the defined proportions as follows: the length would be drawn at a scale of 1/5000,

[1073] The document (original in Ottoman Turkish) is translated from Turkish translation to English by the Author.

[1074] İstanbul.

[1075] The Ministry of Public Works.

and the height would be drawn at a scale of 1/500. Three lines would be drawn at the bottom of the section. The first one would show the distances on each 100 meters along the railway line; the second line would indicate the degrees of sloping parts on the section; and the third line would display curvilinear sections, including their length written as straight lines and their radius as well.

3rd Article: The railway would be constructed as a single line, except for the setback distances[1076].

4th Article: The horizontal iron rail bars inside would be 1,10 centimeters along the dimensions between straight portions of the route; 1,11 centimeters along the sloping portions of the route. The width between iron rail bars outside would be 75 centimeters. However, in case of newly taken decisions concerning the reduction of this width, all the past provisions would be invalidated.

5th Article: The commissionaire would be responsible for the ease of water flow in the vicinity of railway, for removing ditches that emerged after excavation of roads and earth as well as protecting industrial equipment. The commissionaire would also construct the ditches, waterways, and outer surfaces along the railway necessary for the protection of industrial equipment.

6th Article: If a linear route could not be arranged, curvilinear directions with minimum 60 meters in radius were to be drawn, and minimum 25-meter straight lines were to be arranged between two curved line on the route.

7th Article: The sloping angle of a downward slope were to be 25 millimeters per a meter. All slopes formed by curvilinear lines with minimum radiuses were to be arranged as straight as possible. Although the commissionaire would have a right to change this and previous articles when required, there would be a necessity to get an approval from the state.

[1076] The approach line to the railway line.

8th Article: The distances were specified as required so that the carriages could easily load property on the trains, and the commissionaire could demand carriages from the Ottoman state. The setback distances from train stations would be 20 kilometers. The distance from the railroad bed would be minimum 200 meters. The commissionaire would be obliged to arrange the setback distances from railroad beds as follows: the distance should exceed 10% of the total length of the railroad. The longitudinal sections would be drawn at a suitable length in the vicinity of the train stations which would be most probably be constructed. Horizontal lines would be shown in these sections.

9th Article: If the railway intersected with the existing roads and streets, the bridges and passageways would be constructed for the railway. The detailed explanations on how the builders would undertake the construction are included in this article as follows: The span of the bridge would vary between 3-7,5 meters according to the requirements and conditions of the places where the railroad would intersect a road. The height of the arched bridges would be minimum 5 meters. The columns of the bridges would be minimum 4,30 centimeters. The width of the bridge would be minimum 4 meters. The bridge would be constructed by an arched bridge minimum 5 meter in height, 4 meter in width, and made of iron or wooden. If the railway would pass under a road, technical details would be drawn according to the decisions of the engineers. If the railway went through a road, an elevated and sunken set would be eliminated, and a rather smooth passage for cars would be provided. The railway line going through a busy street or a street belonging to the *Sultan*'s route would be protected by fencing the area at a setback distance, and a cottage for him would be constructed if the *Sultan* found it necessary. If it was necessary to change the existing old roads, the slope would not exceed 60 centimeters at each meter. However, if the slope angle had already been arranged higher that this measure, this provision would not be necessary. The roads *(şose)* would be arranged as minimum 10-meter straight lines by removing the slope when the road intersected with the railway.

10th Article: The commissionaire would be responsible for the reorganization of the streams, and the cost would be met by the commissionaire. If the routes of the stream

were changed, and there became a necessity to stop the flow of the streams during the construction of a railway, the width of the bridges passing over the streams would be 4 meters. Nevertheless, the width and height of the bridge could be designated by the commissionaire, and the state, *Devlet-i Aliyye,* would give the final decision and could limit the distances.

11th Article: The width of the walls of the tunnel would be 4 meter, and the cross distance from one side of the tunnel to the other between tunnel roof and rail bars would be minimum 4,5 meters.

12th Article: The commissionaire would be responsible for providing high quality equipment and construction material and complying with all the scientific rules and accurate engineering techniques. The commissionaire would also present an offer about the equipment and construction material for the approval of *Hükümet-i Seniyye*. The bridges and water ways would be made of stone or iron. However, timber would be used for their foundations and floors. The scale, interior design, and construction method of the train stations, and the cottages near them on the route would be designated by the commissionaire according to austerity principles. The train stations on the route would be made of wood and brick, and covered with roofing tile, or stone, and metal. For any other construction technique and material, a special permission should be taken. *Hükümet-i Seniyye* would evaluate the proposal of the commissionaire concerning the digging and filling the earth.

13th Article: The building constructor would prepare a directory, defining the distances from railroad bed, station points, and the planning of bridges, waterways, and tunnels.

14th Article: *Nâfia Nezareti* was expected to notify the approval of directories and the maps prepared by the commissionaire in a month. If not, the commissionaire could start the constructions as if it was accepted and approved.

15th Article: The railway would be separated by curtains walls from the farms and lands surrounded by bushes.

16th Article: If a consensus on the purchase of the land necessary for the construction of the railway between the commissionaire and the land owners could not be achieved, the land would be bought according to *İstimlak Nizamnamesi* considering the public interest. The empty *mîrî* lands on the route, on the other hand, would be given to the commissionaire without any price. The commissionaire would be free to make temporary changes in the routes of the existing roads and temporary use of lands. However, a compensation for these implementations would be paid by the commissionaire to the land owners.

17th Article: After the route of the railway had been approved and the permission had been given for the start of the constructions, and the commissionaire decided on the lands to be bought, the lands where the railway which would to be constructed were to be purchased by the state in two months. The map showing the lands to be purchased would be drawn at a scale of 1/5000.

18th Article: Military fortifications would be constructed for the protection of the railway by the state, and its expenses would be paid by the state.

19th Article: Although the construction material would be chosen, and the construction would be completed by the commissionaire, all the process would be carried out under the control of the state, and the project would also be implemented according to the maps approved by the state.

20th Article: When the construction was completed, the Ex Works[1077] delivery would be taken by a commission consisting of technical officers from *Nâfia Nezareti* would be taken. After the construction of the railway had been completed, the commission would examine the construction and test the railway for three months before the last decision for the approval of the work.

21st Article: After the commission's last approval of the project, the commissionaire would prepare the last version of the project including all the details and the maps, and submit them to *Nâfia Nezareti.* A copy of the approved drawings and maps

[1077] Delivery on the site.

would also be submitted to *Evrak Kalemi.* The industrial equipment and the details which would be implemented later were registered.

22nd Article: If any three-dimensional historical artifacts, industrial equipment, and ancient coins were found during the construction, this would be urgently notified to *Nâfia Nezareti.* One half of these discovered items would belong to *Devlet-i Aliyye* and the commissionaire, and the rest half of the items would be bought by the state.

23rd Article: In order to avoid possible conflicts during the construction of railway, meter would be used for the measurement of all distances, and kg for the weight of any properties.

2nd Section of the contract was about the protection and operation of the railway.

24th Article: The commissionaire would be responsible not only for the protection of the railway and its complementary components such as stable and movable equipment as well as portable properties but also for providing easy and secure passages on the route. Otherwise, after informing the commissionaire, the government would undertake the renovation of the roads, and the expenses would be met by the government using the income of the railway.

25th Article: All the measures for the afore-mentioned protection and proper management of the railway would be taken by the government and the commissionaire together. For this reason, the rules for the supervision of the management of the railway and military arrangements which were in effect for the railways on the Ottoman lands would also be valid for *Mudanya-Bursa* railway. The commissionaire could also give a proposal including general new rules for the protection of the railway and ships to the state in three months after the opening of the railway line for the operation. After the approval of the proposal, all the provisions were expected to be executed, and the commissionaire could not change the content of the management contract without permission from the government.

26th Article: The commissionaire would also present the account book to show the income of the railway at the end of each month. Moreover, after the account book had been finalized by the commissionaire at the end of the year, the total cost would be presented to the government in the following three months. The government was expected to approve the account book in two months after checking all the details; however, if the government did not response to the commissionaire, all the accounts would be assumed to be accepted by the government. The share of the government was also expected to be paid in a month after the approval of the stock subaccounts.

3rd Section of the contract was about the expiration of the tenure, the purchase of the tenure by the state, and the foreclosure of the rights of the commissionaire.

27th Article: When the expiration of the tenure is considered, all the rights on the railway, its complementary parts, and ships would belong to the state, and all the income would be transferred to the state. If the commissionaire could not properly protect the railway, the dock, stable machines, complementary equipment such as construction materials and non-transferred materials, the Sultanate, *Saltanat-ı Seniyye,* could seize of the last five-year income of the railway to spend it for the repair of the damaged parts. When the prices for ships, machines for operating ships, locomotives, wagons, and any other carriages, construction and repair equipment, factory equipment, furnishing and properties used in train stations, and telegraph equipment were specified by the officers, the Sultanate would buy them.

28th Article: In the first 25 years of the tenure, the government could have the right to repurchase the tenure under three circumstances. First, the government would pay a certain amount of money to the commissionaire each year within the rest of the tenure period. The government would also benefit some amount of money from the previous income of the railway. Second, the commissionaire would have a share from the income of the railway after the tenure had been bought by the government. However, if the annual payment could not be received by the commissionaire due to the inadequacy of the income, the commissionaire would demand his rights legally. Thirdly, the government had to buy all the railway equipment from the commissionaire together with getting the tenure back.

29th Article: If the commissionaire could not complete the construction and implement the contract according to the provisions of this contract, the commissionaire would be deprived of its tenure rights. In such cases, the state was responsible officially to notify this situation to the commissionaire; otherwise, the tenure could not be abolished. The commissionaire could explain the defective situations to the state and make up for the missing works in six months. If not, the state could have a right to cancel the tenure. After the cancellation of the tenure, all the equipment and material related to the railway construction would be sold by auction. If they could not be sold, a second auction would take place after six months. If no results could not be achieved, the government could possess them without paying any price. When a part or the whole of the railway operation was stopped by the commissionaire, the government could take over the management on condition that all the expenses of damages would belong to the commissionaire. The process defined above would come into force with the cancellation of the tenure again, if no guarantee is given by the commissionaire in three months after government intervention.

4th Section was about the prices and circumstances for passengers and commodities.

30th Article: The tariffs including the prices for passengers, transportation fee and customs were approved by the state and were introduced as follows:

Tariff (the price of each km for each passenger)

Para

27 1st class passenger

20 2nd class passenger

13 3rd class passenger

notes: An increase of 30% would be implemented on the prices above for high-speed transportation of passengers. Children under three years old would be free of charge provided that their parents would carry them in their arms. Children between 3-7 would sit on a chair if they pay half of the price.

Property: Each passenger could have 30 kg property to be transported with them.

PART 2

The contract comprised the construction of *Mudanya-Bursa* Railway, the management of ships between Mudanya and Dersaadet and swamp management in Bursa.

The articles below were determined between *Hasan Fehmi Efendi, Nâfia Nazırı* from *Hükümet-i Seniyye,* and the engineer *Mösyö Avarist de Kriko.*

1st Article: *Hükümet-i Seniyye* granted the tenure of *Mudanya-Bursa* Railway, the concession of the management of ships between Mudanya and Dersaadet, and swamp management in Bursa Plain to the engineer, *Mösyö Avarist de Kriko.* The engineer was responsible for carrying out the articles of the two parts in this contract.

The articles about the management of the railway and ships:

2nd Article: The expropriation of the railway tenure and the permission for shipping would be 50 years after the expect further *firman* would be announced.

3rd Article: The commissionaire would constitute an incorporated company in 3 years following the announcement of the *firman*. By doing this, the commissionaire could transfer his rights and tasks to the company and thereby get rid of heavy responsibilities. Unless the regulations defined by the company were not approved by the government, the revised articles could not be promulgated. The centre of the company's administration would be in *Dersaadet*, and this tenure could not be transferred to any other companies without the permission of the government.

4th Article: The commissionaire would accept *Mudanya-Bursa* Railway and the dock belonging to Mudanya Train Station if these constructs were free of debt and hypothec. The commissionaire would approve the railway and dock with all its stable and movable equipment and material and prepare an account book including the prices of movable equipment and tariffs.

5th Article: The commissionaire would provide all the supplementary equipment relevant to the operation of sea transportation and meet all expenses.
The following issues below were agreed upon:
-*Hükümet-i Seniyye* could not demand movable vehicles such as ships, locomotives, whose total expenses exceeding 8000 frank per km in total.
-After the existing equipment and material were delivered by the commissionaire, the works would be urgently completed in twelve months since the date of the *firman*, excluding four months in winter during this time.
-If disasters such as wars, epidemics, and floods took place, production would be stopped, and the time given for the production would be extended. The commissionaire was expected to notify the emergence of these events to *Nâfia Nezareti.* All the equipment and material would be ready at the opening ceremony of the railway.

6th Article: Due to the prevalent use of the railway and the increase in the transportation practices, all necessary equipment and additional materials would be provided by the commissionaire and the cost would be met by the commissionaire.

7th Article: The protection and repair of all the equipment would be under the responsibility of the commissionaire.

8th Article: The expenses mentioned in the 5th, 6th, and 7th articles belonged to the commissionaire, and the government would not contribute to the funding of these costs.

9th Article: The commissionaire would take the prices for transportation and the customs according to the tariffs defined in the 4th section of this construction contract agreement. If the gross income was 15.000 frank per km, and it became constant, a temporary increase in tariffs could be permitted by the government in order to compensate the lack of yield.

10th Article: If the income of the management was more than 15.000 frank, ¼ of the surplus/extra income would be paid by the commissionaire to the government; and if

it exceeded 20.000 frank, ¼ of 5.000 frank (the surplus of the afore-mentioned 15.000 frank) and half of 5.000 frank would be paid to the government.

11th Article: The commissionaire would have a right to manage ships between *Dersaadet* and *Mudanya,* as *İdare-i Mahsusa a*nd others had.

About the swamp management:

12th Article: In twelve months after the declaration of the *firman*, swamp management in Bursa would be commenced by the company and completed in 4 years. The process would be carried out kept according to scientific rules, the articles of the contract labeled by letter (*be*), and the maps attached to the contract. In 9 months after the *firman*, the commissionaire was expected to prepare the maps and official documents defined by the contract to *Nâfia Nezareti.*

13th Article: The government gave the right to possession of the land, which was not a private property according to the Land Law, to the commissionaire in return for his spending on the management of the swamps.

14th Article: The owners of the swamp lands had to prove their rights on the land in a certain period which was defined by Land Law. Otherwise, when the situation was not registered by the state, any claims on the possession of the land would be invalid.

15th Article: After demonstrating their private properties in the afore-mentioned certain time, the owners were expected to pay a certain amount of money for each acre of the land to the commissionaire for the management of the swamps. The accurate maps would be prepared by the commissionaire, and the commissionaire together with the government would decide on the financial contribution of the owners to the process properly. The owners could be relieved from paying that amount of money on the condition that the owners could transfer half of the land to the commissionaire.

16th Article: The official documents showing the possession of the land would be submitted by the landowners and the state to the commissionaire as long as the swamps were dried.

17th Article: The commissionaire would not sell or transfer their lands to anyone unless they did not constitute a commission for the protection of the construction according to the general articles that would be further prepared.

18th Article: For 18 years, the commissionaire would be free of any customs for the lands acquired according to the 13th and 15th Articles.

Statement on general and special articles:

19th Article: *Hükümet-i Seniyye* kept his rights on making tests before the approval of the operation. The government would also control the operation of the railway and ships for protecting the construction and providing proper management. The costs for the supervision of the management of railway and ships and testing the operation by the state would be met by the commissionaire. The commissionaire would pay the pay-office in *Nâfia Nezareti* each year from the time when the *firman* of the concession was accepted by the commissionaire. He would pay *50 Ottoman liras* until the time when the management of the swamps would be accepted; *2 Ottoman liras* for each km of the railway which was still being constructed and managed until the end of the completion of the construction.

20th Article: As this construction was for the public interest, the commissionaire was responsible for allocating *tazminat* to the land owners whose lands were temporarily expropriated during the construction process. This payment and necessary applications would be determined according to *Mübayaa Nizamname.* If necessary, empty and *mîrî* lands would be given to the commissionaire by the state, without any payment.

21st Article: The commissionaire would pay *3.000 Ottoman liras* or conversions[1078] as warrant for a proper construction process and its completion to *Bank-i Osmanî.* The cost defined in conversions would belong to the commissionaire. After the construction was completed, the conversions would be given back to the commissionaire. A bailing[1079] which would be given to dry the swamps should also be given in a month after the approval of the maps. The bailing would be 0,02 % of total expenses of swamp management. After the management of the swamps had been completed, the bailing would also be given back to the commissionaire in 6 months.

22nd Article: All the equipment necessary for the construction and the management of railway and ships, the materials such as stone, timber, iron, and coal as well as stable and movable maritime related machines and equipment brought from the lands beyond the Ottoman Empire would not require transit charges. Even the necessary equipment and materials for the construction brought from Europe and the opening ceremony of the railway would also not include custom expenses.

23rd Article: Any taxes and duties would not be taken for the capital and income as well as the use of the land and ships which were necessary for swamp management and railway construction. The stamp duty for the contract prepared for the constitution of the company by the commissionaire would not also be taken. However, for all other official documents and bills, the commissionaire would pay stamp duty in due form.

24th Article: In the first ten years of the tenure, the commissionaire would have a right on the lands along two sides of the railway and in the vicinity of the swamps at a 20 km distance to mine and manage them under a responsibility while obeying the regulations prepared by the state for these processes.

25th Article: *Hükümet-i Seniyye* would keep the rights for new constructions by giving the tenure to other companies to extend and link the line. The commissionaire

[1078] Known as *Muhâfaza-i Memleket Istikrâzi (borç tahvilleri).*

[1079] *Kefalet akçesi.*

or the company on behalf of the commissionaire would also have rights to vacate the land or connect *Mudanya-Bursa* line to Lefke, Karaköy, İnegöl, or to Baghdad line in ten years after local studies had been carried in accordance with the provisions of the contract. If the tenure was given to another company, the commission could not claim any rights. The conjunction points of the lines would serve for ?

26th Article: The commissionaire and the company that replaced the commissionaire would obey to existing and further laws enforced by the state. Any conflicts which might emerge between the government and the commissionaire due to the changes in the provisions of the contract and their implementation would go to trial in the trade court of *Dersaadet*.

27th Article: The commissionaire was allowed to construct a dock and related facilities in front of *Mudanya* Train Station in order to ease loading and unloading of the passengers and commodities providing that the expenses would be met by the commissionaire. However, after the maps had been presented to the government and approved by the state, the buildings would have been constructed. As the dock would be peculiar to the use of the commissionaire, he would take transit charges for passengers and properties although the dock could be rented by *İdare-i Mahsusa*[1080]. The commissionaire could buy a land on the coasts of *Mumhane* and *Karaköy* and construct a movable dock on the sea in front of that land. As was done in *Mudanya* dock, the commissionaire could also take transit charges for passengers and properties through this dock. When *Rıhtım Nizamnamesi* would be prepared in a near future, the commissionaire would also comply with these regulations. Supposing that the commissionaire could find and buy a land in the afore-mentioned coasts, the government would assign one of the first, second, or third water-gauges[1081] after the meeting with *Tersane-i Amire.*

28th Article: The construction, concerning all the details and the ways for the use of the material and equipment, would be implemented according to scientific rules and the provisions defined in this contract. The commissionaire would be responsible for

[1080] State Ship Management Company Office *(Devlet Vapur İşletme Dairesi).*

[1081] *Şamandıra.*

providing the strength of the construction, taking economic precautions, avoiding unnecessary stone ornamentations, and exporting affordable furniture which would be used in the wagons of the trains along the line.

29th Article: If necessary, the commissionaire could decrease the width of railway from *1,10 cm* to *1 meter* after several detailed investigations had been made in order to avoid unnecessary expenses by changing the sloping and curvilinear parts along the route of the railway. Open areas for placing the industrial equipment along the railway would be determined by the commissionaire and the proposal would be presented for the approval of the government. The baggage weight limit of the children who got half-price ticket would be *20 kg.* A half-price ticket would be sold to the soldiers whose baggage weight limit exceeding *30 kg.* Nevertheless, the baggage weight could not exceed the limits defined below. Likewise, the baggage weight limit for each group of soldiers from different ranks would also be different. The transportation fee for the extra baggage would be *1 para* per km for each *14 kg.* Two full ticket would be sold for those who have baggage that did not exceed *7 kg.* But the baggage may cover a large area or *30* dm^3 in volume[1082].

30th Article: About the taxes which were not on the account:
Apart from the transportation fee, other costs could also be met by the commissionaire. For instance, *20 para* would be taken for each script for the registration of each property; *5 para* daily, if the baggage was not delivered by the passenger after the train had arrived its destination; and *20 para* for each *100 kg*, if the passenger asks his/her baggage to be weighed for the second time.

About the transportation of dogs:
4 para per *km* would be taken for each dog. Transportation fee for dogs was calculated for min *8 km*.
Transportation fee for the commodities which would be transported via high-speed trains were also included in the contract.
Titles: Cash, valuables, gold bullions, silver, layered gold, silver, quicksilver, platinum, and jewel

[1082] this would be applicated for each baggage independently.

Cars and movable equipment/device/vehicle

1st class animals: ox, cow, bull, buffalo, camel, horse, mule

2nd class: calf, donkey, and pig

3rd class: sheep, ewe, and goat

Other products:

1st class commodities: *35 para* per *km*

weapons, chopping board for timber, dye wood[1083], cetylic[1084], alcoholic drinks, coppery, cotton, coffee, isinglass[1085], harness[1086], *sahtiyan*[1087], spices, grain brought from Europe, feather, fruits, iron and tile products, and cast-iron and metallic products, woods for producing powder coat, various herbs, musical instruments, furnishings, metallic packing, pencils, porcelain, and vegetables, fur, salt, and tallow, silk, sugar, cetylic oil, vinegar, a set of glasses, books and booklets, tea, and tobacco.

2nd class commodities: *27 para* per *km*

black marble, timber as building material, bitumen, kinds of coal, cannabis, cast iron columns, layered iron, flaxseed, mines, wood for producing timber, marble pieces, kind of stones, lead nuts, fish, and meat.

3rd class commodities: *22 para* per *km*

gypsum soil, brick, wood for heating, grain, lime, pebble, hard coal, ash, dung, special sherbet used for agriculture, huge stones, gypsum, mud, limestone, paving stone, other materials, sand, and roofing tile.

Transportation fee would be calculated for *50 kg* for min *8 km.* For each commodity, there might be other charges such as registration and storage fee which were not on the account.

[1083] "any wood yielding a coloring matter used for dyeing" (source: collinsdictionary.com)

[1084] extracted from cachalot and used for producing wax, as defined in the contract text.

[1085] "a gelatine made from the air bladders of freshwater fish, used as clarifying agent and adhesive" (source: collinsdictionary.com)

[1086] "a set of leather straps and metal links fastened round a horse's head or body so that the horse can have a carriage, cart, or plough fostered to it." (source: collinsdictionary.com)

[1087] polished and colored leather by tanning and it was produced from goat and calf, as defined in the contract text.

About insurance fee:
Special wagons: transportation fees would also be determined according to the variety of wagons such as locomotives, saloons, passenger wagons, and other wagons.

31st Article: The tariffs defined above and the tariffs which would be determined later as well as the charges which were not on the account such as registration fee and storage fee would be taken in gold which was equal to 1/100 *Ottoman liras.* The commissionaire would accept every kind of currency valid on the Ottoman lands, referring to *hazine fiyatı.*

32nd Article: For any other kind of commodity which were not included in the 30th Article, transportation fee would be taken considering its similarity to the classification of commodities, as defined in 30th Article. If any conflicts arose due to the uncertainty about the classification of the commodities, these problems would be solved by the government.

33rd Article: All the tariffs would be equally valid for each passenger. Any other tariffs, which were not approved by the government and announced 8 days ago, would not be enforced.

34th Article: The commissionaire was forbidden to enforce any special tariff and make a discount for anyone, except the situation in which a discount for poor people was necessary to be negotiated between the government and the commissionaire.

5th Section of the contract covered other issues.

35th Article: Provided that they have a provisional pass, the soldiers, policeman, and gendarmerie could be transported with their baggage and animals with a 50% discount. If the soldiers and marine soldiers are officially notified to the commissionaire, one third of the transportation fee would be taken for weapons, military supplies, war tools, military costumes, provisions, animals, and properties belonging to the castles and shipyards. If extra wagon became necessary for the

transportation of these commodities, extra wagons would be allocated with a 50 % discount.

36th Article: A half of transportation fee would be taken from prisoners and inmates as well as the officers and policeman accompanying them. The commissionaire would allocate a normal, second, and third class wagons for them, dividing compartments if necessary.

37th Article: The inspectors would be free of transportation fee, and their sitting area would be determined by *Nâfia Nezareti.*

38th Article: Postman with their postbags and the officers as companions would also be exempt from the transportation fee. If necessary, one or two divisions could be arranged in the compartment for each wagon.

39th Article: When it was found necessary by the government, an office in some stations would be constructed by the commissionaire in order to protect registration and storage fees and to constitute a place for postmen. The expenses would belong to the commissionaire.

40th Article: The official documents of the commissionaire could be transported by this railway, and the commissionaire would not pay transportation fee to *Postahane-i Amire.*

41th Article: The commissionaire could introduce telegraph system including telegraph lines and pillars along the railway at his own expense under the control of the officers of *Telgrafhane-i Amire*. By doing this, the commissionaire may also use this system during the process of the construction and management of railways. If necessary, the telegraph lines could also be extended by the commissionaire at his own expense. This process would not influence the performance of the railway negatively.

42nd Article: The commissionaire was not allowed to change train and ship schedules unless he took a permission from the government and announce the change 8 days before. Even the government also would not ask the change of schedules unless they informed the commissionaire 48 hours before.

6th Section of the contract included various circumstances.

43rd Article: All the articles defined in the 4th and 5th sections would also be valid for the ships managed between *Mudanya* and *Dersaadet.* The maps would show maritime transportation route, which would be equal to the length of the railway line.

44th Article: A customs office for the protection of registration and storage fees would be established by the government, and an office for customs officers would be allocated by the commissionaire in the large warehouse that was special for commodities. A dock would also be constructed at Mudanya Train Station by the commissionaire to maintain the ease of loading and unloading of commodities and passengers as well as to increase the speed of transportation.

45th Article: The construction of roads, canals, and railways connected to this railway would be given to other companies, and the commissionaire could not interfere with this tenure. All the necessary measurements would be taken to avoid damages and expenses or any other obstacles to the operation of the railway. This contract including 45 articles concerning the construction of *Mudanya-Bursa* Railway, swamp management, and the operation of ships between *Mudanya* and *Dersaadet,* was accepted and signed on 25 June/July, 1892.

C. MUDANYA-BURSA RAILWAY COMPANY AGREEMENT OF 1891[1088]

General Explanations: *Konstantinopolis, Graveur Servitchen, Fotoğrafçı & Dizgici, Sultan-Hamam, pres de la fontaine*

Bank-ı Osmanî-i Şahane, Batignolles Construction Company, *Mr. Georges Nagelmackers, Wagons-lits*, and the general manager of the major European Express Company established a limited company to fulfill the concession of the construction, management, and operation of *Mudanya-Bursa* Railway which was given by the Imperial Government to *Mr. Georges Nagelmackers* on 9-21 February 1891. The company would be subject to the following terms and conditions below.

TITLE 1

The name of the company, its formation, and aims

Article 1. An Ottoman Limited Company is established by the signatures and the shareholders below in order to manage, operate, and construct the afore-mentioned railway in accordance with the obligations and specifications in this agreement.

Article 2. The name of the company is *Mudanya-Bursa* Railway. The company will be subject to the laws and regulations of the Empire.

Article 3. The company is located in İstanbul and is allowed to open new branches in any cities of the Empire.

Article 4. The time of the concession is fixed to ninety-nine years, except for some situations when agreement might be earlier terminated or the duration of agreement could be extended.

[1088] EHT 1947 B 138; french in original; translated from Turkish translation to English by the author.

TITLE 2

The transfer of the concession to the company and the returns

Article 5. *Mr. G. Nagelmackers* grants his rights given by the Ottoman Empire and the related privileges and advantages to the company. The company as the concessionaire has all these rights and is responsible for all the obligations.

Article 6. The social funds comprise the share capital determined below, the bonds *(tahviller)* to be given according to the cost for working on the lines, and the perceived capital to be required for the presentation and introduction of the Bursa-Tchitli *(Çitli)* line. The capital was fixed at Frs for Mudanya-Bursa line and divided into 500.000 to 1.000 Frs shares. This amount may increase by fifty percent in the General Assembly Meeting. Besides, 1.000 shares will be formed for the founders in accordance with the rights specified in Article 36 and the capital shares as well as the net profit obtained from the operation of Mudanya-Bursa line. The arrangement of the bills of the founders will be decided by an agreement between the company and the dealer *(bayii)*.

Article 7. The company will be established only after the whole capital and one tenth of this capital is paid. After the half of the capital is paid, the temporary certificates will be given to the shareholders in return for the definite title deed *(kesinleşmiş tapu senedi)*. The shares will be prepared both in Turkish and French. The remaining ninety percent (90%) are taken according to the decision made by the governing council and are published in many official and in-official newspapers of İstanbul and other countries at least thirty days after the notification.

Article 8. Title deed is recorded until half of the total shares are paid and the meetings wouldn't be held before receiving the first ten payments. The meetings are registered in the company with a transfer signed by one of the deputies, officers, and managers. This transfer is specified in the title deed. After receiving the half, the shares will be possessed by the holders.

Article 9. The division of the shares related to the company would not be possible if they do not accept any dividend. For any reason, the inheritors or representatives cannot seal the properties of the company or interfere in the management. The shareholders are subjected to the social inventory *(sosyal envanter)* and the decisions taken by the General Assembly in utilizing their rights.

Article 10. The delayed payments automatically cause the interest to accrue six in proportion per year in favor of the Company from the date of payment without any official notification.

Article 11. In case the installments are not paid on time, the company sues the debtors and may cause the shares to be sold late. For this reason, the number of shares is declared as defective in newspapers, and fifteen days after this publication, selling of the shares continue under the title of risk and delay risk without any official notification and any official procedure. Selling of the shares may take place on the stock exchange of İstanbul, Paris, Brussels or others chosen by the council of the management if the shares are listed and aren't auctioned. The shares sold in this way automatically became invalid and given to new buyers with the same numbers. The sale price is specified by the shareholder responsible for the spread *(fark)* or profit under the compulsory payment terms for the company.

TITLE 3

The management of the company

Article 12. The company is managed by the directory *(yönetim kurulu)* comprises 5 and 7 members appointed by the General Assembly. The first managers, appointed without the approval by the General Assembly, will be those members in the followings for only three years: *Mr. Georges Negalmackers,* the director of *the International Wagon-lit* and *Major European Express Company* and the concessionaire, *Jules Gouin,* the Vice President of the French Bank, *Pergame Naville,* the manager of the *Imperial Ottoman Bank* (Paris office), *İsmail Kemal Bey,* the governor of Gelibolu, *Edouard Empain,* an engineer and an investor from Brussels, *Rene Baudouy,* a banker in İstanbul.

Article 13. Upon the end of the council legally *(yasal konsey),* the renewal of one or two of the members in the directory will come first time by the establishment of a party or after the end of the tenure of office *(hizmet süresi).* All the expired members *(görev süresi dolan üyeler)* may often be chosen again.

Article 14. The members of the directory are gathered as often as required for the benefit of the company and at least once in a month. More than half of the members must be present for the validity of the decisions taken in the meetings. Decisions are taken by the majority of votes of the members present. In case of equality, the proposal is taken to the next council, and in case of an equality in the votes again, the decision will be rejected.

Article 15. Decisions are taken by the literal minutes *(sözlü tutanak)* copied to a special file by the participating managers. The minutes must be signed by the president of the council or the representative of the council in order to record these copies as original.

Article 16. Each manager must be the owner of ten non-transferable shares during their tenure period. These shares will be stamped to display its non-transferability and will be saved in the social security fund.

Article 17. In case of a decrease in the number of the members due to death, resignation, or any other reasons, the Council temporarily fills this gap until the next meeting of the General Assembly.

Article 18. The Council appoints a chairman and a vice-chairman from the members every year. The Council also determines the members who will be responsible for fulfilling the duties of the chairman and the the vice-chairman in case of their absence.

Article 19. The managers who are living abroad and cannot attend the meeting for any reason may be chosen again by a colleague who has been elected by more than two votes, including his own vote.

Article 20. The Council has the highest authority for the management of the works and properties of the Company. The Council discusses and reconciles, keeps the accounts to be presented to the General Assembly and offers suggestions on how to distribute the income distribution should be made. The chairman of the directory represents the company as a defendant and a complainant, either personally or by a representative.

Article 21. The council can transfer any part of his jurisdictions *(yetki)* for a specific purpose or for a specific period of time. The council may also transfer one or more self-employed persons to carry out existing works.

Article 22. The managers receive participation fees defined by the General Assembly regardless of the share allocated to them in their net profits.

TITLE 4
The General Assembly

Article 23. The General Assembly, which meets regularly, represent all the shareholders.

Article 24. The General Assembly meets every year within the first six months. The meeting place is determined by the directory. In addition, the General Assembly can be called by the directory to an extraordinary meeting when necessary.

Article 25. The General Assembly, as a shareholder or deputy, comprises the shareholders who possess at least ten shares. Each member of the General Assembly, as the owner of ten shares or the deputy, has the right to vote as many shares as he owned without voting more than a hundred.

Article 26. The meetings are announced by media at least one month before the meeting date, as stated in article seven.

Article 27. The meetings are held regularly if existing or represented members collect one fourth of the capital. In order to confirm that one fourth of the capital is represented, all shareholders who have the right to attend the meetings are invited to the places specified by the directory within ten days in order to save their shares. If the number of the shares represented in the first meeting is not sufficient, a new meeting is held regardless of the capital represented by the existing shareholders, and only the issues on the agenda are discussed. The meeting should be held in at least fifteen days of maximum a month apart. The announcement of the meetings is made twenty days ago.

Article 28. The General Assembly is chaired by the President of the Council, or a deputy in the absence of the President. Two strongest members among the existing shareholders are assigned as the members of the General Assembly. The secretary is appointed by the office.

Article 29. The negotiations are made by the majority of votes. The issues on the agenda are accepted by the Council. The proposals of the General Assembly and the proposals sent to the meeting at least twenty days before the meeting are made by the signatures of the shareholders representing at least ten percent (10%) of the capital. Only the issues on the agenda are discussed in the meeting.

Article 30. The General Assembly will appoint one or more inspectors responsible for the control of the accounts from shareholders or persons outside the company.

Article 31. The General Assembly annually presents the report that the Council is expected to present about the Company's works and the situation of the official inspectors *(yasal denetçiler)*; discusses the accounts; approves or rejects the accounts; appoints the managers who will be changed; independently decides on the issues in favor of the Company; manages all these issues; and presents additional advantageous jurisdictions *(yetki)* to the directory. The directory can decide to increase the capital only with the majority of at least two thirds of the existing and representative shareholders' votes.

Article 32. The meetings of the General Assembly are recorded as special literal minutes *(tutanak)* signed by the members of the office. The attendance sheet including the name and contact information as well as the amount of shares of each shareholder had signed by the present members whose names are written in the minutes.

Article 33. In order for the negotiations *(müzakereler)* to be original, the copies or official minutes are signed by the President of the Council or one of his representatives.

Article 34. The decisions taken by the General Assembly in accordance with these regulations are compulsory even for the absent or dissident shareholders.

TITLE 5
The inventory and the annual accounts

Article 35. The social year *(sosyal yıl)* begins on January 1 and ends on December 31. Exceptionally, the first fiscal year will include the period between the formation of the company's final constitution and the following December 31. At the end of each social year, the Council produces an inventory of present and absent members. Along with this inventory, the financial accounts *(bilanço ve hesaplar)* are presented to the official inspectors forty days after the meeting of the General Assembly. They are presented to the Assembly later. All the shareholders who have the right to take place in the Assembly can take the floor.

TITLE 6
The distribution of the benefit and the amortization

Article 36. The following items are deducted from the annual net profits:

1. A necessary amount is allocated to pay the interest of 4% of the shares per year.
2. 5% is allocated for the funds. The surplus is distributed in the following proportions:

5% to managers

47 ½ % income to shareholders

47 ½ % to founder shares

After the above contributions to the founders' shares, including half of the distributable net profit from the management of Mudanya-Bursa line, neither any other rights nor the right to interfere in the management of the company will be given to the founders for any reasons regardless of their title. The founders owning these shares will be subject to all the company decisions related to the management, transformation, mergence, expiry, and dissolution. These decisions are taken regularly by the General Assembly.

Article 37. The General Assembly may decrease the percentage of the net profit to amortize a certain number of shares to be chosen each year by lot *(kura)*. The paid shares will continue to benefit from the profit, but they will not have a right to receive any interest.

TITLE 7

The reserve fund

Article 38. The reserve fund comprises the accumulation of 5% sums deducted from the annual profits according to Article 36. When the reserve fund reaches one tenth of the capital, automatic payment can be suspended.

Article 39. In case of insufficient annual products, the spread *(fark)* can be drawn from the reserve fund to give 4% share out of profit or interest per share.

Article 40. When the tenure and the stipulated time of the company expires *(şirketin süresi dolduğunda ve taaahhütü sonlandığında),* the reserve fund will be shared among all the shareholders.

TITLE 8

The revision of the agreement, expansion of the tenure period, expiry, and dissolution

Article 41. In every period, for any reasons, the Council of the Directory may suggest the followings to the *General Assembly:* (1) a change in the regulations of the General Assembly, (2) the extention of the expiry time of the regulations' expiry, or (3) the merge of the company with other companies. The change in the regulations, the enlargement of the company in connection with other companies, or the merge of the company with other companies can only be possible with the approval of the Imperial Government. During the process of the company's dissolution *(tasfiye)*, the excess amount will be shared equally among all the shareholders without any exception, after they pay the deposit *(mevduat)* of the shares.

Article 42. In case three quarters of the capital is lost, the General Assembly is invited to a meeting by the members of the directory in order to decide on whether the dissolution *(fesih)* of the company is required or whether it should continue to work.

Article 43. In case of a dissolution *(sona ermesi)* or early dissolution *(erken feshi)* of the company, the General Assembly gathers and decides on the way of the company's dissolution, and assigns one or more administrators *(tasfiye memuru)*. During the dissolution, the jurisdictions *(yetki)* of the General Assembly continue as the company still works. The administrators for the dissolution of the company can transfer the Company's rights, functions, and responsibilities to another company or individual after it is discussed in the meeting and with a permission from the Imperial Government.

Article 44. The extraordinary General Assembly meetings held to discuss the issues specified in this agreement will be valid if the shares representing at least half of the capital are brought together.

İstanbul, 6 August 1891

The representative of the founders

Ed. Toucas

The Ministry of Trade and Public Works

Raif

Number.

It is confirmed that this agreement is convenient with the similar issues which had been specified in the existing regulations *(tüzük)* of Mudanya-Bursa Railway Company (3547).

Noter, The Court of First Instance, İstanbul

Stephan

Appropriate to the original

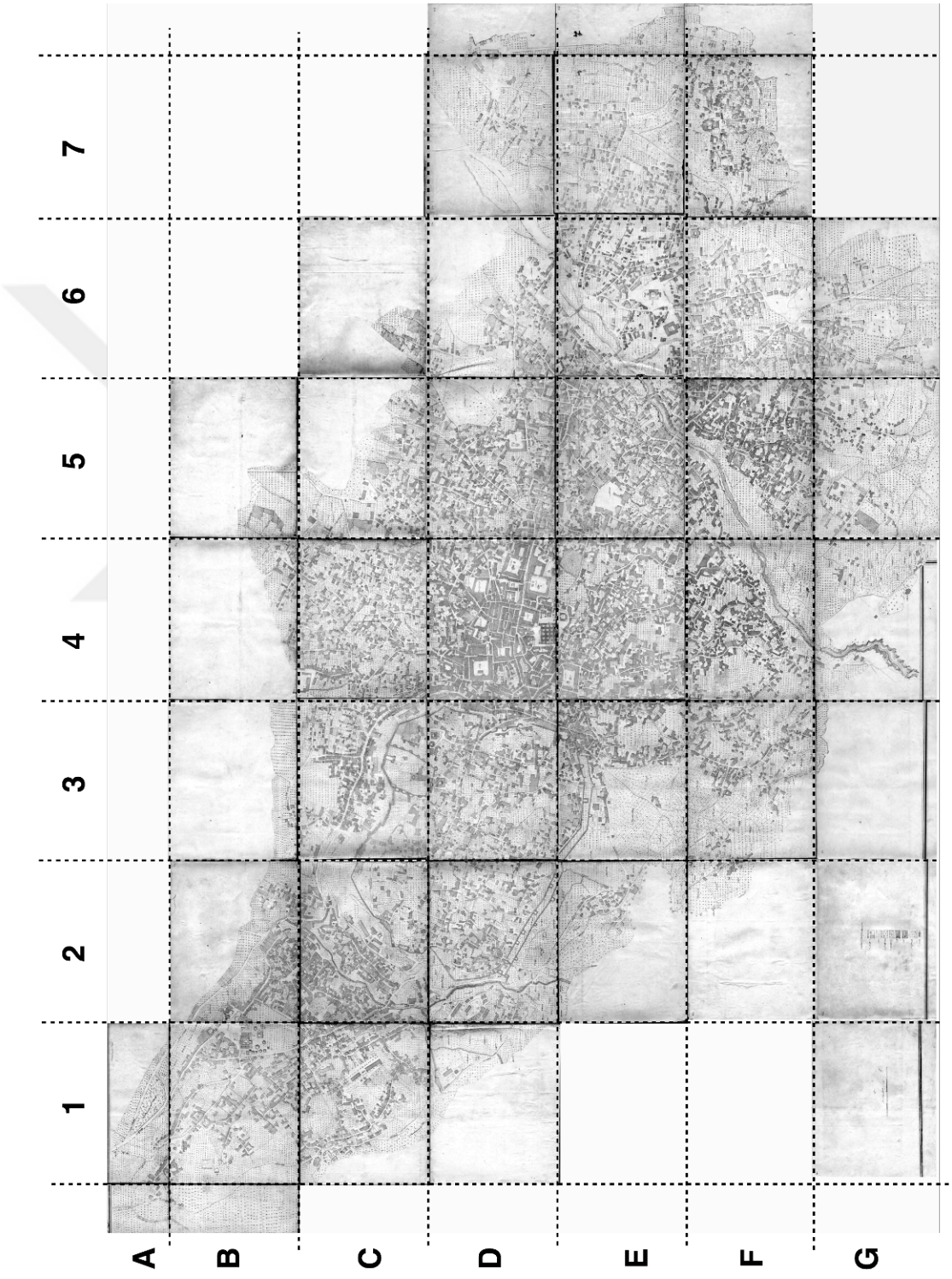
The director of the Translation Office,

The Ministry of Trade and Public Works

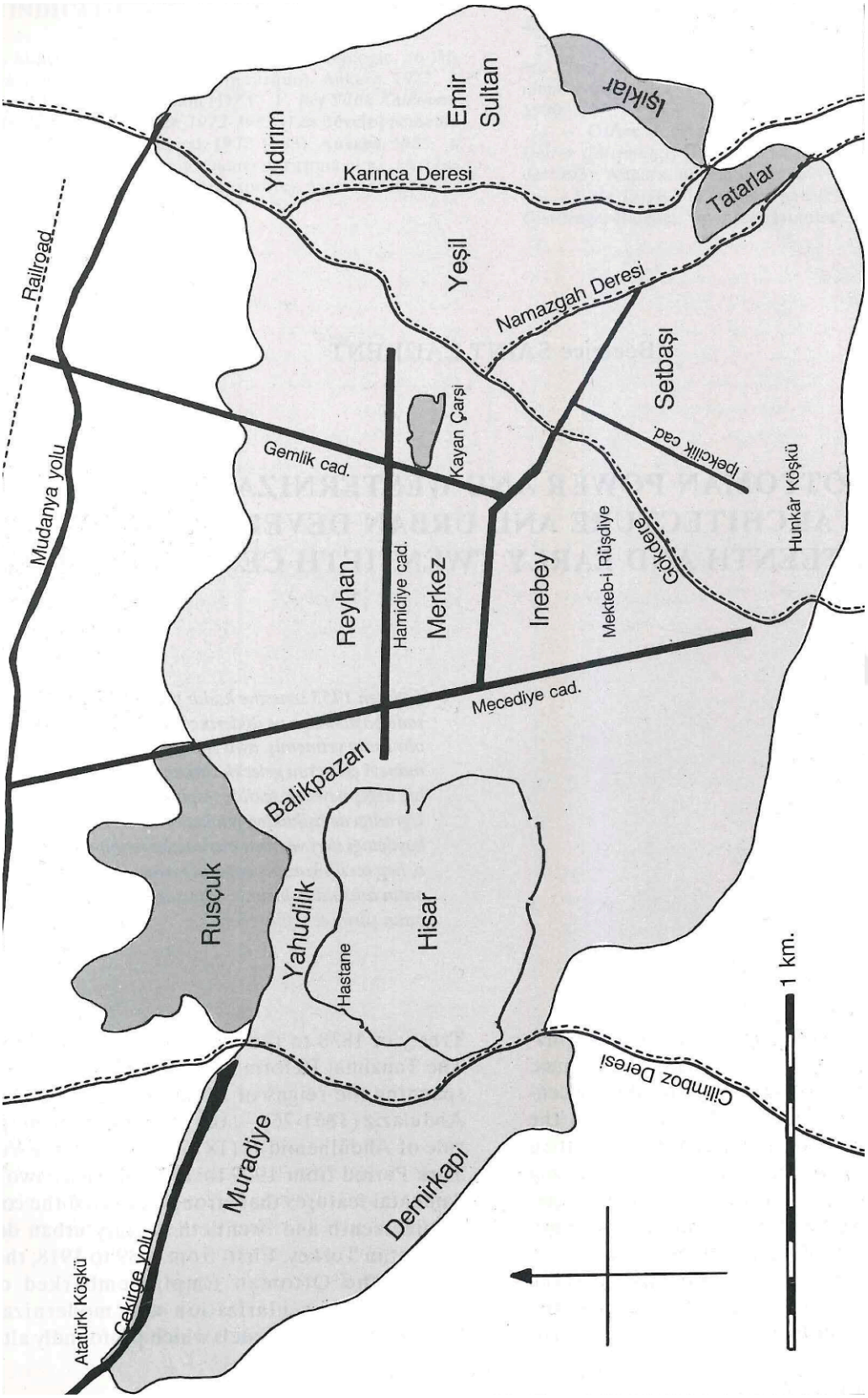
Ohannes Cardachian

D. MAPS OF BURSA

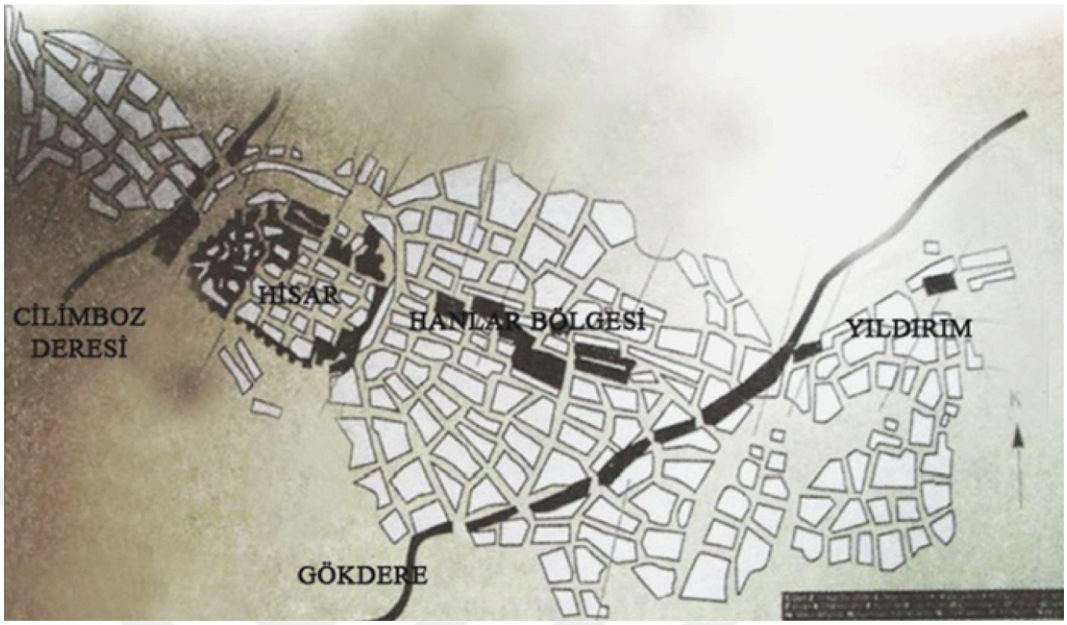
D. (a) Suphi Bey Map of 1862 (APLMUHBUR001, SALT Research (Ottoman Bank) Archive; numbers and letters are added by the author)



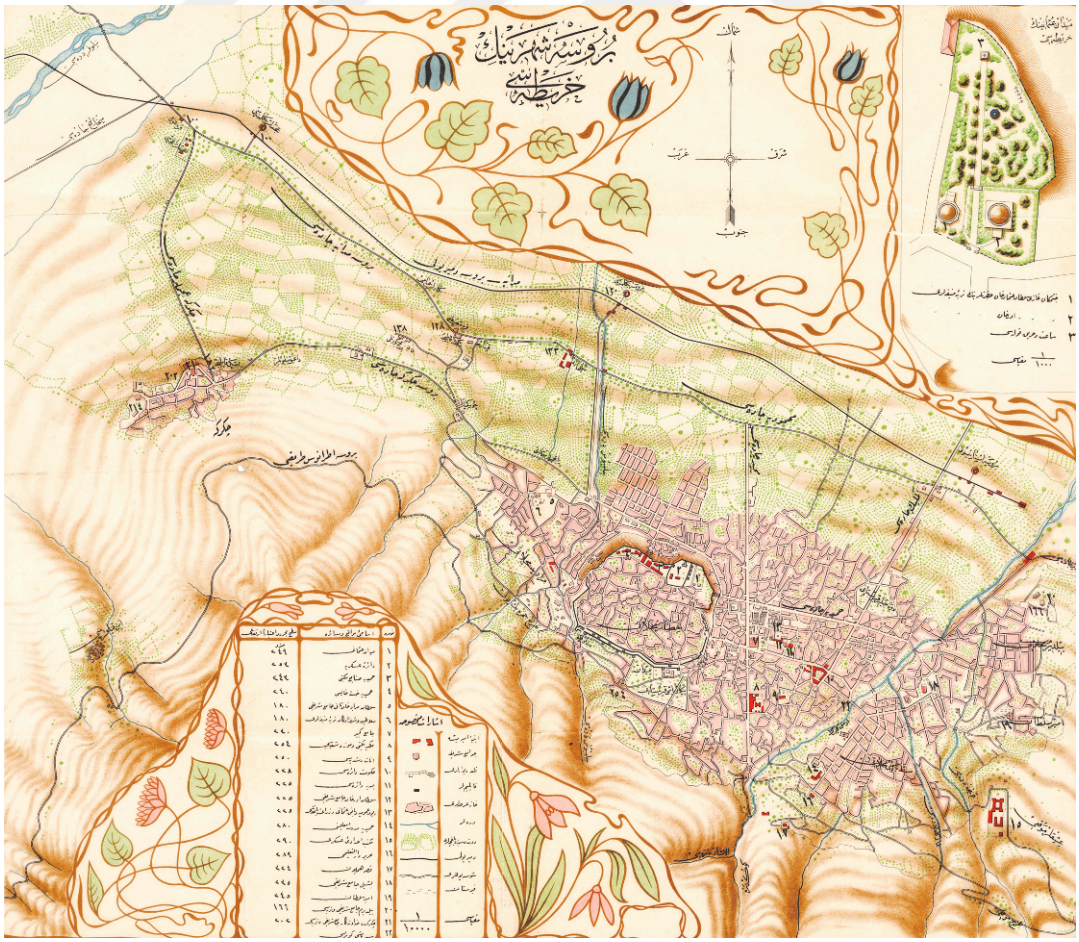
D. (b) The map showing pre and post 1860 developments in the city (Saint Laurent, B. (1994). Ottoman Power and Westernization: The Architecture and Urban Development of Nineteenth and Early Twentieth Century Bursa. *Anatolia Moderna Yeni Anadolu V*. Institut Français d'Etudes Anatoliennes d'Istanbul, p. 200)



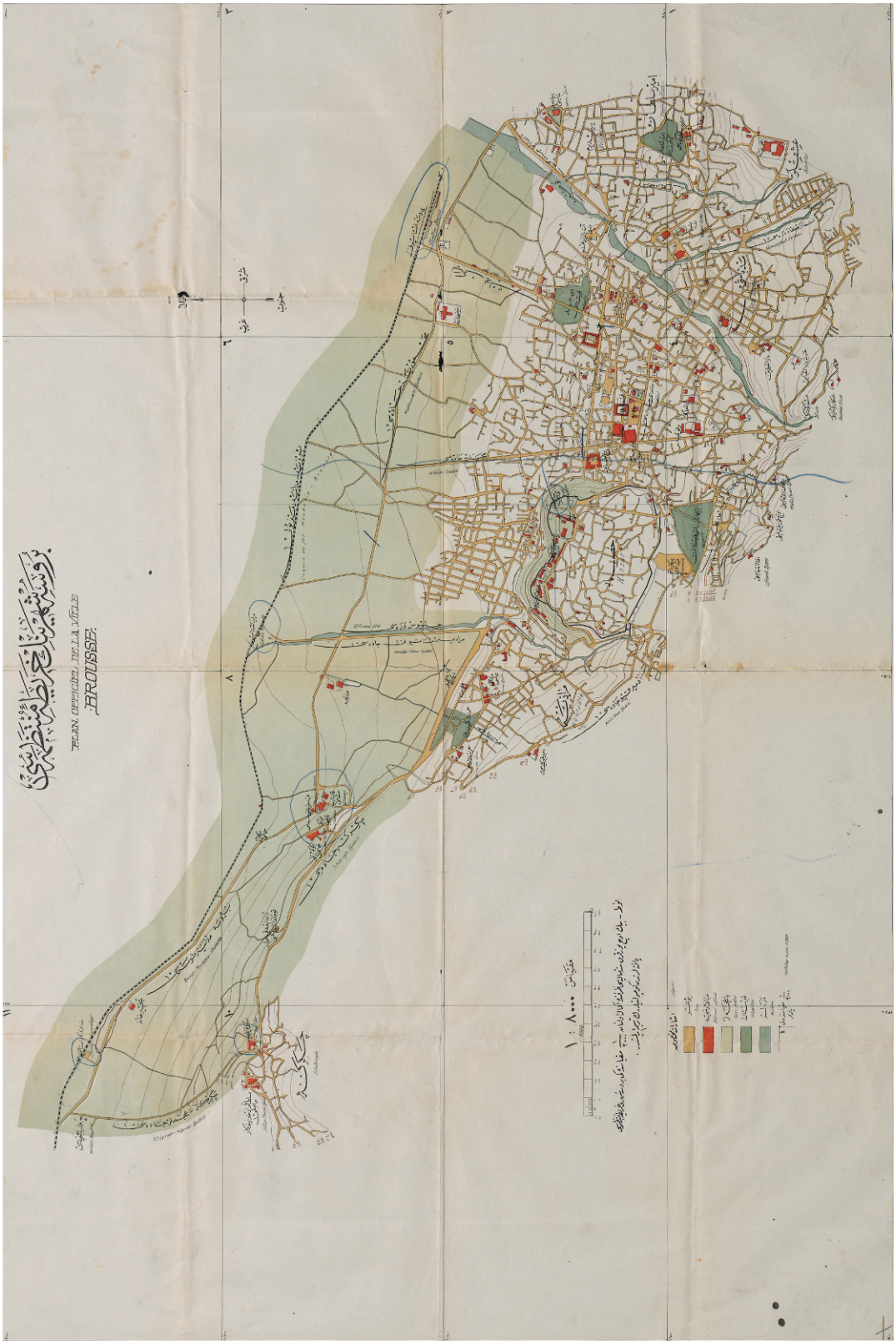
D. (c) 1767 Map of Bursa by Niebuhr (Kaplanoğlu, R. (2008). Kent Haritalarına Göre Bursa'nın Kentsel Gelişmesi. In Yusuf Oğuzoğlu (Prep.). *Bursa Şehrinin Gelişmesi ve Kentsel Planlama Kültürü.* Bursa: Osmangazi Belediyesi Yayınları)



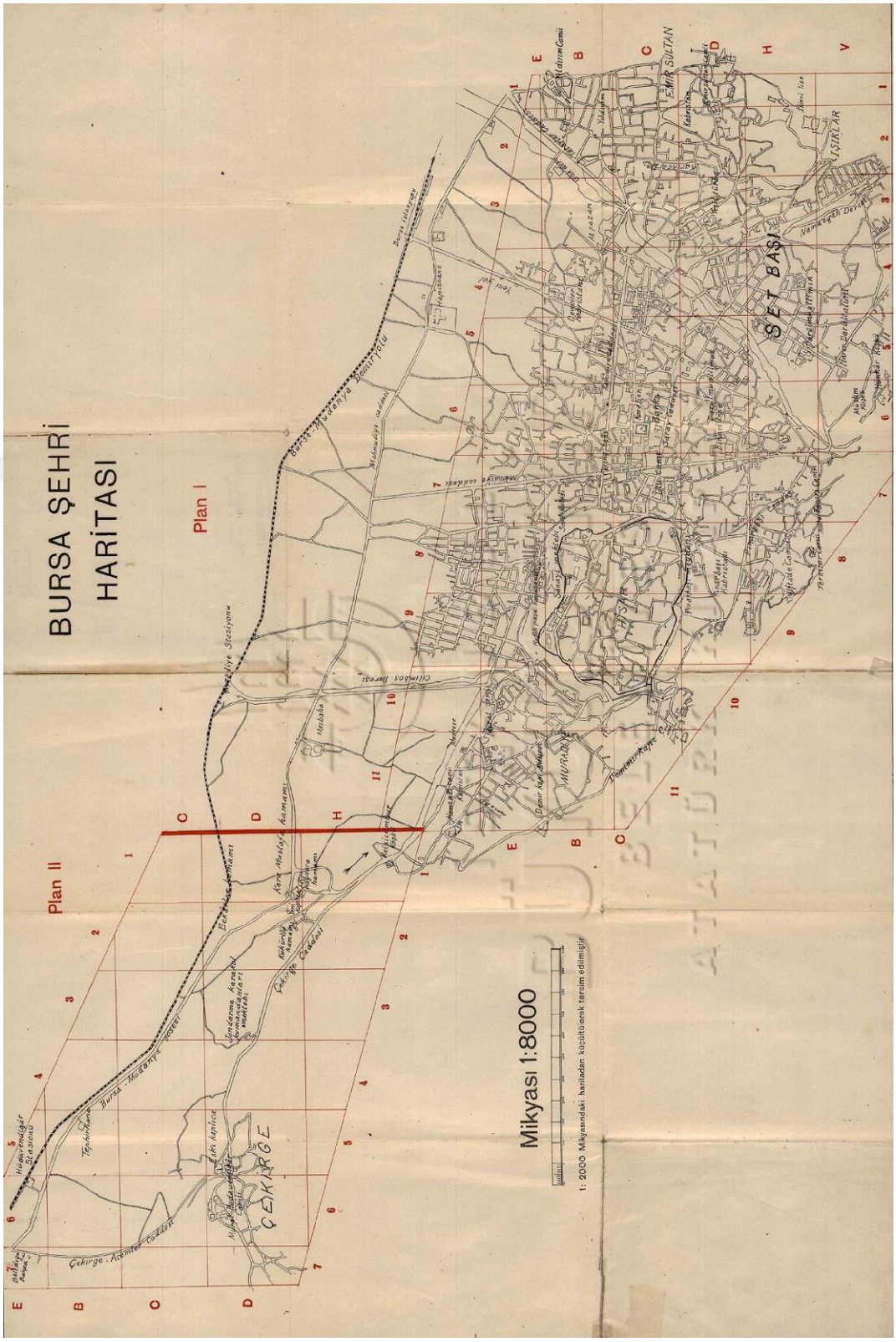
D. (d) 1910 Bursa Map (midafternoonmap.com)



D. (e) 1921 Official City Map of Bursa, scale: 1/8000
(APLKIT001, SALT Research Ottoman Bank Archive)



D. (f) Bursa Map, scale: 1/8000 (İBB Atatürk Library)



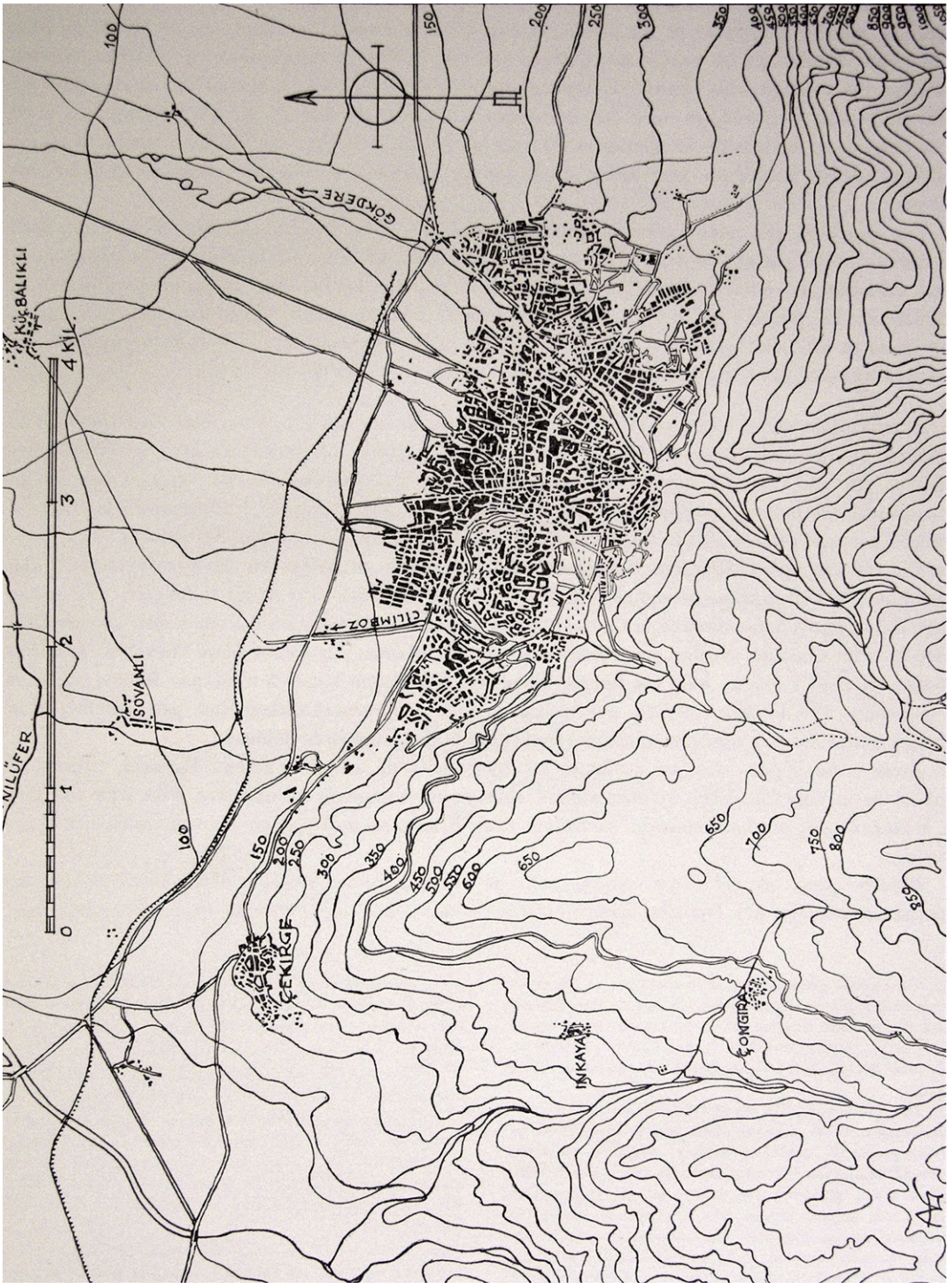
D. (g) Map of Brousse, Restoration of Historical Monuments (METU Library Archive; accessed from: Prof. Ömür Bakırer)



D. (h) Bursa Map (Nazım İmar Planlama Bürosu) (SALT Research Archive, APLBNP01; Cezar, M. (1983). *Typical Commercial Buildings of the Ottoman Classical Period and the Ottoman Construction System.* İstanbul: Türkiye İş Bankası Cultural Publications)



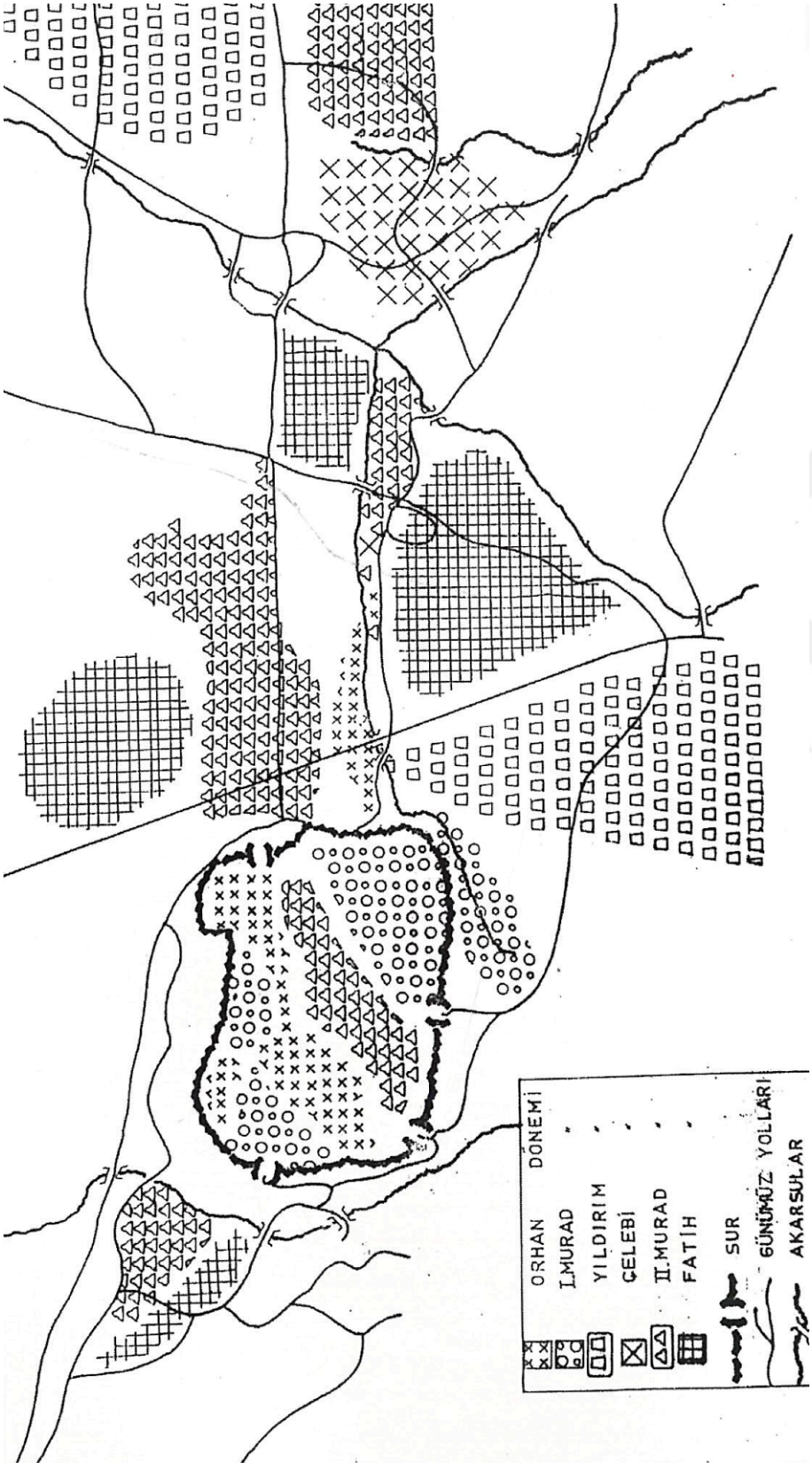
D. (i) Bursa Map showing topography of the city, (Gabriel, A. (1958). Une Capitale Turque: Brousse, Bursa. I Texte. Paris: E. de Boccard; accessed from: Prof. Cânâ Bilsel).



D. (j) Bursa Map showing the quarters of the city, (Gabriel, A. (1958). Une Capitale Turque: Brousse, Bursa. I Texte. Paris: E. de Boccard; accessed from: Prof. Cânâ Bilsel).

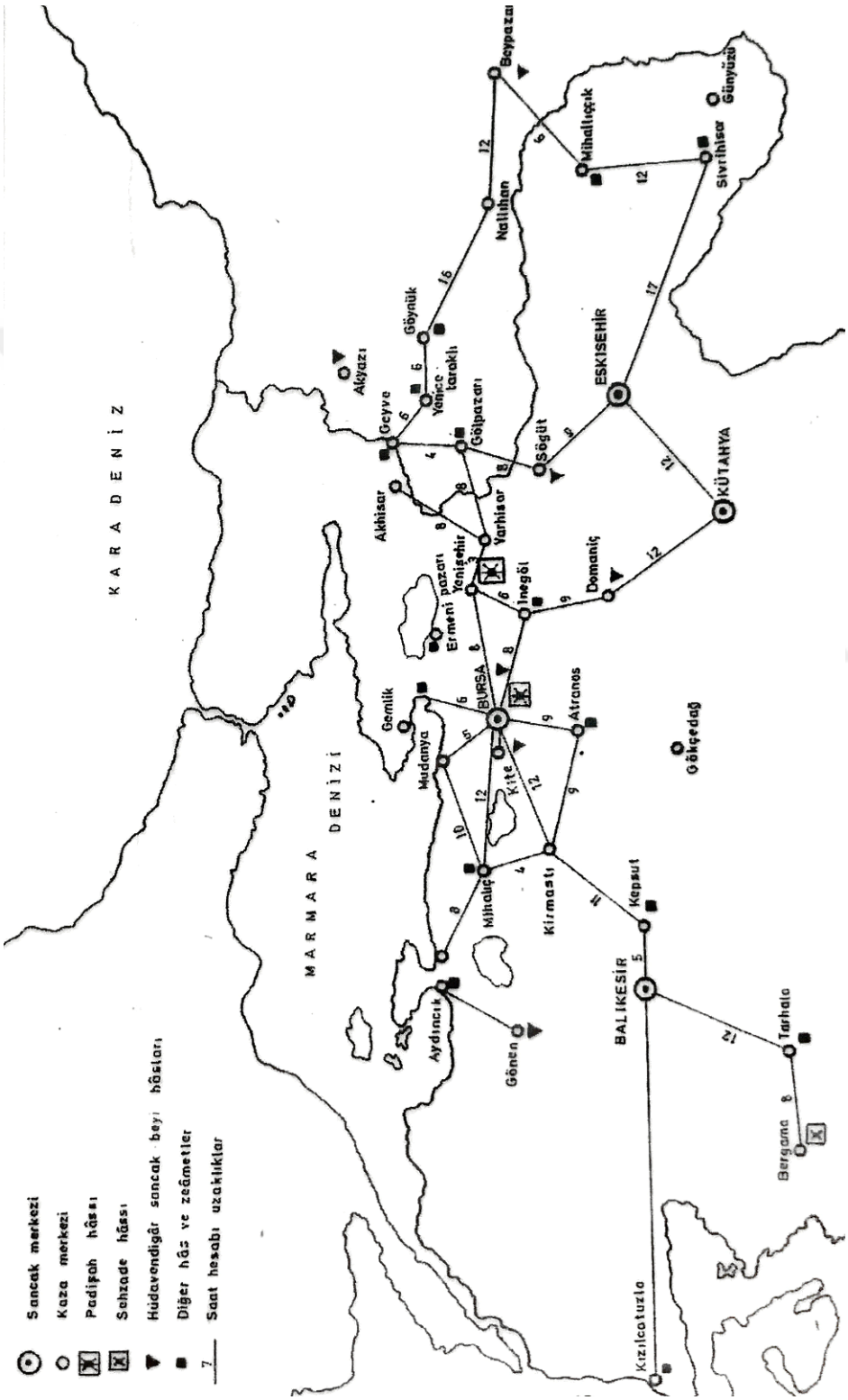


D. (k) The urban development of early modern Bursa (Ergenç, Ö. (2014). *XVI. Yüzyıl Sonlarında Bursa Yerleşimi, Yönetimi, Ekonomik ve Sosyal Durumu Üzerine Bir Araştırma.* Ankara: Türk Tarih Kurumu)

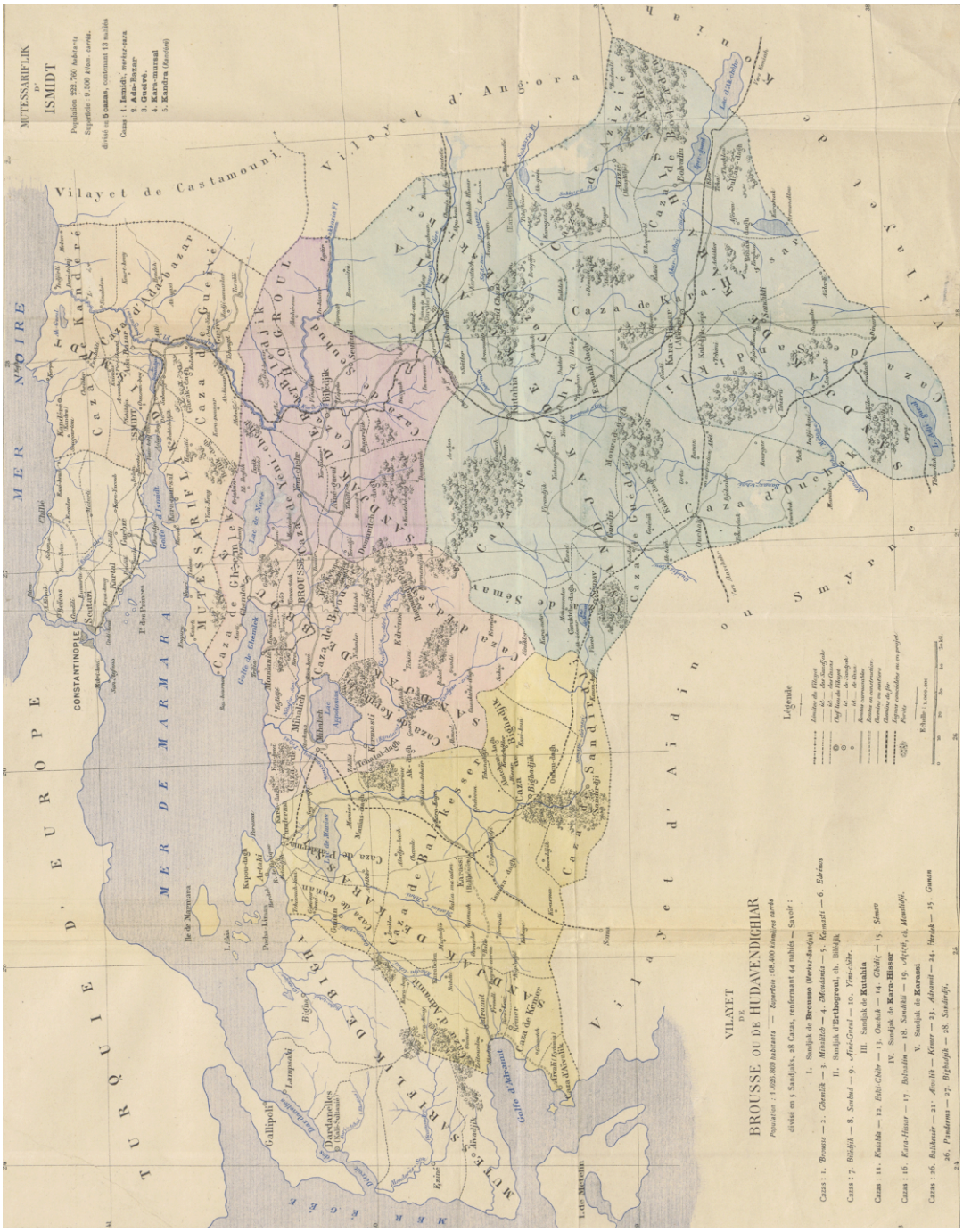


E. MAPS OF ENVIRONS OF BURSA

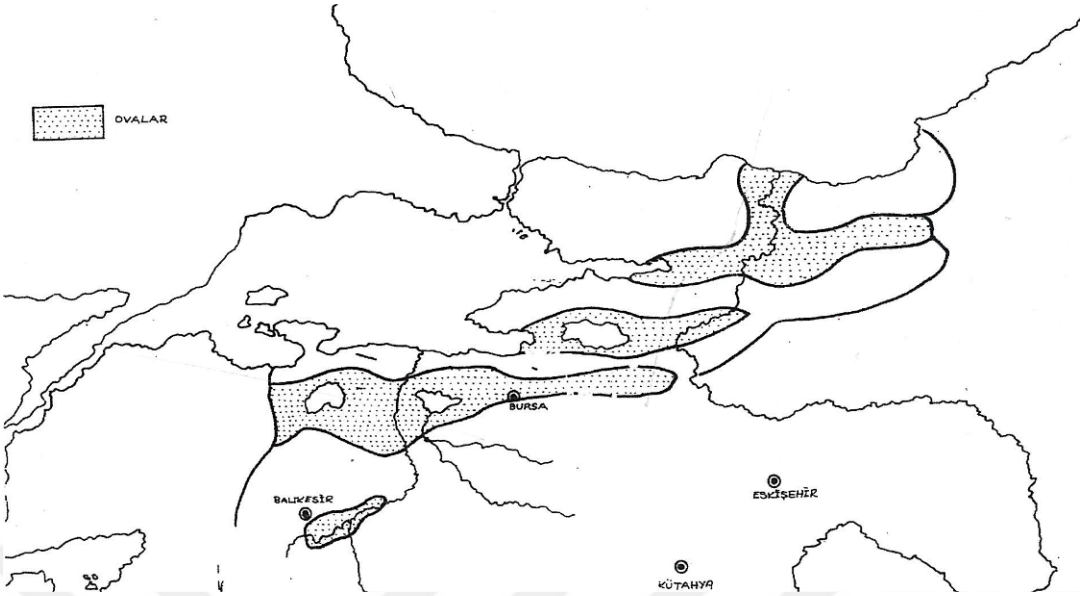
E. (a) Hüdâvendigâr Sandjak (Ergenç, 2014)



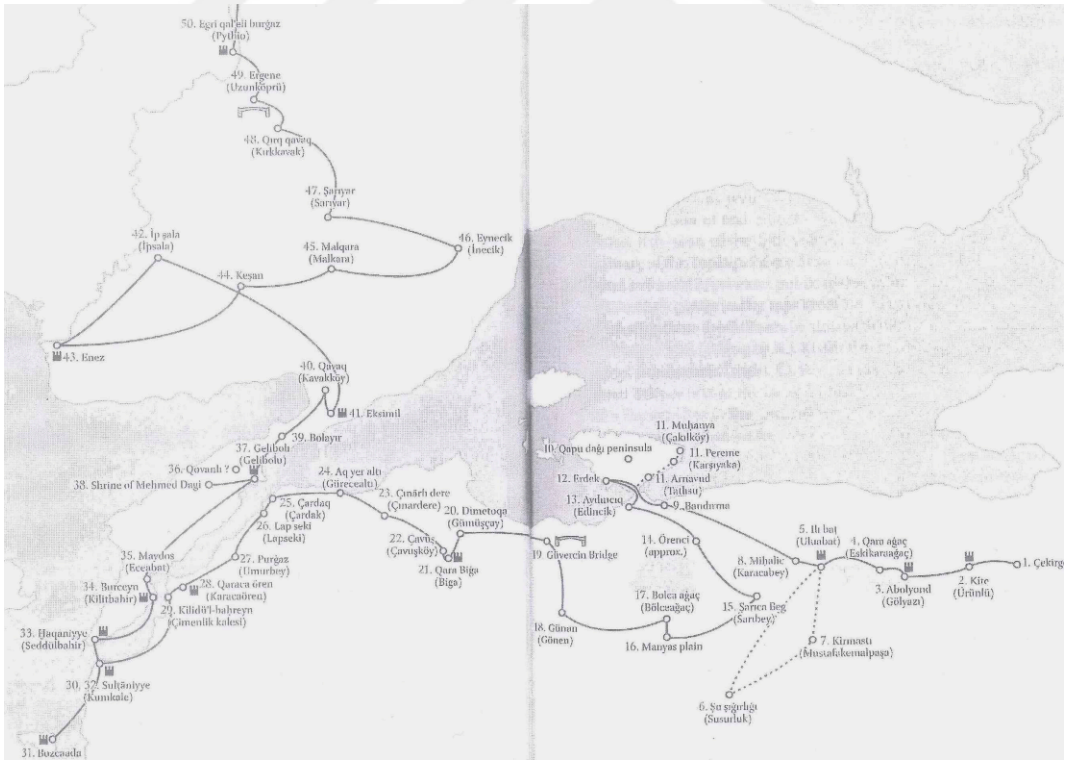
E. (b) Vilâyet of Hüdâvendigâr (Cuinet, 1895) (British Library HMNTS 10077.k.18; accessed from: wikipedia)


MUTESSARIFLIK
D'
ISMIDT
Vilayet de Castamouni
Vilayet d'Angora
MER NOIRE
MER DE MARMARA
D'EUROPE
TURQUIE
CONSTANTINOPLE
MUTESSARIFLIK
D'ISMIDT
Caza de Guevé
Caza de Kandéré
Caza de Ghebzé
Caza de Bayandir
Caza de Kandira
Caza de Kara-Hissar
Caza de Kutahia
Caza de Tchavdar
Caza de Sandikli
Caza de Baleki-Hessar
Caza de Karassi
Caza de Gonan
Caza de Bigha
Caza de Lampsaki
Caza de Gallipoli
Caza de Dardanelles
Caza de Kepsut
Caza de Balikesser
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Caza de Séméav
Caza de Kara-Hissar
Caza de Sandikli

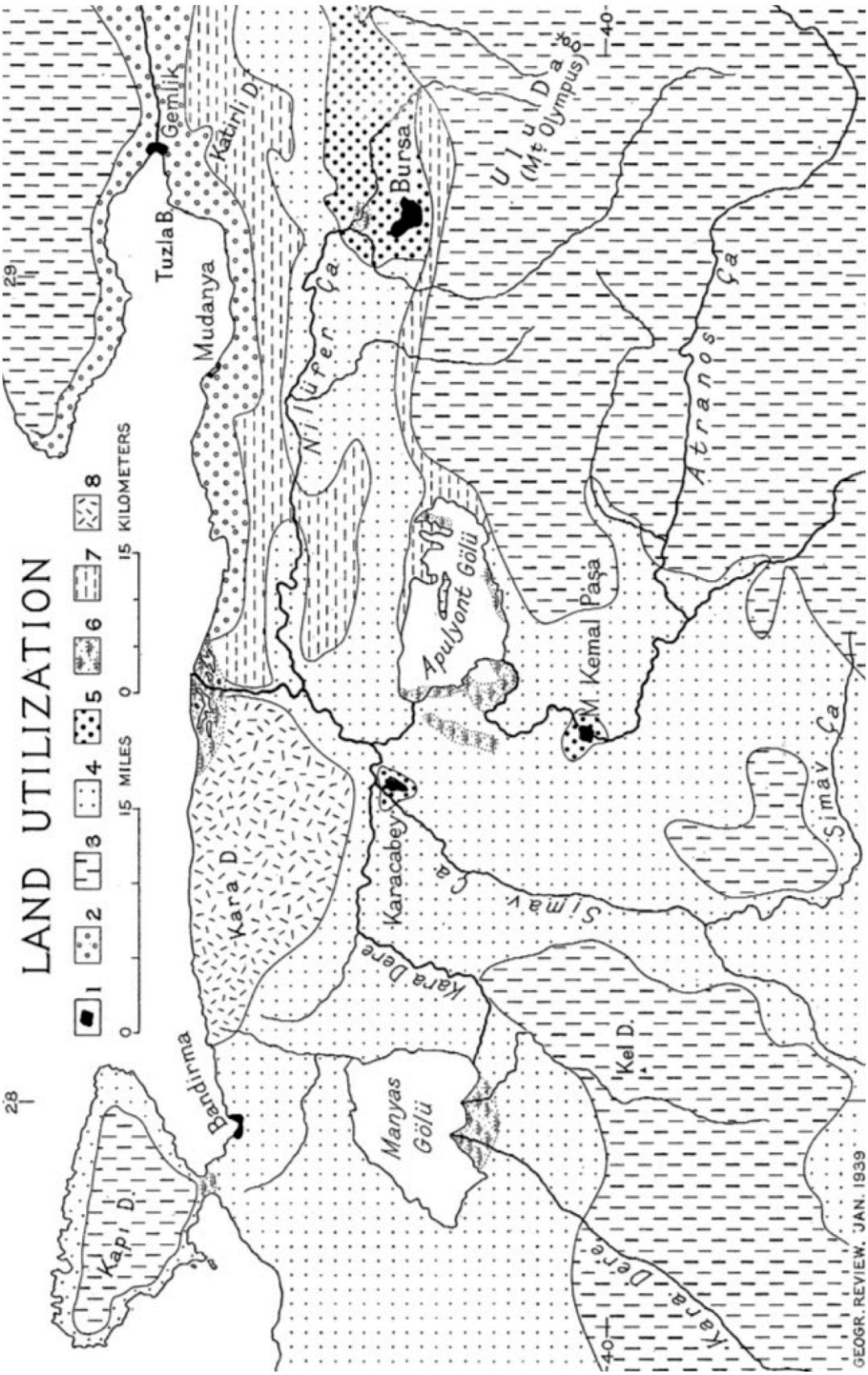
E. (c) Geography of Bursa (Ergenç, 2014)



E. (d) The route of Evliya Çelebi. (Karateke, H. T. (Ed., Trans.). (2013). *Evliya Çelebi's journey from Bursa to the Dardanelles and Edirne: from the fifth book of the Seyahatname 1611-1682.* Leiden, Netherlands; Boston, Mass: Brill)



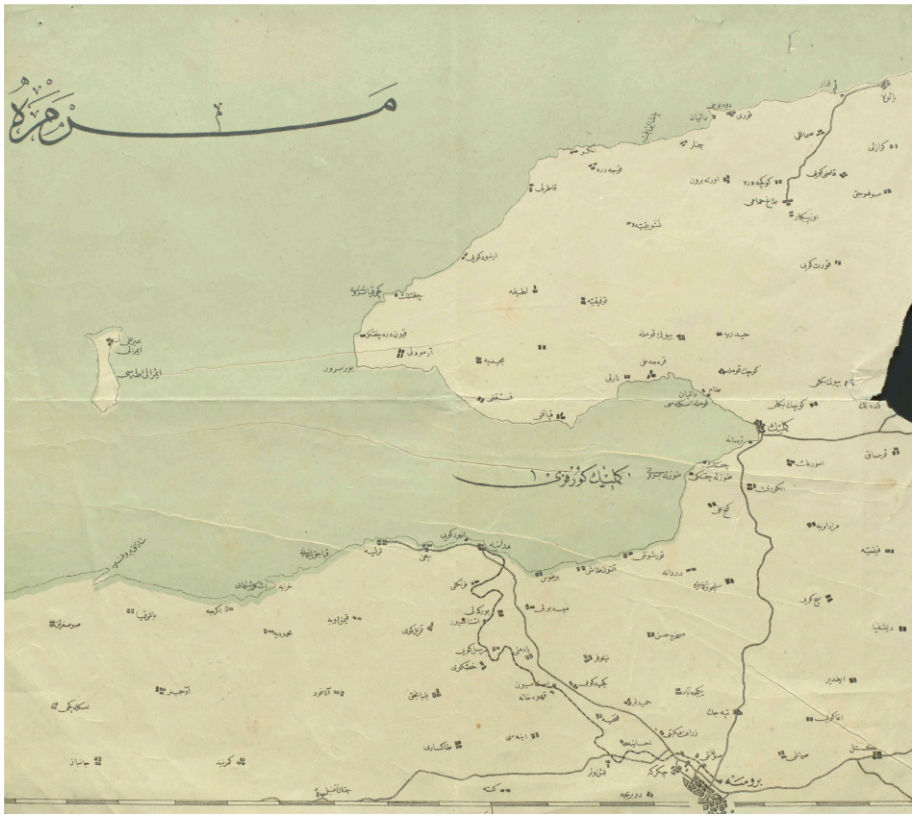
E. (e) Bursa and its Environs (Stotz, C. L. (1939). The Bursa Region of Turkey. Geographical Review, Vol. 29. No. 1, pp. 81-100)



E. (f) Gulf of Gemlik and Kapıdağı Peninsula (Ankara National Library, H4073)



E. (g) Mudanya and Gemlik Ports (Ankara National Library, H4489)



F. CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name: Aslan, Saliha
Nationality: Turkish (TC)
e-mail: saliha.aslann@gmail.com

EDUCATION

Degree	Institution	Years of Education
Ph.D	METU History of Architecture	2014-2020
M.Arch	GAZİ University Architecture	2011-2013
B.Arch	GAZİ University Architecture	2006-2010 (3rd Rank Student)

ACADEMIC WORK EXPERIENCE

Year	Place	Enrollment
2016-Present	METU Department of Architecture	Research Assistant
2016 March	BTU Department of Architecture	Research Assistant

Teaching Assistantship

The courses participated at METU:

3rd Year Architectural Design Studio
Introduction to Architectural Concepts
Architectural History I, II, III
Masterworks of Medieval Architecture in East and West
Anatolian Seljuk Architecture (11th-14th Centuries)
Ottoman Architecture in the Nineteenth Century
Architectural History Research Studio: the Modern Capital City, Ankara

PUBLICATIONS

1. Aslan, S. (2020, July 23). Extension. MATERIART. In B. Yılmaz, G. M. Abbas, & M. Koç (Eds.). *Glossary of Materiart,* Materiart.

2. Aslan, S. (2019). Osmanlı Kent Çeperleri. In T. E. Altan & S. Enginsoy Ekinci (Eds.). *İnci Aslanoğlu İçin Bir Mimarlık Tarihi Dizimi.* Ankara: ODTÜ Yayıncılık.

PAPER PRESENTATIONS

2019, 6th and 7th of September. “Intertwined Relationships Between Land, Sea, Ecology and Urban Achitecture of Bursa.” Paper Presentation at 2nd International NEHT Workshop. Environmental Histories of the Ottoman Empire and Turkey. Historicizing Nature: Water, Forest and Land. Middle East Technical University, Ankara.

2019, 16th of February. “Cognitive Map of Urban Architecture in Bursa and Its Environs.” Preseantation at the Research Symposium of European Architectural History Network (EAHN) (on behalf of the annual business meeting of the network), Zaragoza, Spain.

2017, 21-22th of December. “The Interaction Between the City of Bursa and the Port of Mudanya on the Bases of Nature and Architecture.” Paper Presentation at International Conference. METU Architectural History Graduate Symposium. Spaces/Times/People: Nature and Architectural History. Middle East Technical University, Ankara.

2015, 24th-25th of December. “Architectural History in Ruins, Ruins in Memory, Memory in Construction.” Paper Presentation at International Conference. METU Architectural History Graduate Symposium. Spaces/Times/People: Nostalgia and Architectural History. Middle East Technical University, Ankara.

FIELD OF INTEREST

Urban, Architectural, and Environmental History;
Research & Education, Early Modern and Late Ottoman Cities and Architecture, Architecture of Transportation and Urban Infrastructure, Architecture of City Edges, Urban Expansion and Urban Development, Land-use and Natural Resource Management, Architecture of Industrial and Agricultural Sites

Urban and Architectural Design;
Research & Education, Urban Design, Spatial Design, Analytical Visualization and Representation

G. TURKISH SUMMARY / TÜRKÇE ÖZET

DOĞADAN ÜRETİME VE TİCARETE: BURSA'NIN GEÇ OSMANLI DÖNEMİNDE MEKÂNSAL DÖNÜŞÜMÜ

Endüstriyel, zirai ve ticari gelişimlerle gerçekleşen modernleşme süreci, Bursa'da devlet girişimleri, yabancı yatırımcılar ve yerel girişimcilerin çabaları ile oluşan reformlar, düzenlemeler ve yapı faaliyetleri aracılığıyla on dokuzuncu yüzyılda güçlenmiştir. Bursa'nın mekânsal dönüşümü bu süreçle kent ekonomisi bağlamında kesişir. Teknolojinin ilerleyişi ve yeni üretim yöntemleri, yeni teknolojik alet ve araçların ithali ve ham maddenin ihracını gerekli kılmıştır. Bu gelişme, hem gelişmiş bir altyapı hem de yeni endüstriyel, zirai, ulaşım ve ticari yapıların inşa sürecini getirmiştir. Teknoloji kadar toprak, deniz, dereler, dağlar ve dutluklar gibi doğal kaynaklardan da faydalanan ve doğal felâketlerin zararlarını en aza indirmenin bir aracı olan bu yapısal faaliyetler, Bursa'nın içinde ve çevresinde mekânsal dönüşüme katkı sağlamıştır. Bu tez, yerleşimlerin ekonomik ve mekânsal açıdan nasıl Bursa kentinin yakın çevresine ve daha geniş hinterlandına doğru yayıldığı ve kentsel merkezle, yapı ve altyapı inşası aracılığıyla entegre olan sınır bölgelere ulaştığını inceler. Kent, böylece, mekânsal olarak da dönüşürken daha üretken ve ticari bir kente dönüşmüştür. Bu tez, endüstriyel ve zirai üretimin değişen yöntemleri ve bunlarla birlikte değişen ulaşım ve ticaret biçimlerinin, geç Osmanlı döneminde Bursa'nın özgün değerleriyle ilişki içinde nasıl bir mekânsal dönüşüm oluşturduğunu tartışmayı hedeflemektedir.

Bu amaçla, tezin genel kurgusu giriş ve sonuç bölümleri ile birlikte dört ana bölümü kapsamaktadır. **Giriş bölümünde,** genel amaçlar, çalışmanın önemi ve tez konusu ile ilgili literatür incelenmekte ve tezin kavramsal çerçevesi ve metodolojisi sunulmaktadır.

Geç Osmanlı Döneminde Bursa başlıklı **ikinci bölümde,** öncelikle çevresel değerler ve doğal kaynaklar araştırılır ve doğal afetlerin kent mekânının dönüşümündeki rolü vurgulanır. Ekonomik bağlam Osmanlı genelinde ve Bursa genelinde tartışılır. Ayrıca, kentsel ve mimari bağlamda Bursa kenti erken modern dönemden on dokuzuncu yüzyıla uzanan süreçte genel anlamda değerlendirilir.

Kent ve çevresinin doğal ve coğrafi değerleri değerlendirildiğinde, üretim ve ticaret alanındaki gelişmelerin de katkısıyla, doğal değerlerden beslenen ve yararlanan kentsel mekân önemli ölçüde dönüşüm geçirmiştir. Kentin önemli limanları olan Gemlik ve Mudanya, tarih boyunca ticaretin gerçekleştiği dünyaya açılan önemli ticari eşikler ve kente açılan karşılama mekânları olarak faaliyet göstermişlerdir. Coğrafi özellikler bakımından değerlendirilecek olursa, Gemlik limanı sakin, dalgasız ve her noktada derindir ve bu nedenlerle, demirleme açısından avantajlıdır ve Mudanya ise kuzey yönünden gelen rüzgarlara açık olup, Gemlik limanı kadar liman faaliyetleri açısından elverişli değildir.[1089] Ancak, tüm bunlara rağmen, Mudanya limanı, Bursa-Mudanya yolunun - Bursa-Gemlik yoluna kıyasla- daha az eğimli ve kısa olması nedeniyle, daima daha çok tercih edilmiştir.[1090]

Ayrıca, ikinci bölümde, on dokuzuncu yüzyılda Osmanlı ekonomisi ve doğa ve teknolojiden yararlanılarak üretim düzeyinde gelinen seviye ve ticaret hacmindeki artışın Bursa kent ekonomisini nasıl etkilediği tartışılır.

On altıncı yüzyılda ticari ilişkilerin gelişmesiyle çözülen Osmanlı ekonomisi Avrupa ekonomik sistemiyle bütünleşmeye başlamış olup, on sekizinci yüzyıl sonuna doğru ticaret hacminde büyük bir artış görülmüştür ve ticaret hacmindeki bu artış, 1840'lı yıllardan itibaren tarım alanındaki gelişmeler sayesinde on dokuzuncu yüzyıl

[1089] Can, A. (2017). *Kadim Bursa Osmanlı Fethine Değin Bursa ve Çevresinin Tarihi.* Bursa: Sentez Yayıncılık, ss. 17, 18.

[1090] Tevfik, İbnülcemal Ahmet. (1898/2007). *100 Yıl Önce Bisikletle Bursa (Hüdavendigar Vilayeti Dahilinde Velosipetle Bir Cevelan).* (Trans.). Nezaket Özdemir. 19. Yüzyılda Bir Bursa Seyahatnamesi. Bursa: Sentez Yayıncılık; Satıcı, E. (2008). 19. Yüzyılda Hüdavendigar Eyaleti. PhD Thesis. Ankara University, Social Sciences Enstitute, History Department; Çiftçi, C. (2012). *Osmanlı Döneminde Mudanya İskelesi ve Gümrüğü.* Bursa İktisat Tarihi Araştırma ve İnceleme Dizisi: 1. Bursa: Bursa Kültür A. Ş.; Can, 2017, s. 18.

boyunca gözlenebilmiştir.[1091] Literatürde "dış ticaret verilerini" inceleyen uzmanlar, özellikle 1840'lı yıllarda ticaret hacminin çarpıcı bir şekilde büyüdüğüne, hammadde ihraç oranlarının arttığına işaret eder.[1092] Devlet, tarım alanında üretimi artırma ve bu alandan elde edilen geliri artırma amacıyla yeni düzenlemelere girişmiştir; 1858 tarihli Arazi Kanunnamesi ve 1857 ve 1867 tarihli yabancılara toprak mülkiyet hakkı tanıyan kanunların yürürlüğe girmesinin ardından, özellikle 1870'li yıllarda tarımsal üretim hacminde de ciddi artış gözlenmiştir.[1093] Baskıcı da, on dokuzuncu yüzyıl Osmanlı ekonomisinin tarım sektöründeki gelişmelere bağlı olarak bir büyüme kaydettiğini ifade eder.[1094] On dokuzuncu yüzyıl ikinci yarısında ekonomik gelişmede kaydedilen seviye, tarımsal üretimdeki artış ve haklın yüzde seksen ve doksan oranlarında ziraat ile uğraştığı gerçeği ile açıklanabilir.[1095] Bunun en belirgin göstergesi de tarımdan elde edilen gelirlerdir; on dokuzuncu yüzyıl ortasındaki veriler dikkate alındığında, aşar ve toprak vergisinin, imparatorluğun tüm gelirlerinin yüzde kırkını teşkil ettiği görülür.[1096] Ayrıca, ihracat verileri dikkate alınırsa, gümrük vergileri de ağırlıklı olarak tarımsal ürünlerden alınır.[1097] Göçmenlerin tarım alanına katkısı ve demiryolu inşaatları da tarımsal ürün artışını olumlu yönde etkileyen önemli unsurlardır.[1098] Tarım sektörü, on dokuzuncu yüzyılda yabancı yatırımların sınırlı kaldığı ve merkezi devletin daha çok kontrol altına alabildiği bir alandır;

[1091] Quataert'in verilerine göre, 1783-1911 yılları arasında ticaret hacmi, 4,4 milyon strerlinden 64 milyon sterline yükselmiştir. (Quataert, D. (1983/2017). Osmanlı Devleti'nde Avrupa İktisadi Yayılımı ve Direniş 1881-1908. (Trans.). S. Tekay. İstanbul: İletişim Yayınları, s. 27).

[1092] Quataert, D. (2005). The Ottoman Empire, 1700-1922 New Approaches to European History. Cambridge: Cambridge University Press, s.128; Karpat, K. (2008/2019). Osmanlı Modernleşmesi Toplum, Kuramsal Değişim ve Nüfus. (Trans.). C. Elitez. İstanbul: Timaş Yayınları,, ss. 93, 94.

[1093] Quataert, 2005, ss. 95, 96, 112.

[1094] Baskıcı, M. Murat. (2011). Machine Prices and the Mechanization of Ottoman Agriculture, 1860-1914. Vol. IV, No. 1, Journal of Social Sciences, s. 69.

[1095] Quataert, 2005, ss. 130, 131; Karpat, 2008/2019, s. 135.

[1096] Quataert, 2005, s. 130.

[1097] A.g.e.

[1098] Pamuk, Ş. (1987). Commodity production for world-markets and relations of production in Ottoman agriculture, 1840- 1913. In H. İslamoğlu-İnan (Ed.). *The Ottoman Empire and the World Economy*. Cambridge: Cambridge University Press, s. 184.

yabancı yatırımlar daha çok altyapı, demiryolu ve liman inşaatına yoğunlaşmıştır.[1099] Kısaca, on dokuzuncu yüzyıl başlarında yavaş ilerleyen dünya ekonomik sistemle bütünleşme süreci, özellikle dış ticaret hacimlerindeki değişimler, göçler, demiryolu yapımı ve fabrikalaşma sürecinde yabancı yatırımlar ve devletin karayolu ulaşım planlamaları ile 1860'lardan itibaren hız kazanmıştır.[1100]

Osmanlı İmparatorluğu'nda ticaret önceki yüzyıllara kıyasla on altı kat oranında bir artış göstermiştir; on dokuzuncu yüzyılda uluslararası ticaret ise dünya çapında altmış dört kat artarak, çok daha büyük bir artış sergilemiştir.[1101] Yine de, bu dönemde, savaşlar, devlet politikası ve artan ham madde arzına yetişebilmek amacıyla demiryolu ve liman yapıları inşaatı gibi ulaşım alanında yapılan yenilikler ticaretin gelişmesini tetiklemiştir.[1102] Savaşlar dolayısıyla kaybedilen topraklar ticari ilişkilerin zarar görmesine neden olurken, antlaşmalar ve kanunlarla sağlanan ticaret serbestliği de Osmanlı iç ve dış ticareti önündeki engelleri kaldırmıştır.[1103]

On dokuzuncu yüzyılda, Osmanlı mâlî sisteminde kanunların yenilenmesi ve modernleşmesi amacıyla reformlara gidilmiştir. Ortaylı, on dokuzuncu yüzyılı yönlendiren esas sebebin mâlî reformlar olduğunu iddia eder.[1104] Yalnızca mâlî mevzuatta değil, hukuk ve eğitim alanlarında da yenilikler yapılmıştır. Okul, hastane ve altyapı gibi inşa faaliyetlerinin artmasıyla devletin memur ihtiyacı da artmıştır; dolayısıyla, nitelikli memurun yetişmesi için eğitim kurumlarının geliştirilmesi önemli olmuştur.[1105] Eğitime, bilimsel bilgiye ve bilginin kitleye ulaşmasını sağlama

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[1099] Pamuk, Ş. (1988). The Ottoman Empire in Comparative Perspective. *Review (Fernand Braudel Center),* 11(2), 127-149, http://www.jstor.org/stable/40241089.

[1100] Karpat, 2008/2019, s. 102; Tekeli, İ. (2019). Cumhuriyet Dönemi Boyunca Kırsalın Geçirdiği Dönüşüm ve Kırsaldan Kopuş. *Efil Journal of Economic Research,* Vol. 2, No. 6, s. 10.

[1101] Quataert, D. (1987). The silk industry of Bursa, 1880-1914. In H. İslamoğlu-İnan (Ed.). *The Ottoman Empire and the World Economy.* Cambridge: Cambridge University Press, s. 284; Quataert, 2005, s. 126.

[1102] Quataert, 2005, s. 126.

[1103] A.g.e., s. 127. Quataert'e göre, tüm bu engellerin kalkmasının ekonomik kalkınmada ne derece önemli bir rol oynayıp oynamadığı hâlâ bir soru işaretidir (A.g.e.).

[1104] Ortaylı, İ. (2012). *Son İmparatorluk Osmanlı/Osmanlı'yı Yeniden Keşfetmek-2.* İstanbul: Timaş Yayınları, s. 138.

[1105] A.g.e., s. 130.

hususlarına verilen önem, Osmanlı modernleşmesinin çok önemli bir göstergesidir. Eğitimin kurumsallaşması modern okulların kurulması aracılığıyla gerçekleşmiştir. Bu tezin özellikle kent ve mimari anlamda gelişime dönüşüme yön verdiği düşünülen "üretim" odağı dikkate alınırsa, üretimin sıhhileşmesi ve modernleşmesi amacıyla kurulan okullar da modernleşmenin önemli bileşenleridir.

Endüstriyel üretim alanında, on dokuzuncu yüzyılın ilk yarısında buhar gücü ile çalışan makineleri içeren fabrikalar Selânik, Edirne, Batı Anadolu'da ve Lübnan'da kurulmaya başlamış; 1850'lerde, ihracata yönelik ham ipek üretimi canlanmıştır.[1106] Bursa endüstrileşme süreci de 1840'lardan itibaren ipek üretiminde mekanizasyonun sağladığı verimlilikle dış ticarette ihracat ekonomisine yönelmiştir.[1107] Özellikle 1880'li yıllardan sonra, altyapı ve demiryolu inşaatına yatırım yapan yabancı sermaye, ticaret hacminin gelişmesine de dolayısıyla katkıda bulunmuştur; ayrıca büyük ölçüde üretim biçimlerini de etkilemiştir.[1108] Tarımın ticarileşmesi hız kazanmış, zirai üretim büyük ölçüde dış ticarete yönelmişken, endüstriyel zanaat ürünleri de belirli ölçüde Avrupa'nın iç pazara nüfuz eden endüstriyel ürünleri karşısında direnç göstermiştir.[1109]

Arşivden çıkarılan 10 Temmuz 1325 (R.) / 23 Temmuz 1909 (M.) tarihli Bursa Sergisi dosyasında, merkezdeki belediye binası ve çevresinin sergi için hazırlandığından, özellikle dış mekânın zirâi alet ve makinelerin sunumuna uygun şekilde organize edileceğinden, daha da önemlisi ziraat ve sanayinin gelişimine verilen önemden bahsedilmektedir.[1110] Bu anlamda, kaymak makinesi dönemin

[1106] A.g.e., s. 135.

[1107] Kağıtçıbaşı, E. & Yaşar, E. (2014). *Bursa'nın Ekonomik Tarihi 1900-1960.* 2nd Volume. Bursa: Uludağ Üniversitesi, s. 48.

[1108] Pamuk, 1987, s. 178.

[1109] Pamuk, 1987, s. 178; Pamuk, Ş. (2009a). Agriculture and economic development in Turkey 1870-2000). In P. Lains & V. Pinilla (Eds.). *Agriculture and economic development in Europe since 1870.* London [u.a.]: Routledge, ss. ix, 199.

[1110] Bu konuda 1909 Bursa Sergisi'nden bazı notlar: "Bağçe ile binanın arkasına tesâdüf eden sokağın hükûmet caddesindeki medhali bir büyük kapı ile diğer ucu da sinematografa tahsîs kılınan tiyarto ile sed edilerek sergiye nâzır mevki'deki dükkânlarda başkaca ta'mîr ve telvîn edildi. Buraları gelecek makinelerle âlât ve edevât-ı zirâiyye ve sâirenin teşhîrine mahsûsdur.

önemli modern bir aracıdır ve sergi metninde eski usullerden farklı olarak modern bir yöntemle ve kaymak makinesi kullanılarak fenni usullere uygun şekilde sütten kaymak edilmesine dair notlar da yer almaktadır.[1111] Ayrıca, sergi nedeniyle otellerdeki yoğunluk[1112] da vurgulanmaktadır; dolayısıyla, Bursa ekonomisini de olumlu anlamda etkileyen bir durum gelişmiştir.

Kent ve mimari bağlamda Bursa kenti de ayrıca ikinci bölümde tartışılmaktadır. Erken modern dönemde Bursa kentinin gelişmesi ve özellikle on dokuzuncu yüzyılda yeni mekân üretim araçlarıyla kentin merkezden çepere, hinterlanda ve sınırlara kadar altyapı ve üretim yapılarının gelişmesi aracılığıyla genişlemesi ve gelişmesi kentin mekânsal dönüşümü bağlamında tartışılmaktadır.

Bu kısa mukaddimeden, mensûb oldukları devletin tezâyüd-i şükûh ve satvetini ârzû eden milletlerin terakkī-i zirâat ve sınâ‘ata bi'l-hâssa gayret etmeleri lâzım geleceği netîcesi pek kolay istinbât olunur. Fakat zirâat ve sanâyi‘in terakkīsini te’mîn için ne yapmalıdır? Burası câ-yi tedkīk ve tetebbu‘dur.”

[1111] Bu konuda 1909 Bursa Sergisi’nden bazı notlar: “Sergi'yi ziyâret unvanıyla müstemirren yazmakda olduğumuz makālâtdan üç numaralısında bi'l-münâsebe Melut Kaymak Makinesi'nin de zirâat şubesinde mevcûd olduğunu yazmış ve fakat bunun ma‘mûlât-ı ecnebiyyeden olmasına binâen ta‘rîf ve tasvîrinden keff-i lisân eylemiş idik.

Ancak bu makinenin yağcılara, südcülere te’mîn etdiği muhassenât ve fevâidin büyüklüğüne ve memalik-i Osmaniyye'nin her tarafında birçok gayr-ı mezrû‘ arâzî ve vâsi‘ mer‘âlar mevcûd olup binâenaleyh yağcılık -eğer çalışırsa- vatanımıza pek çok menâfi‘ celb edeceğine göre bu makineyi elimizdeki vesâit ile mukâyese ve derece-i nef‘ini îzâh için bu bâbda ba‘zı ma‘lûmât vermeği münâsib gördük.

Evvel-emirde kaymağı çıkarılmak istenen süd makinenin üstündeki ma‘denî kaba konularak bir sür‘at-i fevka'l-âde ile tedvîr edilir. Zâten südün mevâdd-ı şahmiyyeden mürekkeb kısmıyla aksâm-ı mütebâkiyesi beyninde kesafetçe bir fark vardır. Sür‘at-i tedvîr ile bu tefâvüt-i kesâfet tezâyüd etdiğinden kaymak kabın merkezine incizâb ve kısm-ı mütebâkî kabın muhîtine indifâ‘ eder ve bu iki kısım ayrı ayrı mecrâlardan geçerek muhtelif kablara intikāl eyler.

Bizde sütçülük, yağcılık pek ziyâde muhtâc-ı tergībdir. Hemen her köyümüzde, her kasabamızda mikdârı epeyce yükselen hayvanât-ı ehliyye var. Hiçbir köyümüzü bile gösteremeyiz ki orada yağ ve süd çıkarılmış olmasın.
Evvelce bi'l-münâsebede söylediğimiz vechile memleketimizde süd gāyet ucuz olduğundan bundan istifâde tarîkini aramalıyız veyahud el-yevm te’mîn etmekde olduğu fevâidin derecâtını yükseltmeliyiz. Bu da ancak böyle fennî ve müvellid-i served makinelerin ta‘mîm-i fevâidi ile kābil olur. Yoksa "babalarımızdan gördüğümüz" usûl ile daha asırlar geçse sanâyi‘miz terakkī edemez.”

[1112] Bu konuda 1909 Bursa Sergisi’nden bazı notlar: “Sergimizin yevm-i küşadından beri Bursa'yı ziyâret gelenler pek ziyâde artmışdır. Dersaadetle Mudanya arasında icrâ-yı seyr u sefer eden İdâre-i Mahsûsa vapurları gelen yolcuları isti‘âb edememekde olduğu için ba‘zı günler mezkûr hatta hattâ iki vapur tahsîs ve sevk ediliyor. Ez-cümle geçen Pazartesi günü İdâre-i Mahsûsa'nın İnebolu ve Kozlu vapurlarının her ikisi birlikde yolcu getirmişdir.

Şehrin hân ve otelleri müsâfirîn ile tamamen doludur. Haber aldığımıza göre Mudanya ile Dersaadet arasında seyâhat için mürûr tezkiresi istihsâli kaydı ilgā edilmiş olmasından dolayı Dersaadet ahâlîsinden mikdârı pek külliyetli zevât Bursa'ya gelmek için hâzırlıkda bulunuyor.”

Anadolu Selçuklu döneminde Bizans surları dışına taşan kentsel yerleşim alanı, öncelikle kale duvarlarına yakın inşa edilen Pazar yerleri ve külliye inşası ile biçimlenmeye başlamıştır. Klasik Osmanlı şehirlerinin vazgeçilmez kurumları cami, hamam, çarşı bileşenlerini bir arada tutan külliye yapılarıdır. Osmanlı kentleşme çabalarının erken örnekleri olan külliye yapıları, etraflarında gelişen mahallelerin de oluşumuyla kentlerin genişlemesinde önemli rol oynamışlardır. Bursa kentinin merkezden çevreye doğru yayılan çeperleri incelendiğinde, geniş mezarlıkların varlığı görülür. Mezarlıklar yalnızca çeperlerde değil, aynı zamanda cami ve mescitlerin haziresi olarak da mahallelerde de karşımıza çıkar.[1113] Mezarlıklar dışında, kestanelikler ve külliye yapıları erken modern dönemde Bursa kenti sınırlarını tarifler. On dokuzuncu yüzyılda, kentin çekirdeğini oluşturan kale ve ticari merkezin yakın çevresi yeni yolların açılması, eski yolların genişletilmesi ve yeni kamu yapılarının inşası ile modern bir biçimde yeniden şekillenmiştir. Ayrıca, endüstriyel üretimin gerçekleştiği yeni fabrika yapıları da kentin çekirdeğinden çeperlerine doğru özellikle su kaynakları etrafında konumlanarak kentin genel siluetinde belirgin bir dönüşüm sağlamıştır.

Kentin çekirdeği ve çeperlerinin endüstriyel üretim aracılığıyla dönüşümüne odaklanan **üçüncü bölüm,** ham ipek üretimi ve dokuma faaliyetlerini tarihsel ve ekonomik anlamda incelerken, temelde endüstriyel üretim mekânlarını tartışır. Öncelikle, tarihsel süreçte Bursa kentinin nasıl ham ipeğin transfer ve ticaret merkezi olmaktan ham ipek üreticisine dönüştüğü açıklanır. Bursa kenti proto-endüstrileşme süreci on dokuzuncu yüzyıl sanayileşme süreçlerini etkileyen ve biçimlendiren önemli bir aşamadır. Dolayısıyla, Bursa'nın nitelikli ham ipek üreticisi olma sürecinin anlaşılması önemlidir. On altıncı yüzyıl ikinci yarısında, Osmanlı-İran savaşları yanı sıra İngiliz ipek tacirlerinin İran ham ipeğini Avrupa'ya pazarlamasına bağlı olarak Osmanlı dokumacıların yüksek ham ipek fiyatlarına maruz kalması Bursa ipek sanayisini sarsmıştır.[1114] Ancak, Bursa şehrinin kendi ham ipeğini üretmesine vesile olmuştur; on yedinci yüzyılda süregiden iç ayaklanmaların sona ermesi ve Avrupa'nın hammadde talebi ipek sanayinin yeniden aktive olmasını

[1113] Ortaylı, 2012, s. 111.

[1114] Faroqhi, S. (2003/2018). *Osmanlı Dünyasında Üretmek, Pazarlamak, Yaşamak.* İstanbul: Yapı Kredi Yayınları, s. 10.

sağlamıştır.[1115] Konut içinde ham ipek üretiminden fabrika üretimine geçiş süreci de ayrıca açıklanır.

On dokuzuncu yüzyılda endüstri okulu ve ipekçilik okulunun kurulmasıyla ve çeşitli düzenlemelerle endüstri sektöründe kurumsallaşma süreci araştırılır. Kentin çekirdeğine yakın noktalarda ve çeperlerine doğru yayılan alanlarda kurulan ipek fabrikalarının mimari ve kentsel düzenlemeleri tartışılır.

1830'lu yıllarda buharlı makinelerin bulunduğu fabrikalar devlet tarafından kurulmaya başlanmış; 1840'lı yıllarda ise özel teşebbüsün önü açılarak endüstri alanında yatırımlar artmıştır; 1860'lardan sonra ise, devlete ait fabrika kurma faaliyetleri azalmıştır.[1116] Bu tarihten sonra devlet, fabrika kurmaktan ziyâde endüstri sektörünün kurumsallaşması adına endüstri okulları kurarak ve yeni düzenlemeler yaparak faaliyetlerine devam etmiştir.[1117] Avrupalı yatırımcılar tarafından buhar gücü ile çalışan makineler gibi ileri teknolojilerin Bursa'ya getirilmesi de 1830'lu yıllarda gerçekleşmiştir.[1118]

Geleneksel ev ekonomisine dayalı kozadan iplik çekimi ile ipek üretimi ve ipekli dokuma süreci on dokuzuncu yüzyılda modern sanayi tesislerinin, fabrikaların, kurulmasıyla farklı bir ölçekte deneyimlenmeye başlanmıştır. Bursa örneğinde de endüstriyel üretim anlamında önemli düzeyde gelişmeler kaydedilmiştir. İpekli dokuma pratiklerinin tamamen gerilememiş, bir ölçüde devam etmiş olduğu Suphi Bey'in 1862 tarihinde çizmiş olduğu haritasında çulha odalarının varlığından anlaşılabilmektedir. Dolayısıyla, zanaat ürünlerinin üretimi Avrupa endüstriyel üretimi karşısında bir ölçüde direnebilmiştir. Fabrikalaşma sürecine bakacak olursak

[1115] A.g.e.,, s. 121.

[1116] Genç, M. (2004/2005). Reform Sürecinde Devlet ve Ekonomi: Osmanlı İktisadî Dünya Görüşünde Değişmeler. In Kemal H. Karpat (Comp.). *Osmanlı Geçmişi ve Bugünün Türkiye'si.* (Trans.). S. Taner. İstanbul: İstanbul Bilgi Üniversitesi Yayınları, ss. 300-302.

[1117] Tekeli, İ. & İlkin, S. (1993). Osmanlı İmparatorluğu'nda 19. Yüzyıl'ın İkinci Yarısında Nafia Programları ve Teknoloji Gelişimi Üzerine. *Dünü ve Bugünüyle Toplum ve Ekonomi,* No: 3, ss. 146, 147; Genç, 2004/2005, ss. 300-302.

[1118] Çızakça, M. (1987). Price History and the Bursa silk industry: a study in Ottoman industrial decline, 1550- 1650. In H. İslamoğlu-İnan (Ed.). *The Ottoman Empire and the World Economy.* Cambridge: Cambridge University Press, s. 258.

da, 1830'lu yıllardan itibaren önce devlet girişimiyle, on dokuzuncu yüzyıl boyunca da özel teşebbüslerle fabrika ve imalathane üretimi devam etmiştir. Ortaylı'nın da belirttiği gibi, on dokuzuncu yüzyılda Bursa kenti, gelişen Osmanlı sanayinin merkezidir.[1119]

Quataert'in de belirttiği gibi, literatürde Osmanlı ekonomisini Avrupa merkezli değerlendiren ve Osmanlı iç Pazar ilişkilerini ve hacmini bu değerlendirmenin dışında tutan yaklaşımların ötesine geçildiğinde,[1120] Osmanlı ekonomik gelişme sürecini ve bu sürecin mekânsal yansımalarını farklı bir perspektiften değerlendirme şansı bulunabilir. Osmanlı ihracat verileri ve iç pazar ilişkileri kendi tarihsel ve ekonomik gelişim süreci bağlamında değerlendirildiğinde, Osmanlı'da endüstriyel ve tarımsal üretim düzeyinde ve ticaret hacminde ciddi oranda artışın kaydedilmiş olduğu görülür. Burada, endüstriyel üretimin özellikle Bursa örneğinde, ham ipek üretimine yöneldiğini, tekstil sektörünün ise olumsuz koşullara rağmen direndiği ve varlığını iç pazara yönelik olarak sürdürdüğü gibi önemli noktaları unutmamak gerekir.

Osmanlı tekstili elle üretim aracılığıyla sürdürülen bir sanayi olarak varlığını sürdürmüştür.[1121] Ham ipek üretimi ve ihracatında şehrin elde ettiği başarıların yanı sıra, şehir, pamuklu kumaş imalatının özellikle ünlü Bursa havlusunun da merkezi olma özelliğini on dokuzuncu yüzyılda da korumuştur.[1122] Amerikan iç savaşına bağlı olarak İngiliz tekstil ürün fiyatlarının artmasıyla 1863'te Bursalı dokumacılar pamuklu havlu ve maşlah üretimini artırmıştır.[1123] Roma döneminden beri yaygın olan hamam kültürü, kentin hamam takımları ve havlular üreten imalathaneleri aracılığıyla varlığını sürdürmüştür; bu süreklilik imalathanelerin tekstil sektöründeki başarısında gözlenebilir.[1124] Ahmet Muhtar'ın 1920'de yazmış olduğu Bursa Sergisi

[1119] Ortaylı, 2012, s. 174.

[1120] Quataert, D. (1993/1999). *Sanayi Devrimi Çağında Osmanlı İmalat Sektörü.* (Trans.). T. Güney. İstanbul: İletişim Yayınları, s. 292.

[1121] A.g.e., s. 41.

[1122] A.g.e., ss. 41, 107.

[1123] A.g.e., s. 108.

[1124] Ortaylı, 2012, s. 174.

Rehberi'nde ipek ve kumaş dokuma fabrikalarındaki üretimin cinsi ve miktarı ile işçi sayılarına dair bilgiler, ayrıca imalathanelerin konum bilgileri mevcuttur.[1125]

Bu bağlamda, Osmanlı'nın tekstil sektöründe dış pazarını kaybetmesine dayanarak literatürde geliştirilen "Osmanlı endüstriyel geri kalmışlık" fikrine Quataert haklı olarak karşı durur.[1126] Her ne kadar ham ipek üretiminde çeşitli dönemlerde çeşitli dalgalanmalar görülse de, genel olarak ham ipek üretimi, kalitesi ve ticaret hacmindeki artış ile tekstil sektöründeki uzun süreli direniş, Quataert'in savını destekler. Örneğin, Fransa ve İtalya'da ipekböceklerinde görülen hastalıkların Osmanlı şehirlerinde ve özellikle Bursa'da 1860'larda görülmesi ve 1869'da açılan Suveyş Kanalı aracılığıyla Japon ve Çin ipeklerinin Avrupa pazarına kolaylıkla ulaşması gibi faktörlere bağlı olarak ham ipeğin rekabet ortamında zorlu bir döneme girmesi ham ipek üretim sürecini sarsmıştır.[1127] Buna rağmen, 1860'larda fabrika sayılarındaki artış ve özellikle 1880'lerde ham ipek üretiminde artış gözlenmiştir; ayrıca dokuma faaliyetleri de belirli ölçüde devamlılık göstermiştir.

On dokuzuncu yüzyılda, Avrupa'ya ihraç etmek üzere ham ipek üretilirken sınırlı ölçüde ipekli kumaş da iç pazara yönelik üretilmeye devam etmiştir. Bu bağlamda, on dokuzuncu yüzyılda, imalat sektöründe Osmanlı tekstil ürünleri yabancı pazarlarını kaybederken, üretim iç pazara dönüktür; ham ipek ihracatında ise önemli başarılar kaydedilmiştir.[1128] 1850'lerde Bursa'da doğal felaketler gerçekleşmiştir ve aynı yıllarda baş gösteren ve 1880lerin sonuna kadar devam eden ipekböceği hastalıkları koza ve ham ipek üretimin önemli düzeyde düşmesine sebep olmuştur, ve ayrıca 1877-78 ve 1897-98 yılları arasındaki savaşlara bağlı ekonomik zorluklar geleneksel pazarı olumsuz etkilemiştir; tüm bunlara rağmen, Bursalı dokumacılar yılmadan üretime devam etmişler, 1890lı yılların ortasından itibaren ipekli kumaş

[1125] Hacıbeyzade Ahmed Muhtar. (Ed.). (1920/21). *Guide for Bursa Exhibition (1920/21 Bursa Sergisi Rehberi)*. İstanbul: Ahmed İhsan Matbaası, 1339, ss. 46-49.

[1126] A.g.e.

[1127] Quataert, 1993/1999, s. 223; Akkuş, T. (2010). *Meşrutiyet'ten Cumhuriyet'e Bursa Kent Tarihinde Gayrimüslimler*. İstanbul: Libra Kitapçılık ve Yayıncılık, s. 142.

[1128] Quataert, 1993/1999, ss. 41, 163, 168; Faroqhi, 2003/2018, ss. 99, 100.

üretimini artırmışlardır.[1129] Benzer nedenlerle ham ipek üretimi de etkilenmiş olmasına rağmen, yıkılan fabrikalar yeniden inşa edilmiş ve yeni fabrikalar da inşa edilmeye devam etmiştir.[1130]

Osmanlı dönemi mimarisinin temel ilkelerinin kuramsallaştırılması üzerine çalışan Şenyurt, geleneksel plan şemalarının, özellikle sofa, avlu, ve oda bileşenleri ile şekillenen konut mekânsal diziliminin, Osmanlı'nın on dokuzuncu yüzyılda inşa ettiği hükümet konağı, karakol ve okul gibi kamusal yapılarda da kullanıldığını belirtir.[1131] Şenyurt'un ayrıca Osmanlı mimarlık düşünce sisteminde varlığını sürdüren esnek mekân kurgusuna olan vurgusu da ilginçtir. Peker de, Anadolu Selçuklu Mimarisi üzerine yaptığı çalışmalarında, çok işlevli mimari mekânlara vurgu yapar ve esneklik fikrinin geleneksel Türk mimarisinde tasarımın temelinde işleve dayalı bir yaklaşımdan ziyâde, avlu, eyvan ve portal gibi mîmâri bileşenlerin çeşitli varyasyonlarıyla ve kavramsal yaklaşımlarla mimari mekânın üretilmesinde önemli rol oynadığını vurgular.[1132] Dolayısıyla, esneklik fikrinin, Anadolu Selçuklu dönemi mimarisine dayanan temel bir yaklaşım olduğu söylenebilir. On dokuzuncu yüzyıldan önce, idari işler için inşa edilmiş ayrı bir kamu yapısının olmaması ve kiralanan konaklarda idari işlerin sürdürülüyor olması nedenleriyle, geleneksel konut biçimleri, on dokuzuncu yüzyılda inşa edilen hükümet konakları için esin kaynağı olmuş ve orta sofalı ve avlulu konut plan şemalarının izleri yeni yapılara taşınmıştır; ayrıca, yeni yapılar, zengin konaklarının cephe düzenlerini yansıtırken, tıpkı onlar gibi, iç mekâna hâkim Barok üslûpla inşa edilmiş merdivenlere sahiptir.[1133] Bu anlamda, arşivde planlar incelendiğinde, epey örnekle karşılaşılabilir ve ayrıca, literatürde de bu minvalde gelişen savlar yaygındır. St. Laurent ve Avcı da çalışmalarında örnekler sunmaktadır.[1134] Şenyurt'un Osmanlı'nın özellikle ekonomik

[1129] Quataert, 1993/1999, ss. 205, 206, 209.

[1130] A.g.e., s. 217.

[1131] Şenyurt, O. (2015). *Osmanlı Mimarisinin Temel İlkeleri Resim ve İnşâ Üzerinden Geliştirilen Farklı Bir Yaklaşım.* İstanbul: Doğu Kitabevi, ss. 81, 84.

[1132] Peker, A. U. (2019). Anadolu Selçuklu Mimarisi IV. In . (Eds.) E. Altan & S. Enginsoy Ekinci. *İnci Aslanoğlu İçin Bir Mimarlık Tarihi Dizimi.* Ankara: ODTÜ Yayıncılık.

[1133]Şenyurt, 2015, ss. 131, 146.

[1134] Saint-Laurent, B. (1989). Ottomanization and Modernization: The Architectural and Urban

kaygılar nedeniyle yeni bir yapı inşa etmek yerine dönüştürerek kullanma, bilindik ve alışılageldik olanın devamlılığı ve geleneksel düşünceye dayanma gibi prensiplere dayanarak bu yönde bir tercihte bulunduğu üzerine tespitleri önemlidir.[1135] Buradaki tercihi ayrıca bu prensiplerle açıklamanın yanı sıra, St. Laurent, bu noktada yalnızca plan şeması değil, ayrıca, özellikle Bursa kenti örneğinde, inşa yöntemi olarak ahşap karkas yapım tekniğinin uygulanmasını da benzer nedenlerle açıklar.[1136] Bu anlamda, St. Laurent'in Osmanlı'nın asrın değişimine ve modernleşmeye hızla ayak uydurabilmek adına ahşap karkas sistem gibi bildik inşaat yöntemleriyle inşa etme yaklaşımının da göz önünde bulundurulması gerektiğine dair iddiası önemlidir.[1137] Ortaylı'nın da belirttiği gibi, Tanzimat'ın ahşap yapıları kâgire çevirme idealleri ekonomik ve çalışacak işçi bulamama gibi teknik nedenlerle her zaman amaca ulaşamamıştır.[1138] Yapı nizamnâmeleri, her ne kadar kâgir yapı yapma konusunda ısrar etmiş olsa da, kimi zaman ekonomik gerekçelerle, kimi zaman da ahşap karkas yöntem gibi bilindik yapı inşa yöntemlerinin tercih edilmesi sonucunda ahşap yapılar inşa edilmeye devam etmiştir. Ahşap karkas yapım tekniği, Bursa'da özellikle belediye binası, Abdülaziz'in ziyareti için inşa edilen Kasr-i Hümayun, ve pek çok fabrika yapılarında uygulanmıştır. Bir yapı malzemesi olarak kereste sadece ahşap karkas sistemle inşa edilen yapılarda değil, taş binalarda da kapı ve pencere gibi çeşitli mimari elemanların yapımında da kullanılmıştır. Bu anlamda, kerestenin Bursa çevresindeki ormanlardan toplanması, taşınması ve ticareti de bu tezin önemsediği bir konudur. Özellikle taşınması sürecinde yol yapım ve inşaat süreçlerine arşiv belgelerine dayanarak, beşinci bölümde değinilmiştir.

Üretimin gerçekleşeceği mekânların üretimi, geleneksel mekân üretim yöntemlerinden yararlanılırken, aynı zamanda yenilikçi ve modern yaklaşımların da

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Development of Bursa and the Genesis of Tradition, 1839-1914. PhD Dissertation, Harvard University, Michigan: Xerox University Microfilms; Saint Laurent, B. (1994). Ottoman Power and Westernization: The Architecture and Urban Development of Nineteenth and Early Twentieth Century Bursa. *Anatolia Moderna Yeni Anadolu V*. Institut Français d'Etudes Anatoliennes d'Istanbul, ss. 199-232; Avcı, Y. (2016). *Osmanlı Hükümet Konakları Tanzimat Döneminde Kent Mekanında Devletin Erki ve Temsili.* İstanbul: Tarih Vakfı Yurt Yayınları.

[1135] Şenyurt, 2015, ss. 81, 339.

[1136] St. Laurent, 1994.

[1137] A.g.e.

[1138] Ortaylı, 2012, s. 113.

mimari ve kent alanında hissedilebilir ölçüde yansıdığı bir ortamda gerçekleşmiştir. Örneğin, bir hükümet konağının inşa edilmesinde, yapı inşa yöntemi olarak ahşap karkas sistemin tercih edilmesi ve gelenekten gelen esnek mekân anlayışına dayanarak geleneksel konut planının uygulanmasıyla, geleneğin devamlılığını sağlanırken, bir fabrika yapısı örneğinde ise geleneksel esnek mekân anlayışından ziyade üretim temel alındığında işlevin ön plana çıktığı mekânsal düzenlemeler ve cephe düzenleri modern bir anlayışla ön plana çıkabilmiştir. Gelenek ve modernin iç içe geçtiği mimarlık ortamı, böylelikle deneyimlenebilmişti.

Genel Osmanlı imalat sektöründeki konut içi üretim, kırsal ve kentsel alanlarda eve sipariş verme biçimleri, kentsel atölyeler ve makine ile imalat yapan fabrikalar gibi çeşitlilik içinde fabrika üretiminin payının küçük olmasına rağmen, fabrikalar kent dokusunda belirgin dönüşüme neden olan yapısal faktörlerdir, ve diğer üretim alanlarının mekânsal yansımalarına dair bilgiler literatürde sınırlıdır.[1139]

Fabrika yerleşimi konusunda su kaynaklarına yakınlık tek kriter değildir; 1850lerde fabrika inşa eden yatırımcıların aynı zamanda önemli bir işgücü sağlayan Rum ve Ermeni mahalleleri yakınlarında fabrika kurma stratejileri ev içinde ve dışındaki ipek üretimi entegrasyonunu sağlamada da etkili olmuştur.[1140] Diğer taraftan, kimi yatırımcılardan ipekböcekçiliği ve koza üretimi ile uğraşan köylü ailelere mensup işçilere barınma olanağı sağlamak üzere, fabrika binaları yanında derme çatma konaklama mekânları inşa etmişlerdir.[1141]

Ayrıca, fabrika işçilerinin de ikamet ettiği düşünülen kimi göçmenler için kimi de yangın sonrası inşa edilmiş olan planlı mahalleler de mekânsal dönüşüm bağlamında ele alınır. Karpat'ın da belirttiği gibi, modern şehircilik anlamında ilk önemli girişimlerin Osmanlı iskân politikaları ile başladığı söylenebilir.[1142] 1877 yılında yeniden oluşturulan Muhacirin Komisyonu, göçmenlerin iskânı için önemli çalışmalar yapmıştır. Bursa kentinin çevresinde oluşturulan göçmen köyleri yanı sıra,

[1139] Quataert, 1993/1999, s. 301.

[1140] A.g.e., s. 229.

[1141] A.g.e.

[1142] Karpat, 2008/2019, s. 130.

kent içinde de geç Osmanlı döneminde planlı göçmen mahalleleri kurulmuştur. Planlı göçmen mahallelerini, İzmir örneğini inceleyen Bilsel de özgün bir ifadeyle "on dokuzuncu yüzyılın mekân üretim biçimleri"[1143] olarak değerlendirir.[1144] Ankara'da da Boşnak Mahallesi, planlı göçmen mahallelerinin bir örneğidir. Mecidiye şehri de, Kırım mühacirleri ve yerli halkın iskânı için ticaret merkezi olarak, ayrıca Orta Dobruca'nın tarım topraklarının verimli kullanılması ile tarımsal kalkınmayı sağlamak amacıyla 1856'da inşa edilmiştir.[1145] Ayrıca Şenyurt, göçmen mahalleleri ve yerleşim alanlarında uygulanan ızgara plan sisteminin Haussmann'ın Paris kenti tasarımından esinlenildiği fikrine dayanan literatürdeki genel kanının ötesinde, bu planlı alanların aslında Osmanlı'nın mıstar tahtası çizim geleneğine dayanan bir mimari duyarlığın sonucu olduğunu iddia eder.[1146]

Bursa kent merkezinde kurulan planlı göçmen mahalleleri devletin nüfus dağılımında müslüman ve gayri-müslüman dengesini sağlama prensibine dayanan iskân politikası gereği Ermeni mahallerini saracak şekilde tasarlanmıştır.[1147] Ayrıca, şehir içinde, örneğin Rusçuk Mahallesi 1880lerde göçmenler tarafından kurulmuştur.[1148] Planlı mahallerin inşa edilmesinin arkasındaki tek faktör göçmenlerin yerleştirilmesi değildir; örneğin, Sedbaşı Mahallesi 1863 yılında yangın sonucu tamamen yok olmuş, Balkan göçmenleri 1912 yılında bu mahallede iskân edilmişlerdir.[1149]

Dördüncü bölüm, Bursa'nın tarım alanlarının, göçmen köylerinin ve doğal kaynaklarının hâkim olduğu hinterlandının zirai üretim aracılığıyla dönüşümüne odaklanmaktadır. Bursa'nın hinterlandı olarak değerlendirilen özellikle Mihaliç ve

[1143] "modes of space production"

[1144] Bilsel, F. C. (1999). The Ottoman Port City of İzmir in the Nineteenth Century: Cultures, Modes of Space Production and the Transformation of Urban Space. In A. Batur and N. Akın (Eds.). *7 Centuries of the Ottoman Architecture.* İstanbul: YEM Yayınları, ss. 225-233.

[1145] Karpat, 2008/2019, ss. 130, 131.

[1146] Şenyurt, 2015, ss. 165, 166.

[1147] Kaplanoğlu, Raif and Ozan Kaplanoğlu. (2013). *Bursa'nın Göç Tarihi.* Bursa: Nilüfer Belediyesi Yayınları, s. 58.

[1148] Kaplanoğlu, R., & Kaplanoğlu, O. (2013). *Bursa'nın Göç Tarihi.* Bursa: Nilüfer Belediyesi Yayınları, s. 243.

[1149] A.g.e., s. 248.

Kirmasti kazâlarını kapsayan bu geniş alan önceki yüzyıllarda da mekânsallaşmış, yerleşimler oluşmaya başlamıştır. Tarımın ticarileşmesi ve büyük ölçekli tarlaların kurulması bir ölçüde gerçekleşmeye başlamıştır. Ancak, özel mülkiyet hakkının yasallaşması on dokuzuncu yüzyılda kanunlarla sağlanmıştır. Ayrıca, göçlerle birlikte bataklıkların kurutulması ve kırsal alanlarda asayiş ve güvenliğin de sağlanması ile birlikte daha geniş alanlarda toprağın tarıma açılması gerçekleşmiştir. Dolayısıyla, hinterland olarak değerlendirilen bölge, artan tarımsal üretimle birlikte yerleşimlerin biçimlenmesine tanık olmuş, ve yeni bir görünüme bürünerek dönüşmüştür. Bu bölümde, zirai üretimin geçimlik tarımdan ticari tarıma geçiş süreci özetlenmekle birlikte, kanunlar ve zirai eğitim kurumları aracılığıyla tarım sektöründe kurumsallaşma konusu incelenmektedir. Tarımsal üretim yapıları, zirai eğitimin verildiği ziraat okulları ve at ıslahı ve yetiştiriciliği amacıyla kurulan hara kompleksleri mimari ve kentsel bağlamda tartışılmaktadır. Göçmen köyleri de, özellikle devletin göçmen iskân politikaları ve hinterlanda uzanan mekânsal dönüşüm bağlamında bu bölümdeki tartışmanın odağını oluşturmaktadır.

Karpat'a göre, Tanzimât Dönemi, III. Selim döneminden beri çabalanan yapısal ve kurumsal değişimlerin yasal ve siyasi açıdan tanınmasıdır.[1150] Kronolojik olarak, 1838 İngiliz Ticaret Antlaşması ile ticarette serbestleşme, 1839 Tanzimat ve 1856 Islahat Fermanları ile hukuki konularda düzenlemeler, 1858 Arazi Kanunnamesi ile toprak mülkiyetinde dönüşümler ve 1867'de çıkarılan kanun ile yabancılara toprak mülkiyet hakkı tanınması gibi süreçler, tarımın canlanması ve ticarileşmesi ile üretim biçimlerinin değişmesini sağlamıştır; dolayısıyla bu süreç kentin mekânsal ve yapısal dönüşümlerini de olanaklı kılmıştır. Devletin merkezileşmesi sürecinde, özellikle on dokuzuncu yüzyılda ayanların gücünün azaltılmasıyla, onların sahip oldukları büyük ölçekli çiftliklerin köylüye dağıtılması, küçük ve orta ölçekli aile işetmelerinin önemini ve varlığını koruma aşamasında çok önemli bir aşamadır.[1151] Ayrıca, büyük toprak sahiplerinin de öte yandan ücretli tarım işçisi bulamaması ve yerel grupların

[1150] Karpat, K. (1974). The Stages of Ottoman History, A Structural Comparative Approach. In K. Karpat (Ed.). *The Ottoman State and Its Place in World History.* Leiden: E. J. Brill, s. 95.

[1151] Pamuk, 1987, s. 189; Tekeli, 2019, s. 12.

muhalefeti ile karşılaşmaları, küçük üreticinin[1152] varlıklarını sürdürmesini ve büyük toprak sahipleri karşısında dayanabilmesini mümkün kılmıştır.[1153] 1867'de yabancılar da büyük toprak sahibi olabilmelerine rağmen, aynı nedenle gelişememişlerdir, ve demiryolu boyunca yabancı köylüleri yerleştirme girişimleri de olumlu sonuçlanmamıştır; devlet, göçmenleri hat boyunca yerleştirmiştir.[1154] Osmanlı Devleti, böylelikle, iç işlerinde egemenliğini korumayı başarabilmiştir.[1155] Dünya pazarına ihraç edilen tarımsal ürün, önemli ölçüde küçük yatırımcı kitlesi ile sağlanabiliyordu; dolayısıyla, devlet, mâlî durumunu korumak ve tarımsal ürün ihracından kâr elde edebilmek amacıyla büyük toprak sahiplerinin karşısında küçük ve orta ölçekli tarımsal yapıları desteklemiştir.[1156]

Tarımsal üretimde on dokuzuncu yüzyıl sonlarına doğru ciddi bir artış gözlenmiştir. Modern makine ve aletlerin tarımda kullanılmasını teşvik etmek amacıyla devletin numune tarlalar ve ziraat okulları açması bu artışı destekleyen önemli bir adımdır. Özellikle, göçmenlerin önceden sahip oldukları tarım bilgisi sayesinde modern makine ve aletleri hızla uygulamaya geçirebilmesi de tarımda mekanizasyon ve üründe artış anlamında önemli bir aşamadır. İngiliz Konsolosu Sandison'un 1864 yılında kaydettiği Bursa Ticaret Raporu'na referansla, Baskıcı'nın belirttiğine göre, Bursa'da yalnızca pulluk ve tırmık gibi basit zirai aletler değil, ayrıca harman dövme makinesi, biçerdöver ve buhar gücü ile çalışan pulluklar da ilk defa 1861'de yaygın biçimde kullanılmıştır.[1157] Amerikan yapımı biçer döver ve harman dövme makinaları da on dokuzuncu yüzyıl sonunda Akdeniz Bölgesi'nde tanıtılmıştır.[1158]

[1152] Küçük üretici, ayrıca toprağın kıt olduğu yerlerde de ortakçılık yaparak üretime devam ediyordu (Tekeli, 2019, s. 12).

[1153] Pamuk, 1988, s. 134; Quataert, 2005, s. 133; Tekeli, 2019, s. 12.

[1154] Quataert, 2005, s. 134; Tekeli, 2019, s. 12.

[1155] Quaatert, 2005, s. 134.

[1156] Pamuk, 1987, ss. 201, 202; Pamuk, 1988, ss. 133, 134.

[1157] Baskıcı, 2011, s. 71.

[1158] Karpat, 2008/2019, s. 97.

1900'lü yıllar itibariyle, demir saban, biçerdöver ve diğer gelişmiş zirai teknolojiler, Balkanlar, Anadolu ve Arap kırsal alanlarında kullanılıyordu.[1159]

Bursa çevresindeki bataklık alanların artan nüfusun yerleşim alanlarına doğru ve aynı şekilde yerleşim alanlarının da bataklık alanlara doğru genişlemesi, üretim yapma potansiyeli taşıyan çevredeki bu alanların ıslahını gerekli kılmıştır.[1160] 93 Harbi olarak bilinen 1877-78 Osmanlı-Rus savaşı sonrasında Osmanlı'nın kaybedilen topraklarından göçen nüfusun[1161] tarımsal bilgisi ve göçmenlerin tarımsal mekanizasyonda oynadıkları rol, bu süreci belirli bir ölçüde yönlendirmiştir.[1162] Kent ekonomisinin gelişmesinde göçmenlerin katkısı önemlidir; göçmenlerin iskânı ile tarıma kazandırılan alanlar genişlemiştir ve dolayısıyla tarımsal ürünlerin ihracatı da artan verimlilikle doğru orantılı olarak hız kazanmıştır.[1163] Göçmenlerin büyük çoğunluğu, Batı Anadolu'da tarım alanlarında önemli bir iş gücünü teşkil ederken, diğer bir kısmı da ticarette ve demiryolu inşaatında aktif olmuşlardır.[1164] Ayrıca, göçmenlerin kullandığı dört tekerlekli arabalar da daha fazla yük taşıyabilme imkânı ile tarımsal ürünün pazara kolay ulaştırılmasını sağlamıştır ve tarımın dış pazara

[1159] Quataert, 2005, s. 133.

[1160] Küçükceran, Z. (2019). Agriculture and Agricultural Knowledge in Bursa and Mihaliç (Karacabey) in the Nineteenth Century. PhD Thesis. Boğaziçi University. Department of History, s. 257.

[1161] Göçün nüfusa etkisi: On dokuzuncu yüzyılda Balıkesir, Çanakkale, İzmir, Kütahya, Eskişehir'in bir kısmı ve Bozüyük de içine dahil olduğu Hüdâvendigar eyaletinin merkezi Bursa'dır (Ortaylı, 2012, s. 174). Karpat'ın sunduğu verilere göre, 1831'de Hüdâvendigar vilâyeti nüfusu 169.058 ve Bursa merkez nüfusu 16.118 iken, 1877-78 yıllarında, Hüdâvendigar vilâyeti nüfusu 365.985 ve Bursa merkez nüfusu 120.426'dır (Karpat, K. (2010). *Osmanlı Nüfusu 1830-1914.* Timaş Yayınları; aktaran: Kağıtçıbaşı, E. & Yaşar, E. (2014). *Bursa'nın Ekonomik Tarihi 1900-1960.* 2nd Volume. Bursa: Uludağ Üniversitesi, s. 48). 1895 tarihli Vilayet Salnâmesine göre, Hüdâvendigar vilâyeti nüfusu 1.458.069 iken, Bursa, vilâyetin merkez sancağıdır ve sancağın nüfusu -Mudanya ve Gemlik iskeleleri, Mihaliç, Kirmasti, Atranos, Pazarköy ilçeleri ve 684 köyü de dahil olmak üzere- 293.598'tir (Kağıtçıbaşı & Yaşar, 2014, s. 9).

[1162] Raif & Ozan Kaplanoğlu, 2013, ss. 46, 96; Karpat, 2008/2019, s. 129; Küçükceran, 2019, ss. 269-270.

[1163] Raif & Ozan Kaplanoğlu, 2013, s. 96.

[1164] Kasaba, R. (1991). Migrant Labor in Western Anatolia, 1750-1850. In Ç. Keyder & F. Tabak (Eds.). *Landholding and Commercial Agriculture in the Middle East.* Albany: State University of New York, ss. 113-116; Karpat, 2008/2019, ss. 129, 134.

açılma olanağını, özellikle Batı Anadolu, Marmara, Doğu Karadeniz ve Çukurova Bölgeleri'nde artırmıştır.[1165]

Devletin göçmenlerin iskânı politikası ile yürüttüğü çalışmalar önemlidir. 1877 yılında yeniden oluşturulan Muhacirun Komisyonu'na bağlı İzmit, Mudanya, Bandırma ve Gemlik'te memur bulundurulmasına 1878'te karar verilmiştir.[1166] Göçmenlerin batı illerini tercih etmeleri ve devletin de bu talebe cevap verme çabası Batı Anadolu'da özellikle Bursa'da yerleşim anlamında sıkışıklıkla sonuçlanmıştır.[1167] 1892'de komisyon bir defter hazırlamış ve yalnızca Batı illerinde değil, tüm ülkede yerleşime uygun araziler belirlenmiştir.[1168] Göçmenlerin bir kısmı iskân edildikleri bölgeden İstanbul ve Rumeli'ye olan uzaklık, ulaşım ağı yetersizliği, elverişsiz iklim koşulları, coğrafi alan tercihleri, hastalıklar ve kendi aralarında veya yerli halkla çatışmalar gibi nedenlerle itiraz etmişler ve kendi imkânlarıyla göçmeye başlamışlardır.[1169] Devletin iskân politikası olarak, yerleştirilen alanlarda gayri-Müslüman ve Müslüman halkın nüfus dengesi sağlanmaya çalışılmıştır; su kaynaklarına yakınlık yerleşim kriteri olarak önemsenmiştir; ayrıca, askeri stratejik açıdan önemli noktalara da, örneğin Samanlı Dağları, göçmenlerin yerleştirilmesi uygun görülmüştür.[1170] Göçmen yerleşimleri için merkezde hazırlanan tip projeler tek katlı veya iki katlı olarak planlanmış, ayrıca cami, mektep ve çarşı gibi sosyal donatılar da içermektedir.[1171] Arşiv belgelerinde görüldüğü üzere, kurulacak göçmen köylerine ait çizimler mimari çizim tekniği açısından zayıftır, daha ziyade kroki olarak şematik bir dile sahiptir. Şenyurt da, 1903 tarihli bir arşiv belgesinde seraskerliğin bu konudaki görüşünün, hızlıca

[1165] Tekeli, 2019, s. 11; Raif & Ozan Kaplanoğlu, 2013, s. 96.

[1166] Raif & Ozan Kaplanoğlu, 2013, ss. 54-55.

[1167] A.g.e

[1168] A.g.e., s. 55.

[1169] Quataert, 2005, s. 132; Raif & Ozan Kaplanoğlu, 2013, ss. 57, 75, 77; Karpat, 2008/2019, s. 129.

[1170] Raif & Ozan Kaplanoğlu, 2013, ss. 58, 59.

[1171] Şenyurt, O. (2011). *Osmanlı Mimarlık Örgütlenmesinde Değişim ve Dönüşüm.* İstanbul: Doğu Kitabevi, s. 114; Şenyurt, 2015, s. 167.

uygulamaya geçilmesi için çizimlerin basit ve kolay anlaşılabilir olması yönünde olduğuna işaret eder.[1172]

Devletin önemli ölçüde öncülük ettiği tarımsal alanda kaydedilen gelişmeler, Avrupa'nın artan ham madde talebi, imparatorluk genelinde nüfus artışı, devletin merkezileşme politikaları ve reformlar ile iç güvenliğin sağlanması, 1860'lardan itibaren modern zirai alet ve makinelerin kullanılması, zirai krediler sunan finansal kurumların faaliyete geçmesi, teorik ve pratik eğitim sunan modern ziraat okulları ve model tarlaların inşası ve çiftçiye vergi muafiyeti gibi kolaylıklar sağlanması şekillerinde gerçekleşmiştir.[1173] Finansal açıdan belirtmek gerekir ki, Ziraat Bankası'nın Anadolu'da sağladığı kredilerin yaklaşık yarısı, Aydın ve Bursa vilayetlerindeki tarım işçileri tarafından kullanılmıştır.[1174] 1858 tarihli Arazi Kanunnamesi ile toprak mülkiyet hakkının tanımlanması ve 1867 tarihinde yabancılara da toprak sahibi olma hakkının tanınması gibi düzenlemeler de ihracat için büyük çiftlikler kurulmasını teşvik etmiştir.[1175] Böylelikle geçimlik tarımdan ticari tarıma geçiş süreci hızlanmıştır. Geçimlik tarımdan pazara yönelik tarımsal faaliyetlere geçişin arkasında yatan iki temel sebep vardır.[1176] Öncelikle, Avrupa'nın tütün, incir, ham ipek, tiftik, afyon, fındık ve hububat gibi ham maddeye olan artan talebi ve buna yönelik limanlardaki tüccarların köylüyü dış pazara teşviki bu süreci önemli ölçüde yönlendirmiştir.[1177] İkinci olarak ise, kentli nüfusun da talebi artmıştır ve ayrıca köylünün kendi ürettiği iplik kumaş gibi ürünler Avrupa'nın iç pazara nüfuz eden ucuz ithal sanayi ürünleri ile karşılanması neticesinde artan para ihtiyacını karşılamak üzere iç pazar için de üretim gerçekleşmiştir.[1178] Büyük ölçüde

[1172] Şenyurt, 2015, s. 197.

[1173] Quataert, D. (1975). Dilemma of Development: The Agricultural Bank and Agricultural Reform in Ottoman Turkey, 1888-1908. *International Journal of Middle East Studies,* Vol. 6, No. 2, ss. 210-227; Baskıcı, 2011, ss. 69, 70, 73.

[1174] Quataert, 1975.

[1175] Baskıcı, 2011, s. 72.

[1176] Tekeli, 2019, s. 11.

[1177] Tekeli, 2019, s. 11; Karpat, 2008/2019, s. 97.

[1178] Tekeli, 2019, s. 11.

zirai ekonomiye dayanan reform programının[1179] nihai sonucunda deneyimlenen tarım alanındaki gelişmeler ve tarımsal ürünün artışı, çok geniş zirai alanların tarıma açılarak yayılması ve gelişmesini sağlamıştır.[1180]

On dokuzuncu yüzyıl modernleşmesinin devlet tarafından planlandığı ve uygulandığını gösterir nitelikteki bu gelişmelerin temelinde tarımsal üründe önemli bir artış olduğuna dair literatürde ortak bir kanı mevcuttur.[1181] Bu artış, Anadolu limanlarında ihracat oranlarındaki artış ile doğru orantılıdır.[1182] Ayrıca, merkezi hükümet anlayışının geliştirilmesi amacıyla reform sürecinde yeniden yapılandırmaya gidilmiş, kırsal alanlarda güvenlik ve asayişin sağlanması ile bataklıkların kurutulması, kentin çevresinde yerleşim alanlarının biçimlenmesini sağlamıştır. Karpat'ın deyimiyle, Tanzimat döneminin tarım alanındaki başarısı, diğer Osmanlı modernleşme unsurlarını da biçimlendirmiştir.[1183] On altıncı yüzyılda üretim, ticaret ve inşaat alanlarındaki gelişmeler kentsel büyüme ve gelişmeyi sağlamıştır; dolayısıyla, ham madde ve pazarlara olan yakınlıkları ile iç bölgelerdeki şehirler önemli ölçüde gelişme kaydetmiştir.[1184] Karpat'a göre, on dokuzuncu yüzyılda ise, dış ticaret hacmindeki artış ve dolayısıyla kentsel gelişme daha çok tarımsal ürünlerin ihraç kapısı liman şehirlerinde gerçekleşmiştir.[1185] Başka bir deyişle, tarımsal üretim hacminin genişlemesine dayalı veriler göz önüne alındığında, on dokuzuncu yüzyılda çok önemli düzeyde bir başarının tarım sektöründe gerçekleştiği görülür.[1186] Dolayısıyla, kaydedilen bu gelişmelerin önemli kentsel ve yapısal sonuçları olmuştur. Mimarlık ve kent tarihi alanında yapılan bu tez

[1179] Quataert, 1975.

[1180] Quataert, 2005, s. 132.

[1181] Arıcanlı, Tosun. (1991). Property, Land, and Labor in Nineteenth-Century Anatolia. In Ç. Keyder & F. Tabak (Eds.). *Landholding and Commercial Agriculture in the Middle East.* Albany: State University of New York, ss.124-127; Quataert, 1983/2017, ss. 29-31; Baskıcı, 2011, s. 72; Çiftçi, C. (2012). *Osmanlı Döneminde Mudanya İskelesi ve Gümrüğü.* Bursa İktisat Tarihi Araştırma ve İnceleme Dizisi: 1. Bursa: Bursa Kültür A. Ş.; Karpat, 2008/2019, ss. 97-99, 135, 150.

[1182] Baskıcı, 2011, s. 72.

[1183] Karpat, 2008/2019, s. 142.

[1184] A.g.e., s. 144.

[1185] Pamuk, 1987, s. 195; Karpat, 2008/2019, s. 144.

[1186] Karpat, 2008/2019, s. 97.

de, bu mimari sonuçları, on dokuzuncu yüzyıl Osmanlı mimari mekân üretimi bağlamında değerlendirmektedir. Ayrıca, Bursa kentinin gelişmesinde, Mudanya limanının varlığı ve gelişimi ile kent-liman bağlantılarının demiryolu ve karayolunun inşaatı aracılığıyla modernleşmesi ve gelişmesinin katkısı önemlidir.

Osmanlı erken dönemlerinde at nesillerinin ıslah ve üretiminden Hayvanat Ocakları sorumludur; on dokuzuncu yüzyılda ise bu görevi Harbiye Nezareti Çiftlikat Şubesi'ne bağlı Hârâ İdaresi sürdürmüştür.[1187] Kurulan Hârâ-yı Hümayunlardan bazıları Eskişehir'de Çifteler, Malatya'da Sultansuyu, Bağdat'da Veziriye, ve Adana'da Çukurova Çiftliği'nde teşkil edildi.[1188] Üretimin ticari, hayvan ıslahının ise fenni bir çaba olduğunu ifade eden Akıncı, Çifteler Çiftlikât-i Hümayun'un yalnızca orduya hayvan sağlamak amacıyla kurulan bir üretim merkezi değil, aynı zamanda da at ırkının ıslahını sağlayacak damızlık unsurlar yetiştiren bir ıslah kurumu olduğunu vurgular.[1189] Ayrıca, göçmenler, Çifteler Çiftlikât-i Hümayun arazisinde pulluk ve tarım aletlerini başarılı şekilde kullanmışlardır.[1190] Mihaliç'te kurulan at çiftliği de dahil, hârâların üst ölçek mekânsal planlamalarında ortak özellikleri ana yola ve su kaynaklarına yakın olarak konumlandırılmalarıdır. Yukarıda da belirtildiği gibi, ilk kuruluş amaçları at yetiştirme ve üretimi olsa da, tarımsal üretimde de önemlidirler.

Özetle, üçüncü ve dördüncü bölümde tartışılan hususlar bir arada düşünüldüğünde, on dokuzuncu yüzyılda gelişen teknoloji, yeni işgücü kaynağı, muhacirler, ve beraberinde getirdiği teknik bilgi, yerli tüccarlar ve yabancı yatırımcılar aracılığıyla artan yatırımlar, üretim biçimlerinin değişiminde ve kentin çevresiyle birlikte mekânsal dönüşümünde etkili olmuştur. Değişen üretim biçimleri tarımda modern alet ve makinaların kullanımını ve endüstriyel üretimde ise fabrikasyon üretimi gerekli kılmıştır; dolayısıyla üretim düzeyi ve verimliliği yükselirken, ticaret hacmi de artmıştır. Tarım alanında zirai üretimdeki çeşitlilik ve artış ve endüstri alanında

[1187] Ihsan Abidin [Akıncı]. (1917/2017). *Osmanlı Atları.* (Prep.). T. M. Türkmenoğlu. İstanbul: Milenyum Yayınları, ss. 46, 47.

[1188] A.g.e., s. 47.

[1189] A.g.e., s. 263.

[1190] A.g.e., s. 262.

ise yerli ham ipek kalitesi ve üretimindeki artış, yalnızca modern teknolojinin değil doğal kaynakların da verimli kullanılmasının bir sonucudur. Modern alet ve makinaların depolanması ve üretime entegre olma sürecinde, geleneksel Osmanlı esnek mekân anlayışından farklı olarak işleve dönük endüstriyel ve zirâi mekân üretimi de kaçınılmaz olmuştur. Geçmişte de, üretim yine işleve dönük mekânlarda, örneğin endüstri alanında atölyelerde, tarım alanında ise ahır, şemhâne (mumhâne), tabakhâne, boyahâne ve süthâne gibi mekânlarda[1191] gerçekleşiyordu. Ancak, geleneksel konut, diğer taraftan, hem kendi iç mekânı hem de bahçe müştemilatı düşünüldüğünde, ev olma işlevi yanında üretim mekânlarını da barındırabiliyordu. On dokuzuncu yüzyılda gelinen noktada ise, teknolojik aletlerin depolanması, eğitim, örnek tarlalar, fabrika tipi makinaların mekânsal yerleşimi gibi hususlar göz önüne alındığında, tasarlanan üretim ve eğitim mekânlarının geniş bir alanda bir üretim ve eğitim kompleksi şeklinde tasarlandığı, işlevselliğin ön plana çıktığı bir anlayışta üretildiği görülür. Ancak, kentte belirli bir odak noktası oluşturmak yerine, fabrikalar, ipekçilik okulu gibi uzmanlık okulları, mahalle ölçeğinde, konut yapısını andıran bir mimari biçimde ve anıtsal olmayan yapılar olarak kentsel dokuya entegre olabilmişlerdir. Zirai yapılar ise, kent çeperinin ötesinde kırsal çevreye yayılan bir alanda, idari binası ve üretim mekânları ile geniş bir alana yayılarak önemli bir alan işgal etmişler ve doğal alanların da verimli kullanılmasıyla birlikte, teknoloji kullanımın yaygınlaşmasına ve ticaret hacminin gelişmesine önemli düzeyde katkı koymuşlardır. Zirai yapılar "ziraat okulu ve numune tarlası" veya "hârâ" konseptinde inşa edilirken, bahsedilen geleneksel tarımsal yapılardan ve tarlalardan farklı olarak yalnızca hayvansal endüstriyel üretim veya tarımsal üretim amaçlı değil, hayvan ıslâhı ve eğitim gibi fenni konulara da öncelik ve ağırlık veren mekânlar olarak tasarlanmış ve inşa edilmişlerdir.

Beşinci bölümde, kentin liman bölgelerinin, sınırlarının, ticaret için geliştirilen ulaşım araçlarıyla dönüşümü tartışılır. Teknolojik gelişmelerden yararlanılarak geliştirilen kentsel ulaşım araçları, kervan yolu, karayolu, demiryolu ve denizyolu planlamaları ve yatırımları bağlamında incelenir. Geç Osmanlı döneminde özellikle gelişen ulaşım ve ticari yapıları mimari bağlamda tartışılır. Alternatif ulaşım

[1191] Bu mekânlar hakkında daha detaylı bilgi ve yorumlar için bakınız: Karademir, Zafer. (2016). *İmparatorluk Ekonomisinin Can Damarları: Osmanlı Ülkesinde Hayvancılık İşletmeleri (1500-1800).* İstanbul: Libra Kitapçılık ve Yayıncılık.

biçimleri ve alt yapısal gelişmeler, yalnızca yerleşimler arasında çok gelişmiş bağlantılar ve üretim ve dağıtım için verimli alanlar ve mekânsal nitelikler sunmaz; aynı zamanda, kentlerin gelişimine ve kalkınmasına da katkı koyar. Ayrıca, genel anlamda, kent-demiryolu-liman bağlantıları ilişkileri tartışılırken, özellikle Mudanya-Bursa Demiryolu incelenir. Karayolu planlaması ve gelişmesi de alternatif bir ulaşım aracı olarak hinterlanda yayılan yerleşimleri birbirlerine ve ayrıca merkeze bağlamakta ve demiryolu ile de daha geniş ölçekte bütünleşmektedir. Buharlı gemilerin faaliyetleri ile canlanan limanlar da tüm bu ulaşım biçimlerinden üst düzeyde yararlanır. Ulaşımda bütünlük ayrıca ulaşım ve ticaret yapılarının inşası ile kuvvetlenirken, ticaret hacmi de artar. Mudanya ve Gemlik limanları özellikle bu süreçte önemli roller üstlenir. Kentsel bağlamda altyapı ve mimari bağlamda ise ulaşım ve ticaret yapıları özellikle tartışılır.

Endüstriyel ve tarımsal üretimdeki artış, ürünlerin hem Osmanlı şehirlerine hem de Avrupa'ya daha gelişmiş ulaşım biçimleri ile transferini gerekli kılmıştır. Kervan yolları, alternatif ve karayolunu destekleyici bir ulaşım sistemi olarak varlığını sürdürürken, yol profillerinin hesaplandığı ve çizildiği projelerin de hazırlanmasının ardından genişletilen ve yeni inşa edilen kara yolları kenti hinterlanda, hinterlandı da limanlara, dolayısıyla hem iç pazara hem de dış pazara, ulaştırmıştır. Bursa ve Mudanya limanı arasında inşa edilen Mudanya-Bursa demiryolu da modern bir ulaşım biçimi olarak yalnızca kentte üretilen ipeğin Mudanya limanına ve oradan da özellikle Lyon'a transferini mümkün kılmamış, ayrıca göçmenlerin, seyyahların, termal oteller için kente akın eden ziyaretçilerin de ulaşımını zamansal, mekânsal ve ekonomik açılardan daha kolay ve mümkün kılmıştır.

Erken modern Osmanlı kentleri ticari mekânları, hanlar, kervansaraylar ve pazar alanları on dokuzuncu yüzyılda varlığını sürdürmeye devam etmişlerdir. Ancak, ulaşım teknolojilerindeki gelişmeler ve üretimde ve ticaret hacmindeki artış, oteller, tren istasyonları gibi yeni yapı tiplerinin inşasını gerekli kılmış, ticari ilişkiler, farklı bir mekânsal düzende ve düzeyde gelişimine devam etmiştir.

Tren istasyonları stratejik noktalarda konumlandırılmıştır. Bursa örneğinde, Çekirge örneğin, sahip olduğu termal hamamlar ve oteller dolayısıyla kent için önemli bir

durak noktasıdır. Kent içinde üretilen ham ipeği yeni açılan veya genişletilen caddelerle istasyona taşımanın mümkün olduğu caddelerin demiryolu ile kesiştiği noktalar da ticaretin devamlılığı anlamında stratejik öneme sahiptir ve tren istasyonu inşası için önemli durak noktalarıdır. Osmanlı düşünce dünyasında, limanlar, ilk karşılama veya dünyaya açılma kapısı olarak görülür. Bu nedenle, Mudanya Tren İstasyonu, hat üzerindeki diğer tek katlı ve küçük ölçekli istasyon yapılarına kıyasla daha büyük ölçekli, donanımlı ve ihtişamlı tasarlanmıştır. Bu yaklaşım, demiryolu inşa edilen pek çok Osmanlı kentinde gözlemlenebilir.

Kentsel gelişmeler açısından finansal öneme sahip Osmanlı Bankası da, Ziraat Bankası gibi inşaat yatırımlarının gerçekleşmesinde önemli rol oynamıştır. Zaman içinde halkın ve yatırımcıların güvenini kazanan banka, Osmanlı kentlerinde şubeler açma kararı almış,[1192] 1875'te de Osmanlı Bankası Bursa şubesi açılmıştır.[1193]

On dokuzuncu yüzyılda, ulaşım planlamaları ve inşaatları açısından gelinen düzeyde, Bursa'daki karayolu ve demiryolu gelişimi, gezginlerin, göçmenlerin, yatırımcıların ve tüccarların ulaşımını kolaylaştırmıştır. Termal hamamlara ve doğal sıcak su kaynaklarına sahip Bursa kenti, ayrıca sağlık kaynağıdır. Tüm bu nedenlerle, otel inşaatları da kent içinde ve özellikle kentin görece uzak çeperinde konumlanan Çekirge semtinde yaygın hâle gelmiştir. Özellikle seyyah notlarına dayanarak, Bursa'da Avrupa standartlarında oldukça konforlu otellerin varlığına dair bilgiler edinmek mümkündür; oteller, kentin ekonomik anlamda gelişimine de katkı sağlamıştır.

Üçüncü, dördüncü ve beşinci bölümler özetle genel anlamda düşünüldüğünde, mekânsal dönüşüm anlamında özetle bazı yorumlar yapmak mümkündür. On dokuzuncu yüzyıl, geçmiş yüzyıllara kıyaslandığında, pek çok gelişmeye sahne olmuştur. Osmanlı kentlerinin endüstriyel ve teknolojik gelişmeleri önemli ölçüde deneyimledikleri on dokuzuncu yüzyılda, temelde, üç düzeyde kentsel gelişim ve

[1192] Eldem, Edhem. (1999b). The Imperial Ottoman Bank: Actor or an Instrument of Ottoman Modernization? In K. Kostis (Ed.). *Modern Banking in the Balkans and West-European capital in the Nineteenth and Twentieth Centuries.* Aldershot, Ashgate.

[1193] D Dostoğlu Türkün, N. and Oral, E. Ö. (1999). The Physical Transformation of the Ottoman Capital of Bursa from Tanzimat to Republic. In A. Batur and N. Akın (Eds.). *7 Centuries of the Ottoman Architecture.* İstanbul: YEM Yayınları, s. 237.

kentleşme çabalarından söz edilebilir. Endüstriyel, zirai, ve ticari gelişim düzeylerinde mekânsal dönüşüm, üreten, tüketen, dağıtan ve ticaret yapan şehirlerde gerçekleşmiştir. Bu süreçte, kimi daha ön planda ve gelişmiş bir model sunarken, kimi kentler ise arka planda gelişimini farklı bir ölçekte sürdürmüştür. Kentlerin, doğal, topoğrafik ve fiziki özellikleri, kentlerin mekânsal yayılmasında ve sınırlarının tanımlanmasında önemli veriler sunar. Yerleşim stratejileri de bu doğrultuda gelişmiştir. Teknolojinin gelişimi, liman, karayolu, demiryolu ve denizyolu ulaşımı ve ulaşım yapılarının gelişiminde önemli rol oynamıştır. Bu süreçte, eski kervan yolları da önemini yitirmemiş, aksine alternatif olarak faaliyetini sürdürmüştür. Toprak tasarruf biçimlerinin değişmesi de kentin ekonomik temellerini etkilemiş, kır-kent ilişkilerinin yeniden yorumlanmasını gerekli kılmıştır. Özellikle Bursa örneği düşünüldüğünde, kır-kent ayrımından söz etmek yerine hem ekonomik anlamda hem de mekânsal anlamda bir devamlılık ve birliktelikten söz etmek daha anlamlıdır.

Sonuç bölümünde, Bursa kentinin mekânsal dönüşümü kapsamlı bir bakış açısı ile değerlendirilir. Kentsel çekirdek, çeperler ve hinterlandın, ayrıca denizle buluşan limanların/sınırların, on dokuzuncu yüzyıl boyunca artan üretim ve yapısal faaliyetler aracılığıyla nasıl bir bütünsellik içinde kurulduğu ve artan ticareti nasıl yönlendirdiği ile geç Osmanlı döneminde Bursa kentsel ve mimari bağlamının bu minvalde nasıl tartışılacağı üzerine kapsamlı bir yorum geliştirilir.

Fabrikaların inşası, endüstriyel ve zirai okulların kurulması, demiryolunun getirilmesi, tren istasyonlarının ve otellerin inşası, Osmanlı Bankası şubesinin Bursa'da kurulması, göçmen köyleri ve mahallelerin inşası, Ziraat Bankası'nın tarımı geliştirme çabaları ve tarım dışı faaliyetleri, limanların geliştirilmesi ve yapısal faaliyetlerin hız kazanmış olması on dokuzuncu yüzyılda mekânsal dönüşümü gerçekleştirmenin önemli araçları ve modernleşmenin en belirgin unsurlarıdır. Bu tez, ayrıca, devamlı üretken ve ticâri bir kent olan Bursa'nın mekânsal dönüşümünün özellikle geç Osmanlı Dönemi'nde kentin çekirdeği ve onun çeperi ile sınırlı kalmayıp, teknoloji ve doğal kaynaklardan mümkün olduğunca yararlanarak çok daha geniş bir hinterlandı ve kentin denizle buluştuğu sınırlardaki liman yapılarını kapsadığını göstermiştir.

Artan ticari ilişkiler ve doğal kaynakların ve teknolojinin verimli kullanılma çabaları, üretim biçimlerinin dönüşümünü gerekli kılmış; bu dönüşüm çeşitli düzeylerde gelişmeleri getirmiş ve kent ve mimariye de yansımıştır. Üç temel düzeyde - endüstriyel üretim, zirai üretim, ve üretilen ürünün dağıtımı ve ticareti düzeylerinde- gerçekleşen gelişmeler, Osmanlı düşünce sisteminin iç ve dış dinamiklerin de etkileriyle on dokuzuncu yüzyılda dönüşümü ile anlam kazanmış, kentsel mekâna yansımıştır. Devletin bilimsel bilginin üretilmesi, öğretilmesi ve uygulanması konularında verdiği çaba, bu dönüşümün kentsel mekâna yansıdığının bir göstergesidir. On dokuzuncu yüzyıl boyunca gerçekleşen ticari anlaşmalar, yabancı yatırımlar, tüccarların yatırımları, bürokrasinin yanında ayrıca köylünün ve halkın eğitimi gibi gelişmeler de bu sürecin dönüşümüne yön vermiştir.

Bilimsel bilginin araştırılması, yazılı reformların üretilmesi, eğitim modellerinin revize edilmesi ve mekânsal yansımalarının takip edilmesi ile kamusal hizmete ve üretime dönük yeni yapı tipleri üretme faaliyetleri içine girilmesi, on dokuzuncu yüzyılda Osmanlı düşünce sisteminde ve devlet yapısında değişimlerin gerçekleştiğini göstermektedir. Bu değişimler, mekân üretme biçimlerinde de yeni arayışları teşvik etmiştir; ayrıca, düşünce ve mekânsal yapılaşma süreçlerinde "kurumsallaşma" *(institutionalization)* fikrinin oluşumunda önemli rol oynamıştır.

Bursa kent merkezi, kale ve ticari merkezden oluşmaktadır. Erken modern Osmanlı kenti Bursa'nın kale ve ticari merkezden çevreye yayılan alanı kapsayan çeperleri, kente hâkim noktalarda inşa edilmiş külliyeler, geniş kestanelikler, ve mezarlıklarla biçimlenmektedir. Kentin çeperlerinden kırsal çevresine doğru yayılan geniş düzlükler kimi zaman bataklıklarla kaplıdır; bir kısmı da dağlarla çevrilidir. On dokuzuncu yüzyılda gelinen noktada ise, kent merkezi eski kentsel ağırlığını korumaktadır; ancak, kentin çeperlerine doğru özellikle Cilimboz ve Gökdere derelerinin çevresinde yeni bir yapı türü, fabrikalar, belirmeye başlamıştır. Ayrıca, kentin çevresinin de çehresi değişmiştir. Göçlerle artan nüfusun iskânı amacıyla, çeperlerde kent içinde göçmen mahalleleri kurulmuştur. Ayrıca, kırsal alanda güvenliğin artırılması ve bataklıkların kurutulması gerekli hâle gelmiş ve neticesinde hinterlanda yayılan alanda ise göçmen köyleri kurulmuştur. Göçmenlerin tarım

bilgisi ve teknolojilerine hâkimiyeti ile Bursa'nın geniş hinterlandı çok daha verimli tarım topraklarına dönüşmüştür.

Bursa, on dördüncü yüzyıl itibariyle bir kale kent olmanın ötesine geçmiş, evvelden yaygın bir kenttir. Kent, hinterlandı ile birlikte başta başkent İstanbul olmak üzere, Anadolu kentlerinin temel ihtiyaçların karşılanmasında, iaşesinde, önemli bir rol üstlenmektedir. Önceki yüzyıllarda iaşe görevini önemli ölçüde üstlenen kent, on dokuzuncu yüzyılda da kırsal çevresi ile olan kuvvetli bağları dolayısıyla bu görevini sürdürebilmiştir. Kentin yalnızca hinterlandı değil, sınırları da on dokuzuncu yüzyıla özgü bir ölçekte, başta Mudanya kıyı şeridinin dönüşümü ile kentsel ölçekte bir dönüşüm geçirmiştir. Hinterlandı geçen demiryolu hattı kıyıya kadar uzanmaktadır; hat üzerinde tek katlı ve küçük ölçekli tren istasyon binaları ise ulaşım ve modernleşmenin simge yapıları olarak inşa edilmişlerdir. On dokuzuncu yüzyıl Bursa kenti, kendi geleneğinde var olan geniş ve yayılmış mekânsal bütünlüğünü korumuştur; ancak, mekânsal görünümü merkezden, çepere, çevresine ve sınırlarına kadar önemli ölçekte dönüşüme uğramıştır. Bu mekânsal dönüşümde, doğa boyutunun katkısı oldukça önemlidir. Doğal kaynakların ve felâketlerin üretim, yapılaşma ve şehirleşme katmanlarındaki yorumları, kentin çevresi ile birlikte mekânsal dönüşümünü sağlamıştır. Osmanlı modernleşmesinin tüm unsurları, Bursa şehrinde üretilen modern yapılar ve merkezden hinterlanda sürdürülebilir mekânsal dönüşüm aracılığıyla gözlenebilir.

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