

**CREATING A STATE CORPORATION: MANAGEMENT, TECHNICAL TRAINING,
AND TECHNOLOGY TRANSFER IN THE TURKISH STATE RAILWAYS, 1923-1945**

BY

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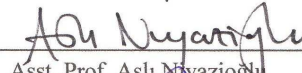
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Signed

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ABSTRACT

The Anatolian railroad network, which was built and operated by foreign concession holding companies in the Ottoman period, was greatly expanded and fully nationalised during the the first twenty years of the Turkish Republic. Moreover, Turkish railroaders, who had hitherto played insignificant roles in railroading, took over the management of these lines. This thesis deals with this transformation, in an attempt to understand how Turkish railroaders were able to run and expand the railroads. In this vein, it focuses on the creation of the State Railway Corporation, on the development of technical railroad training in Turkey, and on attempts to transfer technology from foreign railroading nations. This thesis argues that these three processes were critical in the birth of state-sector Turkish railroading. Moreover, this thesis examines the Turkish State Railway Corporation, in an effort to show that it was Turkey's first large-scale modern business corporation.

Key Words: Turkish Railroads, vocational education, technology transfer, Turkish business history.

ÖZET

Osmanlı Devleti döneminde imtiyaz sahibi yabancı şirketler tarafından inşa edilip işletilen Anadolu demiryolları ağı, Cumhuriyet'in ilk yirmi senesi zarfında millileştirilmiş, büyük ölçüde de genişletilmiştir. Aynı dönemde, o vakte kadar önemsiz ve ikincil rolleri üstlenen Türk demiryolcular, demiryollarının idaresini tamamıyla kendi ellerine almışlardır. Bu tez yukarıda anlatılan değişimi inceleyerek Türkiye'de demiryolları işletmek için gerekli olan teknik altyapının nasıl oluştuğunu konu almaktadır. Özellikle Devlet Demiryolları İdaresi'nin kurulması, mesleki demiryolculuk eğitiminin geliştirilmesi ve teknoloji transferine yönelik çalışmalar ele alınmıştır. Tezin temel argümanı, bu üç alandaki koordine çalışmaların Türk Demiryolculuğunun doğuşunu mümkün kıldığıdır. Aynı zamanda bu tez, Devlet Demiryolları Teşkilatını inceleyerek, bunun Türkiye'deki ilk modern, büyük çaplı işletme olduğunu göstermeyi amaçlamaktadır.

Anahtar Kelimeler: Türkiye Demiryolları, teknik eğitim, teknoloji transferi, Türk İşletme ve İktisat Tarihi

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INTRODUCTION

At the end of the First World War, the entirety of railroads in what is present day Turkey were owned by foreign companies. Some lines, such as the Izmir-Aydın line, and sections of the Anatolian line had been controlled by the Ottoman state during the war, yet nominally the railroads were ran by the companies that owned them. The Hicaz railway, the only line built and ran by the Ottoman government, had been lost as a result of the war. Following the armistice, the sections of the railroads which had been taken over by the Ottoman military were handed back to their respective companies. The allied occupying powers took control of the previously German owned Anatolian and Baghdad lines.

In the following twenty-five years, through a combination of re-purchasing foreign concessions, constructing new railroads to the east, and forming a network out of what had previously been a series of disconnected railway lines, the Turkish Republic and its State Railway Corporation (SRC) achieved complete control over railroads in the country. Moreover, in the years following the Great War, the SRC grew from an ad-hoc military organisation running sections of certain railway lines, into a modern corporation. Indeed, by 1945 the corporation controlled railroad operations in a vast territory with eleven geographical sub divisions; it employed more than forty-thousand people, and was managed through a multi-departmental organisational hierarchy.

This thesis deals with this transformation in general, focusing on the technological and managerial aspects of creating, maintaining and running a railway network in the period 1923-1945. Bearing in mind the condition of railroads in the Ottoman Empire, and the general hardship of the early Republican era, the chief question addressed by this work is “How were Turks able to run and expand the Anatolian rail system, and eventually fully nationalise it

following the transition from the Ottoman Empire to the Turkish Republic?” More so than the large scale financial or political aspects of this question, which have hitherto been dealt with, I focus on technology transfer and the formation of a modern managerial organisation. I attempt to especially highlight the role played by foreign experts and railwaymen in this transition, as well the role of technical railroad education in Turkey. I argue that it was not through chance, or through a basic process of trial and error that Turkish railwaymen were able to manage the railroads. Turkish railroading was created through the development of a system of technical training, through efforts to transfer technology, and through the erection of a modern managerial structure.

Throughout this thesis, I deal with the SRC as a body on its own accord, and examine its structure and functioning as something distinct rather than simply a means of executing a seemingly straightforward Republican railway policy. The rationale for treating the SRC as an organisation on its own terms stems from my belief that it was one of the Republic’s first modern, large scale business enterprises. Despite being state owned, by the 1930s it was, by all means, a modern corporation. I attempt to argue that the role played by State Railway Corporation in the first twenty or so years of the Republic was similar to that of the large American railways of the mid-nineteenth century. In saying this, I borrow heavily from Alfred Chandler, who stated that the managers of mid nineteenth century US railways “were forced to work out the basic methods of communication and control essential to the operations of the modern business corporation”¹. In the case of the SRC, the managers and engineers were not forced to work these methods out themselves, but to adapt them to the Turkish context for the first time.

¹ Alfred D. Chandler, ‘The Railroads: Pioneers in modern corporate management’, *The Business History Review*, vol.39, no.1, (spring 1965), p.16

While setting out, I must echo the sentiments of Geoffrey Chanon, a historian who produced volumes of work on the British and American railroads. Unlike many authors who write about railroads, I am not a fan of steam engines and railway tracks. I find railroads in no means superior to other forms of transport, and have no affinity to the tasks of station masters, conductors, and train drivers. Railroads are significant to me insofar as they represent a historically unprecedented concentration of technology and finance in any single project, especially in the context of the Ottoman Empire and the Turkish Republic. The Anatolian and Rumelian railroads, throughout both the above mentioned periods, were seen as the driving forces of modernisation and development. Moreover, at any time, the developments in these railroads closely mirrored the contemporary political and economic situation in the country.

Through better understanding the history of Turkish railroads, I believe it is possible to contribute to the general understanding of late Ottoman and early republican economic history. The characteristic features of the most prominent foreign investments of the Ottoman period, no doubt, provide insight into the characteristics of the late Ottoman economy. Similarly, the characteristics of the Turkish republic's largest state sector investments provide insight into the workings of the policy of economic etatism. Moreover, focusing on the transformation of one critical sector aids our understanding of the concrete, ground-level transition from the economic regime of the empire to that of the republic.

1) Historiography

In terms of academic writing on the subject, the Ottoman railways have received considerably more attention than railways in the republican period. This is true, insofar as both Turkish and foreign scholars are concerned. Below, I provide a brief overview of studies focusing on the Ottoman, Armistice and Republican periods. This is followed by a discussion

of other relevant writing concerning technology transfer and the role of foreign experts in Turkey.

Works focusing on the Ottoman railways mostly approach the issue in one of two ways. The first strand of writing deals with the general development of railroads in the empire and with specific aspects of Ottoman railroading. The second strand consists of works that focus on the history of single railway lines.

Within the first strand of writing, which deals with the general phenomenon of “Ottoman Railroads”, some accounts are purely descriptive in nature², however most attempt to link global political and economic developments to the history of Ottoman railroads. For instance, Earle, Rathman and Kurmuş’s classical works connecting the growth of Ottoman railways to global developments overwhelmingly view the European-built railroads as a form of economic imperialism.³ More recent writing focuses on the role of railroads in Ottoman transport policy, and on more specific aspects of Ottoman railroad history. In a generic article dealing with the development of transport technologies and policy in late 19th Century Ottoman Empire, Tekeli and Ilkin devote considerable space to the development of railroading technology.⁴ They present an overview of the various projects within the empire, and briefly touch on the increasing involvement of Ottoman subjects in issues pertaining to the construction and management of railway lines.

Similarly, in two pieces of recent research, Peter Mentzel deals with the ethnic division of labour in Ottoman railways, and makes some preliminary remarks regarding the

² ‘Railroads in Turkey’, *Bulletin of the American Geographical Society*, Vol. 47, No. 12 (1915), pp. 934-940, Yaquub Karkar, *Railway development in the Ottoman Empire, 1856-1914*, (New York : Vantage Press, 1972)

³ Edward M.Earle, *Turkey, the great powers, and the Bagdad Railway*, (NY: Macmillan, 1923), Lothar Rathmann, *Berlin-Bağdat Alman emperyalizminin Türkiye’ye girişi*, (İstanbul: Belge Yayınları, 1982) The same view also dominates conventional Turkish scholarship. For example, See: İlber Ortaylı, *Osmanlı İmparatorluğunda Alman Nüfuzu*, (İstanbul: İletişim, 1998), Orhan Kurmuş, *Emperyalizmin Türkiye’ye Girişi*, (Ankara: Bilim Yayınlar, 1974)

⁴ İlhan Tekeli, Selim Ilkin, ‘Osmanlı İmparatorluğunda 19. Yüzyılın İkinci Yarısında Nafia Programları ve Teknoloji Gelişimi Üzerine’, in Tekeli and Ilkin Eds., *Cumhuriyetin Harcı: Modernitenin Altyapısı Oluşurken*, (İstanbul: Bilgi Üniversitesi, 2003), pp. 123-175

possibility of technology transfer on the railroads.⁵ Mentzel argues that the division of labour in Ottoman railways was national more so than ethnic. That is, higher level positions were filled by foreign nationals, whereas lower level jobs were undertaken by Ottoman citizens belonging to various ethnic groups. In the absence of formal training programs, Mentzel argues, some technology transfer must have occurred from foreigners to locals on an informal basis.

The second strand of writing, which concentrates on the history of individual railway lines, is comprised of more detailed studies ranging from works focusing on employment practices in certain railways, to micro-level analyses of the financial histories of railway lines. Below, I provide an overview of the writing dealing with the Izmir, Eastern, Anatolian, Hicaz, and Chester railroads.

In his 2002 account, Nedim Atilla provides a quasi-academic, sweeping history of the Izmir railroads. Despite the lack of adequate referencing and its breezy tone, this work provides a readable overview spanning a century.⁶ Atilla deals with the construction of the Izmir-Aydın and Izmir-Kasaba railroads, with the effect they had on life in the region, and with their eventual takeover by the Turkish government. More rigorous and narrowly focused histories of the Izmir railroads also exist. For instance, Ali Akyıldız studies the first ten years of the Smyrna-Aydın railway, examining how the idea for the line developed, how the concession was granted and how work commenced on the line.⁷ Moreover, he aims to display the ineptitude of both the company and the Ottoman State in working the official contract.

Studying the Izmir railroads as a British business interest, McLean examines the 1913-14

⁵ Peter Mentzel, 'The "ethnic division of labor" on ottoman railroads: A reevaluation.'

Turcica 37 (2005), pp: 221-241. Peter Mentzel, 'Unity and diversity on Ottoman railways: a preliminary report on technology transfer and railway workers in the Ottoman Empire', in Ekmeleddin Ihsanoglu, Kostas Chatzis, and Efthymios Nicolaidis, eds., *Multicultural Science in the Ottoman Empire* (Turnhout, Belgium: Brepols Publishers, 2003).

⁶ A. Nedim Atilla, *Izmir Demiryolları*, (Izmir: Izmit BB Kültür Yayınları, 2002)

⁷ Ali Akyıldız, 'Osmanlı Anadoluşunda ilk demiryolu: İzmir aydın hattı (1856-66)', in *Çağını yakalayan Osmanlı*, ed. Ekmeleddin Ihsanoğlu, M. Kaçar, (Istanbul:1995)

negotiations between the Smyrna-Aidin Railway Company, the Ottoman State and the Italian Rail Syndicate in vein of understanding the interplay between British business interests, the British Foreign Office and the Ottoman government.⁸ McLean uses the case at hand to show that the British Foreign Office abandoned its policy of non- involvement in private businesses in the period leading up to World War One.

The most comprehensive work dealing with the empire's railways in Europe is Vahdeddin Engin's monograph on the Rumelian Railway line.⁹ The book covers issues such as the negotiations for the railroad concessions, the construction and financing of the line, and the disputes between the infamous Baron Hirsch and the Ottoman State. Engin advocates that the experience of these disputes with Hirsch put the Ottoman State off of giving railway concessions until the Anatolian line was constructed. Turning to the effect the railroad had on the region, Akyıldız displays how the Constanta-Cernovada section of the Rumelian Railway altered the social and economic life of the inhabitants of the villages through which it past.¹⁰ The author vividly shows how the influx of foreign workers and engineers, as well as the construction of the line dramatically changed many aspects of life in the region. Similarly, Gounares's account, *Steam over Macedonia* provides a broad history of a section of the Rumelian Railways from the perspective of Macedonian history.¹¹

More so than any other individual railway line, The Anatolian-Baghdad railway has generated the most interest among historians. Two monographs by Jonathan McMurray and Murat Özyüksel deal with the planning and construction of this line also focusing on the diplomatic relations between Germany and Turkey in the period.¹² The extension of the line

⁸ David McLean, 'British Finance and Foreign Policy in Turkey: The Smyrna-Aidin Railway Settlement 1913-14', *The Historical Journal*, Vol. 19, No. 2 (Jun., 1976), pp. 521-530

⁹ Vahdeddin Engin, *Rumeli Demiryolları*, (Istanbul: Eren, 1993)

¹⁰ Ali Akyıldız, 'The Modernising impact of a technological transfer: the case of the Costanta Railway' in Ekmeleddin İhsanoğlu; Feza Günergun (Eds), *Science in Islamic Civilization*, (Istanbul: IRCICA, 2000)

¹¹ Basil Gounares, *Steam over Macedonia*, (New York: Columbia University Press, 1993)

¹² Murat Özyüksel, *Osmanlı-Alman demiryolları gelişim sürecinde Anadolu ve Bağdat demiryolları*, (İstanbul:1988), Jonathan S. McMurray., *Distant Ties: Germany, the Ottoman Empire and the Construction of the Baghdad Railways*, (Conn: Praeger, 2001)

from Eskişehir towards Konya has been studied by Ayla Efe, whose chief motivation was to show that this route was specifically chosen by the Anatolian Railway Company who desired to tap into the cereal fields in the Konya plain.¹³ Focusing on the financial history of the line, B. Barth presents an analysis of the financial management of the Anatolian and Baghdad railroads, mostly dealing with the involvement of the Deutsche Bank.¹⁴ The author's main argument is that far from being an imperialistic German attempt, the project was a venture of international finance capital. In similar vein, R.M. Francis focuses his attention on the withdrawal of British financial interests from the Baghdad railway project in 1903, tracking the process and explaining the reasons behind this retreat.¹⁵

Several Turkish scholars, including Güzel, Toprak, and Ökçün have also studied aspects of the social history of the Anatolian-Baghdad lines, especially focusing on strikes and public debates.¹⁶ In a short article, Güzel deals with the 1908 strike on the Baghdad Railway lead by Gavriel Archangelos. Similarly, Zafer Toprak examines the worker's movement behind the strike and discusses the demands they made to the company.¹⁷ Ökçün's article, based on the records of the Istanbul parliament, analyses the debate surrounding the terms of the concession granted for the construction of the Bağdat Railway.

The Hicaz Railway, the first railway built in earnest by the Ottoman state, has also received considerable academic attention. Oschenwald's classic, *The Hejaz Railway* based mostly on British and French archival materials presents a stage by stage history of the line focusing on thematic aspects such as construction, finance, operations, and the impact of the

¹³ Ayla Efe, 'Almanya'ya Verilen İkinci Demiryolu İmtiyazı: Hububat Hattı', *Ankara Üniversitesi Osmanlı Tarihi Araştırma ve Uygulama Merkezi Dergisi*, sayı 18, (2005).

¹⁴ Boris Barth, 'The financial history of the Anatolian and Baghdad railways, 1889-1914', *financial history review*, Vol.5, (1999), pp. 115-137.

¹⁵ Richard M. Francis, 'The British withdrawal from the Baghdad railway project in April 1903', *Historical Journal*, 16, (1993).

¹⁶ Şehmus Güzel, 'Anadolu Bağdat demiryolu grevi', *Tanzimat'tan cumhuriyete Türkiye ansiklopedisi*, cilt3, 1985, A. Gündüz Ökçün, 'Osmanlı Meclis-i Mebusanında Bağdat Demiryolu İmtiyazı Üzerine Yapılan Tartışmalar', *Ankara Üniversitesi Siyasal Bilgiler Fakültesi Dergisi*, cilt 25, sayı:2, (1970).

¹⁷ Zafer Toprak, 'İlân-i Hürriyet ve Anadolu Osmanlı Demiryolu Memurin ve Müstahdemini Cemiyet-i Uhuvvetkâranesi' *Tarih ve Toplum*, No:57, (Tem. 1988) pp.45-50.

line on society.¹⁸ This work has endured the test of time, and it still constitutes the fundament for further writing on the history of the line. Gülsoy also examines the general history of the Hicaz line, focusing on the conception of the idea, the financing, the construction and the running of the railway under the Young Turk regime. Gülsoy utilises Ottoman archival sources, as well as Oschenwald's previous work, leading to a detailed and rich history.¹⁹ In the most recent study of the Hicaz line, Özyüksel deals with the decision to construct the Hicaz Railroad, the financing, the construction of the line, and the resistance by local Arab's and the British.²⁰

The only American railway project in the Ottoman Empire: the Chester concession, despite never materialising, has created a considerable body of academic writing. Bülent Can has produced the most comprehensive writing on the issue, tracing the history of the project from its conception to the eventual manoeuvres by the concession holder to include petrol mining rights in the contract.²¹ Can also presents a novel theoretical approach as he views the Chester attempt as an example of what he calls modernisation through 'euro-centric standardisation'. In a brief, focused piece, Selim Ilkin deals with the second phase of the Chester project in 1922-3.²² This is important insofar as the article displays the nature of the contemporary arguments for and against the granting of this particular concession, and railway concessions in general. In similar vein, Tezel approaches the Chester concession negotiations of 1922-23 in the Turkish Parliament, questioning the notion that this parliament was anti-imperialist from its onset.²³ The author argues that the fact that the railway never

¹⁸ William Oschenwald, *The Hejaz Railroad*, (Virginia: University Press of Virginia, 1980)

¹⁹ Ufuk Gülsoy, *Hicaz Demiryolu*, (Istanbul: Eren, 1994)

²⁰ Murat Özyüksel, *Hicaz Demiryolu*, (Istanbul: Tarih Vakfı Yurt Yayınları, 2000)

²¹ Bülent Can, *Demiryolundan Petrole Chester Projesi: 1908-1923*, (Istanbul: Tarih Vakfı, 2000), J.A. DeNovo, 'A Railroad for Turkey: The Chester Project, 1908-1913', *Business History Review*, Vol. 33, No. 3 (Autumn, 1959), pp. 300-329.

²² Selim Ilkin, '1922-23 Yılları Türkiye'sinde bir Yabancı Sermanye Girişimi: Chester Demiryolu Projesi', in Tekeli and Ilkin Eds., *Cumhuriyetin Harcı: Modernitenin Altyapısı Oluşurken*, (Istanbul: Bilgi Üniversitesi, 2003), pp. 233-267

²³ Yahya S. Tezel, 'Birinci Millet Meclisi Anti-Emperyalist miydi? Chester Ayrıcalığı', *SBF Dergisi*, Cilt 25, no:4, (1970), pp.287-318.

materialised should not divert attention from the concession that was obtained from the new government. In an often overlooked article, DeNovo focuses on the Chester railway project from a business and diplomatic history perspective.²⁴ The author argues that the attitude of the US State Department towards the project was indicative of a change in the hitherto observed policy of non-involvement in financial ventures in the near east.

Besides the history of railroads in the Ottoman and republican periods, railroads in the interim Armistice period, and the War of Independence have also received considerable attention. Both academic and somewhat more popular works dealing with this era exist, despite often being overtly patriotic in tone. For instance, Özdemir's focused, if somewhat officially oriented work examines the organisation of the Turkish railways following the defeat in World War I up until the beginning of organised combat during the War of Independence in 1920.²⁵ Picking up where Özdemir's work ends, Gürel's study of railroads during the War of Independence is a compilation of the pieces published in *Bellesten* numbers 175, 178, 187, 191-2, 195, 198, 200.²⁶ Based largely on the diaries and papers of Behiç Erkin accessed while Erkin was still alive, the work is a strong account of the history of railroads during the War of Independence. The book is especially rich on the role of non-Muslims working on the lines during the war, and the tensions caused by this.

A more popularly oriented work dealing with the said period is Murat Ergun's memoirs, published in 1966.²⁷ Murat Ergun, a first term graduate of the Izmir Railroading School, was an Ottoman and republican railwayman who served on the Izmir-Aydın Railway during the War of Independence. In his book, Ergun embeds his war time experience on the

²⁴ John A. DeNovo, 'A Railroad for Turkey: The Chester Project, 1908-1913', pp. 300-329.

²⁵ Mehmet Özdemir, *Mütareke ve Kurtuluş Savaşı başlangıç Dönemlerinde Türk Demiryolları: Yapısal ekonomik sorunlar 1918-1920*, (Ankara: TC kültür bakanlığı yayınları, 2001).

²⁶ Ziya Gürel, *Kurtuluş Savaşında Demiryolculuk*, (Ankara: TTK Basımevi, 1989).

²⁷ Murat Ergun, *Bir Demiryolcunun Kurtuluş Savaşı Hatıraları: Milli Demiryollarımızın Kısa Bir Tarihçesi*, (İstanbul: Ahenk, 1966).

railroad into an overarching narrative of railroad nationalisation in Turkey. The work provides insight into a contemporary Turkish railwayman's approach towards foreign railway companies and workers, as well as the issue of railroad nationalisation.

The body of writing focusing on the Republican Railways is considerably smaller than that dealing with the Ottoman period. This can be broadly categorised into three sub-categories. The first category is comprised of works that deal with the long term change in transport policy from the Ottoman to the Republican era. For instance, Coşar and Demirci tackle three questions from the perspective of Ottoman -Turkish integration to the world economy.²⁸ What was the role of railways in the Ottoman Empire from the 1850s to 1914? What were the characteristics of modern Turkey's railway policies following the War of Independence? And, finally, how did transport policies shift from railways to highways following the Second World War? This work presents a century long overview of the changes in both the country's transport policy and the way in which it was incorporated into the world economy. In a study covering a similarly broad period, Bayraktaroğlu contrasts the development of railways in the Ottoman and Republican eras.²⁹ Despite relying solely on secondary sources, the article provides a brief and very general overview of railroad history in the period 1850-1950.

The second category includes academic works concentrating on the general history of railways in the Republican era. Ismail Yıldırım's work is the most comprehensive and concise academic account of the general history of Republican railroads.³⁰ The author provides a page or so long account of each line built or purchased during the period, and also

²⁸ Nevin Coşar, S. Demirci, 'Incorporation into the World Economy: From Railways to Highways (1850-1950)', *Middle Eastern Studies*, Vol. 45, Issue 1, (Jan. 2009), pp. 19 – 31.

²⁹ Sena Bayraktaroğlu, 'The Development of Railroads in the Ottoman Empire and Turkey', (unpublished MA Thesis, The Institute for Atatürk's principles and the History of Turkish Renovation, Boğaziçi University, 1995).

³⁰ Ismail Yıldırım, *Cumhuriyet Döneminde Demiryolları 1923-1950*, (Ankara: Atatürk Araştırma Merkezi, 2001).

some detail as to the development of the SRC and the transition of policy from the Ottoman to the Republican period. The one shortcoming of the book is that it remains almost fully descriptive. Nonetheless this work is the only comprehensive account dealing with the development of the SRC in a year by year manner.

In their collected work: *Cumhuriyetin Harcı*, Tekeli and Ilkin also devote considerable attention to the issue of Republican railroad policy. Indeed, their article ‘Cumhuriyet’in Demiryolu Politikalarının Oluşumu ve Uygulanması’ sets the standard for works dealing with the history of Turkish Railways. The authors examine the developments in the period through a three pronged analysis focusing on the construction of new lines, the purchasing of foreign owned lines and the erection of a central railroad organisation. Tekeli and Ilkin also account for the role of international economic factors in shaping the republic’s rail policy. They advance the argument that the decision to nationalise the entire network of railways was as economic as it was political. The authors also claim that the maturation of the domestic financial and construction markets eventually enabled the shift to local contracting in the construction of railways.

Works in the third category adopt a narrower focus, dealing with specific aspects or sub-periods within the history of republican railways. For instance, Tekeli and Ilkin assess the role of the republic’s railway construction policy in creating Turkey’s first large scale construction contractors.³¹ A 2007 article by Toprak deals with the social ramifications of railroad expansion in Anatolia. Toprak argues that the railroads, in the republican era,

³¹ İlhan Tekeli, Selim Ilkin, ‘Cumhuriyet’in Demiryolu Politikalarının Oluşumu ve Uygulanması’, in Tekeli and Ilkin Eds., *Cumhuriyetin Harcı: Modernitenin Altyapısı Oluşurken*, (Istanbul: Bilgi Üniversitesi, 2003), and I. Tekeli, S. Ilkin, ‘Türkiye’de Büyük İnşaat Mütahhitlerinin Doğuşunda Cumhuriyetin Bayındırlık ve Demiryolu Programının Etkisi’, in Tekeli and Ilkin Eds., *Cumhuriyetin Harcı: Modernitenin Altyapısı Oluşurken*, (Istanbul: Bilgi Üniversitesi, 2003), pp. 451-477

symbolised modernity and the presence of the republican state.³² The railroads affected the conception of time and space in regions where time had hitherto been measured in accordance to sunset and sundown, and in which the average person lived and travelled within a few kilometres of his home town. The railroads, according to Toprak, introduced the necessity of punctual timing, hence the adoption of western time. Moreover, the railway station presented itself as a secular ‘temple of modernity’, in part, taking over the role of the mosque as a social centre in villages and towns.

Turning to the development of the technology and skills involved in railroading, a recent piece of research by Seyfi Yıldırım shares a very similar focus to this thesis. In his 2007 article, Yıldırım deals with the employment of foreign experts on the Turkish railroads in the period 1925-1950.³³ He analyses the functional roles fulfilled by these experts, and their nationalities in vein of drawing conclusions regarding the employment of foreign experts in the early republican period. Yıldırım asserts that foreigners employed in the railroads were mostly engineers, working to compensate for the absence of Turkish engineers. He argues that these individuals played an important role in modernising the railroads, and that their nationalities were significant insofar as they mirrored the government’s external relations at the time.

Despite the employment of a great many foreign experts and advisors in the early Republican era, no comprehensive study of this phenomenon exists. There are, however, works focusing on specific aspects of the employment of foreigners and the transfer of knowledge and technology resulting from this. For instance, in his study of American investment and technical aid to Turkey in the 1920s and 30s, Trask devotes a considerable

³² Zafer Toprak, ‘Cumhuriyet, Demiryolu ve Laiklik: Bir “Modernite” Metaforu’, *Toplumsal Tarih*, 168 (Ara. 2007) pp.26-31.

³³ Seyfi Yıldırım, ‘Türkiye demiryollarında istihdam edilen yabancı uzmanlar (1925–1950)’, *Atatürk Araştırma Merkezi Dergisi*, Cilt XXIII, No: 67–9, (Mar.-Kas. 2007)

section of his work to the American experts working in Turkey at the time.³⁴ His main argument is that they were favoured as America was not believed to have political interests in the area, and American efficiency was admired among Turks. In a similarly focused paper, Şahin examines the role of foreign experts in raising teachers in the period 1923-60. His work also contains detail relating to the general issue of foreign experts in Turkey and on the development of vocational education.³⁵ Turning to the issue of Jewish émigrés working in Turkey in the 1930's, Müller examines the role of German-Jewish librarians in creating Istanbul's modern libraries.³⁶ This short piece is exemplary insofar as it tackles a very specific aspect of the issue of foreign experts in great detail.

As far as works dealing with technology transfer at a general level are concerned, somewhat surprisingly, the only work on the Turkish case has been done by Arnold Reisman.³⁷ The author adopts a comparative approach, assessing the build-up of industrial technology in Turkey and Israel, as well as other neighbouring countries. He compares the roles played by the state; universities, and industry in facilitating the transfer of technology, reaching the conclusion that Israel for instance, succeeded in developing an effective system of technology transfer where Turkey failed. Despite being very broadly focused, and targeting an audience relatively unaware of republican history, Reisman's work is novel insofar as it focuses on the history of industry and technology in the country by dealing with issues such as the failure in technology transfer and reverse engineering.

³⁴ Roger S. Trask, 'The United States and Turkish Nationalism: Investments and Technical Aid during the Atatürk Era', *The Business History Review*, Vol. 38, No. 1, International Government-Business Issue (Spring, 1964), pp. 58-77

³⁵ Mustafa Şahin, 'Türkiye'de Öğretmen Yetiştirme Uygulamalarında Yabancı Uzmanların Yeri: 1923-1960', (Unpublished PhD. Thesis, İzmir Dokuz Eylül Üniversitesi, 2006).

³⁶ Hildegard Müller, 'German Librarians in Exile in Turkey: 1933-1945', *Libraries & Culture*, Vol. 33, No. 3, (Summer 1998), pp. 294-305

³⁷ Arnold Reisman, 'Comparative Technology Transfer: A Tale of Development in Neighbouring Countries, Israel and Turkey', *Comparative Technology Transfer and Society*, vol. 3, no. 3 (December 2005), pp. 303-50, Arnold Reisman, 'Why has Turkey spawned so few high-tech startup firms? Or, why is Turkey so dependent on technologic innovations created outside its borders?', working paper series, (May 26, 2006). Available at SSRN: <http://ssrn.com/abstract=904780>. [Accessed on 20 August, 2009].

In this thesis I attempt to approach the subject at hand in a way often neglected by the above mentioned studies. I focus not on the diplomatic, political and economic factors shaping the development of railroads, but on how the knowledge required to run railroads was acquired and developed in the Turkish Republic. I place the railroads and the SRC in the centre of my analysis, and deal with their concrete histories rather than dealing with “railroad policy”.

Due to lack of independent research focusing on this more specific aspect of Turkish railroading history, the issues I touch on are often mentioned only in passing, in little detail, or in an isolated manner in most studies. Ismail Yıldırım devotes a small section of his work to technical railroad education, and to the creation of a managerial organisation for instance. Similarly, Seyfi Yıldırım, analyses the roles of various foreign workers in the SRC. I attempt to further these studies by presenting, as far as possible, an encompassing work dealing with the character of SRC, and the development of Turkish railroading through technology transfer and technical education.

By presenting a focused, detailed study of the growth of the SRC, this thesis will contribute to three areas of interest. First, it will add much needed detail to the body of historical writing concerning Turkish railroads. At worst, it will provide pieces of information regarding the SRC, technical training in Turkey, and the work of foreign experts for future researchers. At best it will achieve its purpose and show how “Turkish railroading” came to be. Second, it will advance existing knowledge on the subject of foreign specialists employed by the Turkish government in the early Republican period. As the number of specifically focused studies as such increase, it will become possible to generate overarching conclusions based on individual accounts. Third, this work focusing on a specific institution of the early republican period will add to the knowledge of government enterprises in the said era. As

studies focusing on such “cases” proliferate, a more accurate economic history of etatist Turkey will emerge.

2) Sources

While writing this thesis, I drew on materials from four main sources. In the absence of an institutional archive specific to the SRC, I based my research on documents from the Archives of the Turkish Republic, the British National Archives, the Osborne Mance Collection at the Middle Eastern Centre at Saint Anthony’s College, Oxford University, and on articles from the contemporary railroading magazine: *Demiryollar Mecmuası*.

In the Prime-Ministerial archives of the Turkish Republic, I searched for documents relating to the employment of foreigners on the railways and documents pertaining to the travels of Turkish railwaymen in Europe. By and large, the materials I found were copies of cabinet papers sanctioning the employment of foreigners on various projects. Such sources provided the name, nationality and contract length of each foreigner granted permission to work in the country. Besides these records, I was also able to access a copy of a report by Charles E. Bell, a foreign expert commissioned by the SRC in the early 1930s.

In the British National Archives I worked with materials from the Foreign Office and Treasury fonds. These documents were mostly related to developments on the Turkish railroads during and immediately after World War I. The British foreign office at the time was concerned with the wellbeing of the British owned Izmir-Aydın Railway, and later with the situation of the entire railways as they were taken over by the allied occupying powers. These sources provided alternative insight into the history of Turkish railroads during and after the War of Independence. A second area in which I was able to use British government records was to trace the developing railroading relationship between Britain and Turkey in the early

1940s. Most notably, this section of the archives included a report written by two British engineers stationed in Turkey in 1942.

The Mance Collection situated in the Middle Eastern Centre at Oxford University is comprised of the personal papers of Brigadier General Henry Osborne Mance, a British soldier, bureaucrat and railwayman. Mance served as the transportation advisor to the British delegation in the Paris Conference, and then as technical advisor to the London office of the Ottoman Bank and to various European railways from the 1930s to the 1960s. Mance's papers included a number of files on the Turkish railroads, in which he collected information regarding new railroad contracts in the 1920s and 1930s.

To compensate for the absence of archival materials relating to the history of the SRC, I closely examined all available issues of the SRC's professional railroading magazine, *Demiryollar Mecmuası*, printed in the period 1925-1945. I was able to access what was almost a full collection of these magazines at the Beyazıt Public Library and the Taksim Atatürk Library. Nonetheless, issues 118 to 143 (1935-6), and some of the issues from 155 to 192 (1938-40) were unavailable at both sources. Despite this shortcoming, I believe this is the fullest and most comprehensive treatment the magazine achieved as a historical source.

The railroading magazine, which was inaugurated in 1925, carried articles relating to a wide variety of topics. It served as a means of communication between the administration and the workers, as sections were devoted to the latest news from within the organisation. Changes in legislation and developments in specific practices were also announced through this channel. The magazine also included technical articles translated from European journals, or authored by Turkish engineers. In its early days, the magazine was managed by independent, high-profile writers such as Safveti Ziya and Mahmut Sadık. In the 1930s, following Sadık's death, the magazine was prepared and published in-house.³⁸

³⁸ For a history of the magazine, written by its last editor see: H. İbrahim Uçak, 'Demiryollar mecmuası ve Demiryolcu Dergileri', *Kebikeç*, No:11, (2001), pp. 250-277.

Using the indexes for certain issues that were bound together as volumes, and the independent table of contents pages for other issues, I was able to search the magazine for articles relating to specific topics. I concentrated on pieces dealing with changes in the management of railways, the opening of new facilities, the various institutions of railroad education, journeys to Europe, and visits from European railroaders. Most of the material I derived from the journal has hitherto been unused by historians who have previously concentrated on the railroading magazine as a source revealing the opening dates of certain lines and stations, or a source in which written copies of speeches by politicians can be found.

Other than the above described materials, where relevant, I also examined the legislation pertaining to the changes on the railroads throughout the period in question. I also used recent official publications by the SRC to gain or verify information regarding track length, numbers of personnel and other such figures.

3) Overview and Research Questions

Below I provide an overview of the content of each chapter in this thesis, and underscore the research questions addressed in these chapters. Each one of these questions stems from an effort to understand how Turkish railroaders, who had been relatively insignificant in the Ottoman period were able to run and develop the Turkish railroads in the period 1923-1945.

The first chapter of this thesis deals with the late Ottoman economy, with the development of railroads in the Empire, and with the concessionary system of railroad construction that emerged in the 19th century. By and large, this chapter sets the background to the rest of the work, as it highlights the saliciencies in the Ottoman railroading system, and connects the development of Ottoman railroads to developments in the general Ottoman

economy. Moreover, in this chapter I try to outline the gradual change in Ottoman economic policy, especially in the post 1908 period, in vein of showing that changes that occurred in the republican period did not materialise out of thin air. All in all I try to answer the question: “What were the main features of the Ottoman railroad concession system, and how was this related to the framework of the Ottoman economy?”

Chapter II turns to the post World War One period and examines the Turkification and nationalisation of railroads, and the relationship between the government’s economic policy and its railroads policy. This chapter is a brief overview of the history of railroads in the republican period, as told before in other sources. In this chapter I address the question “What were the major turning points in the Turkish Republic’s railway policy?” I offer a periodisation that helps understand developments in the construction and nationalisation of the Turkish railways in conjunction with the developments in the political economy of the country.

In Chapter III, I concentrate on the SRC as a body on its own accords. I provide a history of its development and growth, focusing on how the organisation was structured and managed. I deal with attempts to rationalise various practices within the SRC, and with the creation of a corporate welfare system for employees. I move from the questions “What were the main features of the SRC as an employer?” and “In what ways did the SRC go about handling the challenges of running a large scale business?” in an attempt to show that the SRC was Turkey’s first large scale corporation.

Chapter IV turns to the role of technical railroading education in raising personnel for the SRC. I differentiate between institutions providing training at three different levels. First I deal with the Istanbul Engineering School training university-grade engineers. I then examine the various courses and schools within the SRC aimed at raising mid-level employees. Finally I touch on the apprentice schools that trained skilled labourers to work in

repair factories. I try to show that the totality of these schools and courses amounted to a holistic system of technical railroad education. In this chapter I attempt to answer the overarching question: “What was the role of technical training in creating the Turkish personnel required to run the railways?” I try to show how the system of technical training changed and was refined over the years, and in what ways it succeeded and failed in raising Turkish railroaders.

Chapter V focuses on the two main channels of technology transfer in the SRC with the goal of answering the question “What was the role of technology transfer in creating the SRC, and developing the organisation’s ability to manage railroads?” Firstly, I examine the roles of foreign railroad experts hired by the SRC, differentiating between those who joined the corporation’s workforce in the absence of sufficiently trained locals, and those who were hired as advisors. I examine specific cases in each group, in vein of showing how foreign experts worked within the SRC and how their work was related to the changes within the organisation. Secondly, I turn to the various journeys made to Europe by Turkish railroaders. I asses the respective roles of students and young railwaymen on internships, SRC executives on “observational tours”, and railwaymen participating in international conferences in aiding the transfer of railroading knowledge from Europe to the SRC.

The above outlined chapters all aim to highlight one underlying argument. Turkish railroaders were able to take over, run, and develop a railway network because they put in place a system of technical railroad training, created a modern managerial organisation to run the railroads, and transferred knowledge and technology from Europe to overcome their various shortcomings in the period 1923-1945.

CHAPTER I

THE OTTOMAN LEGACY: EUROPEAN CAPITAL, RAILROADS AND THE EMPIRE

In the late nineteenth and early twentieth centuries, foreign capital in the Ottoman Empire was concentrated mostly in infrastructural investments. Among these, railway construction projects held the central role. The history of internationally financed railways, by and large, defines the Ottoman Empire's relationship with foreign capital. This chapter deals with the history of railways in the Ottoman Empire with the goal of serving three main purposes. First, this broad history will place the development of railroads within the context of the economic situation of the empire, especially with regards to foreign capital investments. Second, it will provide an overview of the development of railroads in the Ottoman period. Third and finally, it will try to refine certain tenets of Ottoman railway history drawing from the body of recent, very specifically focused works on the issue. Rather than a chronology of dates and kilometres of track laid, this section will give an account of the roles played by each party involved in construction, and the differences and similarities between various railway projects. I will focus on the four most prominent railroads in the empire: The İzmir-Aydın line¹, the Rumelian line, the Anatolian-Baghdad line and the Hicaz Railway.

1) The late Ottoman economy: from free-trade liberalism to war time nationalism

Following the 1838 trade treaty with Great Britain, the Ottoman Empire eliminated barriers to international trade and abolished a number of state monopolies on the production and importation of certain commodities.² Faced with increasing internal military and political

¹ It is difficult to argue that the İzmir-Aydın line was any more important than the nearby İzmir-Kasaba line, which was of similar length and was built around the same time. However the former has been studied much more extensively, while the latter has received scant academic attention, hence, my focus on the Aydın Railway.

² D. Quataert, "The Age of Reforms: 1812-1914", in H. Inalcık and D. Quataert Eds., *An Economic and Social History of the Ottoman Empire: 1300-1914*, (Cambridge: Cambridge University Press, 1993) pp.761-65.

strife, the Ottomans accepted free-trade liberalism as an economic policy, in exchange for the support of the European powers. Considering the absence of the technological developments and the corresponding changes in social structure that would spur industrialisation, the mainly agricultural Ottoman economy was left completely unsheltered from cheap foreign industrial products. The nineteenth century saw the articulation of the Ottoman Empire into the world economic system as a producer of raw materials and a consumer of industrial goods. The precious little that existed in terms of Ottoman industry was soon eroded by overseas competition.³

The laissez-faire ideal and an “open doors” trade policy soon came to shape the dominant understanding of economics in the empire. Indeed, the Istanbul newspapers of the 1830s and 40s often published articles on the merits of economic liberalism, encouraged or even written by foreign merchants trading in the country at the time.⁴ The first criticism of this policy came from Young Ottomans such as Namık Kemal and Şinasi in the 1860s. Despite not advocating a specific economic doctrine, these authors criticised the government on specific issues and attacked what they viewed as the dealings of “comprador bureaucrats”. By the 1880s free-trade liberalism had secured its position as the mainstream economic doctrine in the empire. Indeed the pioneering work by Sakızlı Ohannes Bey, *Mebadii İlm-i Servet-i Milel*, was to become the key text in economics for the next twenty years. This book was a vehement defence of free trade liberalism and its merits. Published in the same period, Ahmet Mithat Efendi’s *Ekonomi Politik* was a rare work arguing that free trade would be the ruin of the empire. Despite being insightful, his ideas about higher tariffs and the encouragement of direct investment rather than trade were impossible given the Ottoman legal framework and the dominance already achieved by foreigners.⁵

³ Şevket Pamuk, Jeffrey Williamson., “Ottoman De-Industrialization 1800-1913: Assessing the Shock, Its Impact and the Response,” NBER Working Papers 14763, (National Bureau of Economic Research, Inc., 2009).

⁴ Necla Geyikdağı, *Osmanlı Devletinde Yabancı Sermaye: 1854-1914*, (İstanbul: Hil Yayın, 2008), pp. 198-202.

⁵ Ibid., pp. 198-201.

Perhaps more universal than the support for free-trade was the enthusiasm for foreign direct investment (FDI) in the Ottoman Empire. The concessionary system, in which the right to undertake a certain infrastructural investment was given to a single company operating under privileged conditions with state support, was seen as the only way to develop infrastructure. Both local capital accumulation and technological ability were too underdeveloped to allow Ottoman investors or the state to carry out such projects. In the latter years of the nineteenth century, the zeal for foreign investment was coupled in some groups within the empire by a desire to import the economic spirit of the west. Some liberals within the Young Turk movement such as Tevfik Fikret, Satı Bey, and Prens Sabahattin argued that the ideals of individualism, entrepreneurship, and liberalism had to be spread among Ottoman subjects. Despite the dominance of liberalism at the beginning of the twentieth century, a group that advocated protectionism and a more national economy also emerged within the Young Turk movement. This group was influenced mainly by the writings of Parvus Efendi in *Tasvir-i Efkar* and *Tanin* in the period 1911-1912. Parvus Efendi wrote against foreign loans and free-trade, as well as the dominance of foreign concessions, claiming that these only increased the country's dependence on Europe.⁶ The protectionist strand of thought within the Young Turk movement eventually came to define the economic policies of the Committee of Union and Progress (CUP) following the 1908 revolution.

The Ottoman State's first encounter with foreign capital was an 1854 loan brought about by the need to finance the Crimean War. This was the beginning of a long period of severe government indebtedness as European loans were used as the primary mechanism to relieve the state's fiscal situation. The tax income of certain provinces or the duty derived from certain commodities such as tobacco and silk were used as collateral for international

⁶ Ibid, pp. 109-205.

credit.⁷ An almost immediate consequence of accepting such credit to finance state spending was that it brought with it foreign involvement in state expenditure. While taking the second Crimean War loan of 1855 from the house of Rothschild, for instance, the Ottoman State agreed that this would only be used to finance the deficit caused by the war. As guarantors of the loan, the British and French governments each sent a delegate to examine Ottoman State spending that year.⁸ Ottoman state debt rose constantly over the next twenty years. In the period 1869-1875 it is estimated that the state borrowing amounted to more than the entirety of revenue in the same period.⁹

The world depression of 1873 brought a halt to international capital flow to the Empire, triggering an eventual moratorium on the payment of government debts. The state then settled for a rescheduling of its debts leading to the creation of the Ottoman Public Debt Administration (PDA) in 1881. This was an independent body, governed by delegates from creditor nations that would control certain state revenues and make sure the Ottoman State honoured its debt. In accepting the authority of the PDA, Quataert states, the Ottoman State accepted the role of a debtor nation in the world financial system.¹⁰

The relative stability resulting from the PDA's control of revenues and debt payment brought with it an unprecedented amount of foreign direct investment in the Ottoman Empire.¹¹ Foreign investment had been limited mostly to the Aegean railways financed by British and French groups and investments in the agricultural sector of Western Anatolia in the period before the 1880s. Following the creation of the PDA, foreign investment in the Ottoman Empire focused mainly on infrastructural developments aimed at facilitating a higher

⁷ Ibid., p.71.

⁸ Faruk Yılmaz, *Devlet Borçlanması ve Osmanlı'dan Cumhuriyete Dış Borçlar*, (İstanbul: Birleşik Yayıncılık, 1996), p. 36 .

⁹ Donald Quataert, 'The Age of Reforms', pp. 773-75.

¹⁰ Ibid.,pp.773-5.

¹¹ Geyikdağı asserts that the perception of political and economic risk among European investors greatly diminished following the foundation of the PDA. See: Geyikdağı, *Osmanlı Devletinde Yabancı Sermaye*, p.94

volume of international trade. Risk-averse investors sought concessions that shielded them from direct competition and guaranteed a minimum return before tying down large sums of money in Ottoman lands. Therefore a picture emerged in which foreign investors in close contact with the Sublime Porte secured concessionary advantages, raised the necessary capital in European financial markets, and then undertook investments in the empire through joint-stock companies.

Internationally financed railroad construction amounted to over thirty-three per cent of foreign investment in the Ottoman Empire in 1888; by 1914 it constituted almost sixty per cent of all foreign capital.¹² Port construction and other infrastructural investments amounted to another ten per cent of foreign capital in the period 1888-1914.¹³ Investments in infrastructure and commercial agriculture also stimulated developments in the tertiary sector. By the end of the nineteenth century, a number of foreign banks and insurance companies operated mainly in İzmir and Istanbul. In short, the Ottoman experience of foreign direct investment in the nineteenth and early twentieth centuries was dominated by railroad construction.

The earliest investors in the empire were mainly British groups concentrated in Western Anatolia. These were followed by the French who held the largest amount of investments throughout the late nineteenth century. The end of the nineteenth century and especially the early 20th century saw an intense flow of German capital into the empire in alignment with the Kaiser Reich's policy of passive penetration.¹⁴ Investors from each of the above groups held operations in railroad construction. These projects have, by and large, come to define the Ottoman Empire's relationship with foreign capital, as they involved large

¹² Ibid, p.110

¹³ Donald Quataert, 'The Age of Reforms', p.774.

¹⁴ "Passive penetration" refers to the Kaiser Reich's policy of economic expansion into the Middle East that was supposedly uncoupled by political ambitions in the area.

amounts of internationally derived finance, ruthlessly negotiated government concessions, and in the post-1900 period, strategic international rivalry.

Foreign capital dominated investments in the Ottoman Empire for three decades following the erection of the PDA. The first serious checks to foreign economic activity, indicating a change in general policy, came after the Committee of Union and Progress (CUP) solidified its rule in the country. In the immediate aftermath of the 1908-9 revolution, the Committee of Union and Progress had followed a relatively democratic line. The Committee installed and changed cabinet ministers, and monitored government activity in general, yet it was only after 1913 that it took full control of state affairs. Toprak asserts that this year also saw the evolution of the CUP from a society in to a political party.¹⁵ During the same period the dominance of the nationalist faction of the Young Turks within the movement was also solidified. As a result, a marked shift in economic policy occurred, which manifested itself most clearly under the conditions of a war economy. During the Great War, the CUP was temporarily free from international treaties and concessions, and could therefore adopt more protectionist policies. The capitulations accorded to various European nations were abrogated unilaterally; the nominal *ad valorem* tariff was abolished in favour of higher specific tariffs on selected goods; and a moratorium was declared on the state's external debt.¹⁶

The changes in policy were indicative of more than just war-time opportunism. At the 1916 party congress the issue of a national economy was discussed for the first time.¹⁷ This new economy would be dominated by Muslim-Turks and would serve national goals. Besides the aforementioned precautionary measures taken during the First World War, the CUP pushed forward a series of interventionist laws aimed at curtailing the privileges of foreign

¹⁵ Zafer Toprak, *İttihat Terakki ve Devletçilik*, (Istanbul: Tarih Vakfı Yurt Yayınları, 1995), p.1

¹⁶ Şevket Pamuk, Owen., R., *Middle East Economies in the Twentieth Century*, (MA: Harvard University Press, 1999), p.12

¹⁷ Zafer Toprak., *İttihat Terakki ve Devletçilik*, p.2

tradesmen and capital. All foreign companies operating within the empire were to be subjected to Ottoman law and take the title of “Ottoman Companies”. Turkish was to become the language of commercial transaction, and professions that had hitherto been dominated by foreigners and non-Muslims were to be opened to Turks through courses and training programs. Moreover, the CUP supported the foundation of a number of national banks in order to provide credit and savings to Muslim townspeople. In a similar vein credit was made available to agricultural producers to save them from *alivre* purchasing. The CUP also encouraged the conglomeration of producers under co-operatives and joint-stock companies.¹⁸

During the war, a number of unprecedented direct interventions in the country’s monetary system and foreign trade regime also took place. In order to protect the value of Ottoman currency, all foreign exchange transactions were to be managed by a government agency created for this purpose.¹⁹ Monopoly rights to import certain key commodities were given to groups or individuals close to the CUP in an effort to create a Muslim bourgeoisie.²⁰ For the first time, the state experimented with internal borrowing, as war bonds were issued to create revenue for the state and to relieve inflationist pressure on the currency.²¹

2) The Development of Railroads in the Ottoman Empire

The first railroad project in Ottoman Anatolia was the İzmir-Aydın line, which aimed to integrate the port city of İzmir with its natural hinterland, where commercial agriculture was relatively developed. Robert Wilkin, together with four partners, applied for a concession

¹⁸ Ibid., pp.2-3.

¹⁹ Ibid, pp.2-3

²⁰ Şevket Pamuk, R., Owen, *Middle East Economies*, , p. 12

²¹ Zafer Toprak., *İttihat Terakki ve Devletçilik*, p.4

to build the line and was granted this in July 1856.²² According to the terms of the concession, the company building the line would have the right to run it for fifty years; after this period the state would have the right to buy the line back, if it saw fit. The company's annual return on its investment would be guaranteed by the state at a rate of six percent of its total capital. Any profit amounting to over seven percent of the company's capitalisation would be shared equally between the Ottoman government and the company. Moreover, the company would not pay duties on imported equipment and materials, and would have the right to use state-owned forests, land and mineral resources at will.²³ The original concession-holders soon transferred their rights to a London based group: The Smyrna to Aidin Railway Company (SARC). This company would raise the necessary capital in European financial markets and manage the line once it opened to service.

A team of engineers sent by the SARC drew out the plans for the line, which were approved by the Ottoman administration, and in 1857 a deal was made between the company and the contractor T. Jackson. The contracting company would construct the line and stations, and purchase the required rolling stock. Somewhat unusually, the contractor would be paid half in cash and half in company shares. As a result the contractors would own forty-three percent of the SARC.²⁴ Work on the line commenced in September 1857, but it proceeded at a very slow rate following a few months of initial zeal. A lack of funds negatively affected the pace of construction, which in turn blemished the company's reputation and ability to raise finance.²⁵ The severity of the construction situation, however, remained relatively unknown in London, because the contractor falsely reported progress on work that had not yet been completed. Furthermore, the contractor teamed up with the chief engineer and embezzled company funds, by overstating expenses and turning out shoddily finished work. In June

²² Orhan Kurmuş, *Emperyalizmin Türkiye'ye Girişi*, (Ankara: Savaş Yayınları, 1982), p.38

²³ Ali Akyıldız, 'Osmanlı Anadolu'sunda İlk Demiryolu: İzmir-Aydın Hattı 1856-66', in. E., Ihsanoğlu ed., *Çağını Yakalayan Osmanlı*, (İstanbul: M. Kaçar, 1995) pp.149-170

²⁴ Orhan Kurmuş, *Emperyalizmin Türkiye'ye Girişi*, p.39

²⁵ Ali Akyıldız, 'Osmanlı Anadolu'sunda İlk Demiryolu'

1860, the due date of the first seventy kilometres of the line, only thirty kilometres of track had been laid; several stations along the line remained unfinished; and an eight-kilometre section of the track that was already laid had been flooded because the embankment had been poorly constructed.²⁶ The engineer and the contractor were both dismissed and replaced, and the company eventually decided to go around the Aydın Mountains instead of tunnelling through them.²⁷ The new contractor too was reported to have embezzled the company, and it appears that most employees directly involved in construction in Anatolia made dubious earnings during the 1860s.²⁸

The line was fully opened in June 1866, due mostly to the very lenient and supportive approach of the Ottoman government. The company had been given several extensions on its due dates, and the government had refrained from exercising its rights of control over the company when the latter failed to fulfil the requirements of its contract. Moreover, the terms of the concession had been re-settled in 1863 to favour the company. The fact that the SARC started earning guaranteed profits following the opening of the line, coupled with the confidence created by the Ottoman State's support, led to a marked improvement in the company's financial standing. From 1867 to 1885 the company received state subsidies to guarantee its returns, following this period it mostly shared earnings with the Ottoman government. However, Akyıldız's examination of the financial reports provided by the company reveals serious calculation errors, which led to an under-representation of revenues and an overstatement of expenses. Whether or not these errors were deliberate is unclear; however, it is certain that they somehow passed the examination of Ottoman auditors.²⁹ The line was eventually extended as far as Lake Eğridir, totalling 609 kilometres upon completion.

²⁶ Orhan Kurmuş., pp.45-6

²⁷ Ali Akyıldız, 'Osmanlı Anadolu'sunda ilk demiryolu'

²⁸ Kurmuş asserts that the İzmir Consule-General at the time wrote to England reporting the irregularities in the earnings of both British contractors and the locals with whom they collaborated. Kurmuş, pp.40-55

²⁹ Ali Akyıldız, pp.255-6

Almost seventy years after the line was first inaugurated, it was purchased by the Turkish government in 1935.³⁰

Beginning in the 1850s the Ottoman administration made several attempts to organise the construction of a railroad trunk line in the Balkans. This would link the empire with continental Europe and at the same time strengthen the presence of the state in the region. After almost two decades of negotiations with several European groups, only in 1869 was a contract signed with Baron Maurice Hirsch, a Brussels banker.³¹ The Rumelian Railway Project that begun that year left behind it a legacy of corruption and exploitation that has deeply affected the public conception of the concession system in Turkey. This was due to the adoption of the kilometric guarantee system, the endless bribes flowing from Baron Hirsch's company to various Ottoman authorities, and Hirsch's open violation of the terms of the contract.³² Under the kilometric guarantee system, the Ottoman government agreed to a minimum rate of return for each kilometre of railway track in service. Unlike previous guarantees based on the sum of capital invested, the kilometric system opened the door to disproportionate returns for concession holders. Moreover, the system encouraged the construction of irrationally long, winding lines.

Upon gaining the concession to build the line, Hirsch had formed two companies based in Paris. The first dealt with the construction of the Rumelian Railroads; the second company, a seemingly independent venture, was formed to undertake the task of running the completed line.³³ Due to this set up, in 1872, when the project neared the mountainous regions of the Balkans, where construction would require serious expenses, Hirsch was able to hand back his construction concession to the state. The construction company had already made a

³⁰ Ismail Yıldırım, *Cumhuriyet Döneminde Demiryolları: 1923-1950*, (Ankara, Atatürk Araştırma Merkezi, 2001), p.137

³¹ Vahdeddin Engin, *Rumeli Demiryolları*, (İstanbul: Eren, 1993), for details on the contract see: pp.49-60

³² *Ibid*, pp.91, 108, 195

³³ *Ibid*, p.61

fortune laying track in the lowlands, as the original contract provided remuneration for each kilometre built. The figure per kilometre had been calculated bearing in mind the costs of the entire project, not the average cost of construction in areas that did not require major building works such as bridges and tunnels. Moreover, Hirsch had paid his contractors only half of what the government paid him per kilometre and had urged them to undertake work in the cheapest way possible. In short, when Hirsch handed back his concession to the state, he had shoddily constructed what was the least capital intensive section of the project, and had profited greatly. Because the construction and management companies had signed individual deals with the state, the latter still held a legitimate claim over its concession. Therefore Hirsch's management company was still able to run the completed sections of the line, which by then belonged to the Ottoman state.³⁴

The experience of the Rumelian Railway concession was certainly one that shaped the future understanding of foreign-owned railroads in Turkey. Hirsch had fleeced the Ottoman treasury, bribed its administrators, and built a railway line that bent and curved without passing through major towns.³⁵ The disdain caused by Hirsch's misconducts and the compliance of certain Ottoman administrators, coupled with the economic situation in the 1870s saw several half-baked attempts to construct state-financed lines.³⁶ Until 1888, when the concession was granted for the first section of the famous Anatolian-Baghdad line, the Ottoman government refrained from handing over major railway concessions.

The Ottoman State's attempt to construct a railway line between Haydarpaşa and Izmit in the 1870s showed that the state was not yet capable of financing and running railways. This short line had been built very slowly, and when the government failed in running the line

³⁴ Engin describes Hirsch's antics in some detail, see: pp.64-79

³⁵ Ibid, 170

³⁶ For instance, Cemil Öztürk has studied the state's attempt to build and manage the Haydarpaşa-Izmit line in detail. See: Cemil Öztürk, 'Tanzimat Devrinde Bir Devletçilik Teşebbüsü: Haydarpaşa-Izmit Demiryolu', in *Çağını yakalayan Osmanlı*, ed. Ekmelledin İhsanoğlu, M. Kaçar, (Istanbul: 1995), pp. 71-97

efficiently, it had been handed over to a private group.³⁷ Initially, the project had been envisioned as the beginning of a line that would run into Anatolia. Following the stabilisation of the Ottoman economy in the 1880s, a step to realise this ambition was taken when the concession to extend the line from İzmit to Ankara was given to a group led by the German Deutsche Bank in 1888.³⁸ Unlike Britain and France, at that time Germany was not openly associated with aggressive policies of imperialist expansion in the eyes of the Ottoman government. Moreover, Abdülhamid found a match in the relatively authoritarian rule of the German Empire, and the fact that they had developed so quickly strengthened the hand of German interests in the empire. This said, the Deutsche Bank did not acquire the railway concession and finance construction on its own. Especially in its earlier phases, the Anatolian railway project was a joint venture of European capital, and the Bank was merely the most major investor.³⁹

In 1890, a syndicate led by the Deutsche Bank and the Weiner Bank-Verein also purchased the controlling share of the Eastern (Rumelian) Railways.⁴⁰ In March 1889 the Anatolian Railway Company (CFOA)⁴¹ was formed to oversee construction, and as work continued on the İzmit-Ankara section, a new concession was gained to extend the line from Eskişehir to the fertile Konya plain.⁴² When the railway reached Ankara in 1893 and Konya in 1896, the Deutsche Bank, though its holdings in the Eastern Railways and the CFOA, controlled a major section of the Empire's railways. The concession for the Anatolian line had been granted on a ninety-nine year basis, using the kilometric guarantee system. Moreover,

³⁷ Cemil Öztürk, "Tanzimat Devrinde Bir Devletçilik Teşebbüsü: Haydarpaşa-İzmit Demiryolu"

³⁸ Murat Özyüksel, *Osmanlı-Alman demiryolları gelişim sürecinde Anadolu ve Bağdat demiryolları*, (İstanbul:1988)

³⁹ Boris Barth, 'The financial history of the Anatolian and Baghdad railways, 1889-1914', *financial history review*, Vol.5, 1999, pp. 115-137

⁴⁰ Ibid, p.117

⁴¹ This abbreviation derives from the French official title of the company: Chemin de Ferres Ottoman D'Anatolia.

⁴² See: Ayla Efe, 'Almanya'ya Verilen İkinci Demiryolu İmtiyazı: Hububat Hattı', *Ankara Üniversitesi Osmanlı Tarihi Araştırma ve Uygulama Merkezi Dergisi*, sayı 18, 2005

mining rights and the rights to archaeological excavation had also been granted to the company in areas of up to 20 kilometres distance to the line.⁴³

Pleased with the progress on the line and fuelled by the desire to extend the railway into Mesopotamia mainly for military reasons, the Ottoman administration granted the group led by the Deutsche Bank the concession to construct what became known as the Baghdad Railway from Konya to Iraq in 1902. At this stage, the construction of the line became an affair that gained a diplomatic status, insofar as various states were involved in decisions regarding the project. For instance, in 1903 the British government announced that British capital would be withdrawn from the Baghdad project as the leading German syndicate was assuming an increasingly controlling role.⁴⁴ Similarly, the Deutsche Bank, which had previously taken decisions regarding the line in an independent manner, aligned itself very closely with the German Foreign Office in the post-1903 period.⁴⁵ Despite still involving large sums of non-German capital, the Baghdad phase of the Anatolian-Baghdad Railway was transformed from an international financial venture to an issue of international diplomacy and rivalry.

Despite widespread general opinion to the contrary, foreign railways in the Ottoman Empire prior to the Baghdad Project were driven by financial rather than imperialistic concerns. As shown above, companies often openly embezzled the state and abused their contracts. However, these deeds were motivated by the greed of European financiers and concession holders, more so than a will to undermine the Ottoman government. One Deutsche Bank official of the time, who oversaw the affairs of the CFOA, aptly summed up the attitude of the European banker:

⁴³ Murat Özyüksel, *Osmanlı-Alman demiryolları gelişim sürecinde Anadolu ve Bağdat demiryolları*.

⁴⁴ For a critical analysis of this process see: Richard Francis. 'The British withdrawal from the Baghdad railway project in April 1903', *Historical Journal*, 16 (1993).

⁴⁵ Boris Barth, 'The financial history of the Anatolian and Baghdad railways, 1889-1914' pp. 122-5

“Reducing income ... in so far as the main network is concerned has no influence on *share* income, as the existing agreement with Turkey guarantees a specific gross profit. As costs also rise when profits are aimed at, it can be said that shareholders would be best served if there were no traffic on the main network. The company is obviously not run on such a selfish principle.”⁴⁶

The lack of control and vigour on the part of the Ottomans meant that whatever service was provided on the line was done so at the discretion of the concession holder.

The Hicaz railway was the first and only large scale railway built and run by the Ottoman State. This was conceived as a holy line, linking Damascus to the cities of Mecca and Medina. This line held vast symbolic importance for both the Empire and the Islamic World. Indeed, the line was financed in part by donations from Muslims around the world. Work on the line commenced in Damascus in 1900. The commission in charge of the line decided that the pilgrim route already in use would be followed as it passed through villages and was in the best possible proximity to water supplies.⁴⁷ This Istanbul commission consisting of high ranking statesmen controlled the purchase of materials, the appointment and payment of technical personnel, the inspection of purchased goods, and the handling of general contracts. A commission in Damascus was to undertake the day-to-day administration of construction.⁴⁸

At the outset of the project, the goal of the Hamidian regime had been to build the line using Ottoman funds, Ottoman personnel, and insofar as it was possible, Ottoman materials. This soon proved difficult because of the inexperience of Ottoman engineers, and in the fall of 1900 Henrich Meissner, a Prussian engineer who had previously worked on the Rumelian

⁴⁶ Ibid, p.121

⁴⁷ Ufuk Gülsoy, *Hicaz Demiryolu*, (Istanbul: Eren, 1994), Pp.126-7

⁴⁸ Ibid, pp.107-110

railways, was recruited to oversee construction.⁴⁹ Work on the first section of the line was carried out by foreign and Ottoman engineers working together. However when construction reached El-Ula, the point beyond which only Muslims were allowed, all work was undertaken by Ottoman Muslims. Civilians were employed in construction in the initial phases of the project, but the majority of work in the desert was undertaken by military personnel.

Motivated by the supposed holiness of the line and by the prospect of serving one third less than the regular conscript, soldiers were willing to work in the harsh desert conditions. For the Ottoman government this provided an unending pool of cheap, forced labour.⁵⁰

The line reached Medina in 1908, but following the CUP revolution, the new administration was suspicious of the project it associated with the persona of Abdülhamid. Investment in the line came to a halt, and problems with security increased due to Bedouin assaults.⁵¹ The Ottoman state lost the entirety of the Hicaz line during the First World War; nonetheless, the project was of great importance as it raised the first generation of republican railwaymen and contributed greatly to the self confidence of the state in building and running railways.

3) Were the Ottoman railways imperialistic?

Historians of the Ottoman Railways often stress the imperialistic role of railway investments and view these in the light of international rivalries.⁵² Moreover, railway projects that involved many persons and groups from diverse backgrounds are often associated with

⁴⁹ Murat Özyüksel, *Hicaz Demiryolu*, (Istanbul: Tarih Vakfı Yurt Yayınları, 2000), p.130

⁵⁰ Ibid, pp. 164-7

⁵¹ Ufuk Gulsoy, p.143

⁵² For works following this line of argument see: Edward M.Earle, *Turkey, the great powers, and the Baghdad Railway*, (NY: Macmillan, 1923), Also: Lothar Rathmann, *Berlin-Bağdat Alman emperyalizminin Türkiye'ye girişi*, (Istanbul: Belge Yayınları, 1982), A.Nedim Atilla, *İzmir Demiryolları*, (İzmir: İzmir BB Kültür Yayınları, 2002), Yağoup Karkar, *Railway development in the Ottoman Empire, 1856-1914*, (New York : Vantage Press, 1972), Orhan Kurmuş, *Emperyalizmin Türkiye'ye Girişi*, (Ankara: Bilim Yayınlar, 1974)

one nation or directly with a foreign government. Turkish historians in particular, overemphasise the notion that an alliance of foreigners and Christian Ottomans controlled the railways, deliberately keeping the railroading profession closed to Turks.⁵³ To an extent, such generalisations are understandable, as surveys of the Ottoman economy and railways tend to simplify the history of railway concessions due to space concerns. Each existing railway is associated with the nationality of its majority shareholder and assumed to have very close relations with that particular nation's foreign office. More specifically focused studies, dealing with the history of particular lines, on the other hand, offer a more nuanced understanding. Yet, these works usually limit themselves to the case at hand and refrain from drawing conclusions about the system of railway concessions in the empire. By drawing from this considerably wide range of recent and focused studies, it is possible to create a better understanding of the general nature of railroads in the Ottoman Empire.

In this vein, I critically focus on three tenets of Ottoman railway history, hoping to add depth to the above provided overview. First, I try to assess the concessionary system and provide a framework to understand the roles and motivations of the various parties involved in railway concessions. Second, I deal with the relationship between foreign states and railway companies in the empire. I attempt to show that in many instances the connection between these companies and European states was not as straightforward as it is sometimes thought. Third, I touch on the issue of the preferential employment of foreigners and non-Muslims on the Ottoman railways.

In the majority of railways constructed in the Ottoman Empire, and indeed in some of the projects that failed to materialise after concessions were granted, similar paths were

⁵³ For instance: İsmail Yıldırım, *Cumhuriyet Döneminde Demiryolları*, Donald Quataert, "The Age of Reforms: 1812-1914". For a non-academic account emphasising the same view: Murat Ergun, *Bir Demiryolcunun Kurtuluş Savaşı Hatıraları: Milli Demiryollarımızın Kısa Bir Tarihçesi*, (İstanbul: Ahenk, 1966). A rare study that provides some evidence backing this general assumption is: Donald Quataert, *Social disintegration and popular resistance in the Ottoman Empire, 1881-1908*, (New York: NYUP, 1983)" pp. 77-78.

followed. First, enterprising foreign individuals, often with intimate knowledge of the Ottoman Empire gained contacts in the Sublime Porte and negotiated railway concessions giving them monopoly rights to construct railways in a certain region. These concessions also provided state subsidies in the form of minimum income guarantees indexed either on the total capital invested or on a fixed sum per kilometre of track laid. For the state, concessions represented a threefold opportunity. Railroads would provide more direct control over distant territories, raise more revenue by stimulating taxable production, and promote development and modernisation within the empire.

After gaining a definite contract, the individuals or small groups holding the concessions passed them over to joint-stock companies. These companies were either formed by the concession-holders, as was the case with Baron Hirsch, or were independent groups who paid to take over the rights, as with the İzmir railways. The concessionary company, from that point on, acted as a broker connecting the various groups involved in the construction of railways. First and foremost, the companies raised capital on European markets either by selling stock or by trading Ottoman bonds. Simultaneously, they hired contractors and engineers. The contractor undertook the construction of railway lines and the provision of all required materials and auxiliary structures. The company's engineers made major planning decisions and inspected the progress on the lines.

For the nineteenth-century contractor, the task of building railroads in the Ottoman Empire was extremely challenging in terms of engineering and management. The role of the contractors has hitherto been largely neglected; however, it was critical in the building of railroads.⁵⁴ Contractors were responsible for maintaining schedules, managing a multi-cultural workforce, and deciding what source materials were to be imported from. Furthermore, the relationship between the concession-holder and the contractor was critical in

⁵⁴ Marc Linder, *Projecting Capitalism: a history of the internationalization of the construction industry*, (Conn: Greenwood Press, 1994)

the success of railway projects. Marc Linder writes that in general, German construction contractors were mostly ventures controlled by financial and industrial capital, in contrast to their British counterparts who were relatively independent.⁵⁵ This difference manifested itself during the construction of Ottoman railways: on German-dominated projects, contractors worked more closely with the concession-holders.

In essence, the concessionary companies fulfilled a role that could have easily been played by the Ottoman government had its international economic standing been stronger. The two chief reasons leading to the birth and the continuation of the concessionary system were the immaturity of Ottoman financial markets and the state's inability or unwillingness to manage the many parties involved in building and running railways. The concessionaries, by themselves, had neither the money nor the technical ability to construct railroads. What they did have was the means of bringing together the Ottoman state, the expanding European capital market, and the international railway contractor. Their business was one of making profit by all means necessary. The approach of the concessionary has been summed up adequately below:

“...the construction of these railways involved initially entrepreneurial high-risk yet potentially high-profit ventures. They were directed by European bankers predominantly interested in making money. By and large, these financiers had no desire to become involved in politics, which they regarded merely as an unwelcome side effect of their activities.”⁵⁶

Despite the maximum profit orientation of the concession-holders, it appears that internationally financed railways did develop political significance for European states in the

⁵⁵ Ibid, pp. 77–80

⁵⁶ Boris Barth, ‘The financial history of the Anatolian and Baghdad railways, 1889-1914’, p. 115

period leading up to the First World War. Below, I touch on the complex relationship between Ottoman railways and European states in more detail.

The Ottoman railways, except the İzmir-Aydın and İzmir-Kasaba lines, were ventures of international finance capital. That is, the share capital for the Oriental, Anatolian, and Baghdad lines was derived from a number of European countries. For instance, prior to the withdrawal of the British government's support in 1903, the famously "German" Baghdad project was conceived as a joint venture of German, French and British finances coordinated by the Deutsche Bank. By the latter part of the same decade, decisions regarding the future of the Baghdad project were being influenced heavily by German state policy communicated to the company in directives disseminating from the Foreign Office.⁵⁷ During the same period, the British Foreign Office was covertly helping one British railway concern in Turkey with problems regarding their concession, while ignoring the plight of another group. To understand the complexity of the relationship between European nations and the Ottoman railways, it is necessary to pose two questions. What were the limits to the above mentioned "internationality" of Ottoman railways? And to what extent did Ottoman railway companies collaborate with European governments? The answers to these questions will refine the notion that each railway company was simply the agent of a given European power.

Unlike the concession holders who had financed the İzmir-Aydın line solely with English capital, Baron Hirsch raised capital in various European markets by selling bonds while embarking on the Rumelian Railway project.⁵⁸ From that point on, the finance required to construct railways in the Ottoman Empire was always raised from a variety of European countries. The Anatolian Railway, for instance, was built by a group in which Deutsche Bank held the controlling share. However, the company was financed by Austrian, Swiss and

⁵⁷ Ibid, pp.126-8

⁵⁸ Vahdeddin Engin, *Rumeli Demiryolları*, pp. 61-64

French investors as well as Germans.⁵⁹ Von Siemens, the director of the Deutsche Bank, had specifically envisioned the project as a joint venture for European finance.⁶⁰

The cooperative dimension of the project was not limited to raising capital. Due to the inexperience of German firms in large construction projects in underdeveloped territories, Siemens also opted for a partnership with Count Georges Vitali's construction company. This French group constructed the initial section of the Anatolian line, while training employees of the German Philipp Holzmann Cie. contracting company to undertake work on the following sections. The French and German engineers employed Croatian and Italian stonecutters and masons, but mainly local Ottoman labourers.⁶¹ Moreover, once trains started running on the line, the CFOA employed workers from Austria-Hungary, Italy, Greece, France, and Switzerland in significant numbers. In 1908, Germans only constituted about seventeen percent of the non-Ottoman work force of the CFOA.⁶²

At its start, the Baghdad Railway had also been conceived as an international venture that would involve almost equal shares of German, French, and British capital. The Deutsche Bank intended to maintain some control over the project; however, it also desired to spread the risk of this somewhat dubious investment as widely as possible. In 1903, according to the final deal put forward to the British group concerned, twelve members of the new company's board of directors were to be German, ten French and eight British.⁶³ Yet in April 1903, mounting public opposition to the project fuelled by anti-German sentiments in the press, combined with domestic political disputes within the cabinet, the British government declared it would not support the project and provide assurances to British investors.⁶⁴ Thereafter, the

⁵⁹ Boris Barth, "The financial history of the Anatolian and Baghdad railways, 1889-1914"

⁶⁰ Marc Linder, *Projecting Capitalism*, pp.77-80

⁶¹ *Ibid.*, p.79

⁶² Peter Mentzel, "The ethnic division of labor" on ottoman railroads: A re-evaluation.' *Turcica*, 37, (2005). p. 229

⁶³ Richard M. Francis, 'The British withdrawal from the Baghdad railway project in April 1903', p. 171

⁶⁴ *Ibid.*, p.168

project, to an extent, lost its international character though French investment in the Baghdad line was considerable throughout the period of construction.⁶⁵

The notion that the Anatolian-Baghdad line was a distinctly German enterprise seems to stem from two reasons. First, the close relationship between the CFOA, the Deutsche Bank, and the German State in the years directly preceding the Great War is spuriously thought to extend back to the 1890s. Second, and perhaps more important, the influential banking histories, written by the radical right-wing economist Karl Helfferich in the post-World War I period, propagated the myth that the Baghdad Railway was a German project in which foreign capital played only an insignificant role.⁶⁶

There is, however, risk in taking the notion of the internationality of Ottoman Railways too far. Most railways were financed by a number of European nations, and they did employ international workforces. Yet, the dominance of a particular nation was felt on each line. This manifested itself in a number of interconnected ways. The materials required to build or run the lines were purchased overwhelmingly from producers in the primary concession-holder's country. Similarly, the most critical positions in railway companies, such as director and chief engineer, were filled by citizens of the concession-holder's home country. In instances where companies required support from foreign governments, they contacted the diplomatic corps associated with the initial concession holder. Finally, and perhaps most importantly, conditions of carriage on each railway inadvertently favoured traders who held the same nationality as the concession-holder. In short, the railways were generally internationally financed and ran with the participation of an international workforce. Nevertheless, the dominance of a single nation was felt on each railway line. However, until the early 20th century, this domination did not amount to a close relationship with foreign governments. .

⁶⁵ Boris Barth, 'The financial history of the Anatolian and Baghdad railways, 1889-1914' p.116

⁶⁶ Ibid., p.130

The relationship between concession-holding railway companies in the empire and European governments is often believed to be one that was closer and more direct than really was the case.⁶⁷ Railway companies, did at times, work in close contact with European foreign offices, yet this contact was not always desired by the companies, and it certainly did not turn the company into an agent of a foreign government. To elaborate, I focus on the relationship between two British railway companies in the Ottoman Empire and the British Foreign Office, and the relationship between the German government and the CFOA. I try to show that a close relationship between foreign offices and railway companies only came to exist in the immediate pre World War I era.

In October 1891, the concession for a railway project linking Acre and Damascus was granted to the Syria Ottoman Railway Company led by John Pilling. However, due to difficulties in raising finance and organising contractors, work on the line never took off in earnest. In late 1897, the Ottoman government seized the company's assets and took control of what existed in terms of property and materials. In 1903, a settlement was reached with the group, as the Ottoman government re-purchased its concession.⁶⁸ Interestingly, the British government provided little support for the Syria Ottoman Railway Company. Even when Pilling and Hill, the two directors of the concern, actively petitioned the Foreign Office for help in renegotiating their concession, they received only politely worded letters of rejection. Following the settlement, Pilling continued to petition the Foreign Office for help to regain

⁶⁷ I do not suggest that histories of specific railways do not realistically detail the interactions of foreign states and railway companies. However, each author accounts for the relationship only on the line they are dealing with. On the other hand, generic accounts often pre-suppose a close relationship. For instance: İlber Ortaylı, *Osmanlı İmparatorluğu'nda Alman Nüfuzü*, (Istanbul: İletişim, 1998). One author goes as far as to state that European states more so than companies lobbied for railway concessions with the aim of penetrating into the empire. See: D. Mehmet Burak, 'İngiliz J.R. Pilling'in Osmanlı Demiryolu İmtiyazını Ele Geçirme Mücadelesi', *Ankara Üniversitesi Osmanlı Tarihi Araştırma ve Uygulama Merkezi Dergisi*, sayı 17, (2005)

⁶⁸ David Kushner, 'The Haifa-Damascus Railway: the British phase 1890-02', in Ceasar E. Farah, ed., *Decision Making and Change in the Ottoman Empire*, (Missouri: The Thomas Jefferson University Press, 1993) pp. 193-215

his concession, trying desperately to convince it that the project was vital for British interests in the region.

One author views the existence of such communications and the superficially congenial tone of the official replies as proof of the very close relationship between the company and the British state.⁶⁹ In truth, the British diplomatic corps held nothing but disdain for Pilling. As early as 1895, Ambassador Curie made his views quite clear, describing Pilling as a “second class financial swindler...” Similarly, Curie’s successor, Ambassador O’Connor detested the man to the point that he refused to have any dealings with him.⁷⁰ It is clear that for the British government, non-involvement in the business of private companies was the dominant principle. As the below discussed example shows, exceptions were made only when too much was thought to be at stake.

In August 1913, the Smyrna to Aidin Company applied to the British diplomatic core in Istanbul in order to obtain support in negotiating a concession to extend its railway from Lake Eğridir to Lake Beyşehir.⁷¹ Similar support had been used when the initial concession was negotiated in the 1850s.⁷² Except for such help in dealings with the Ottoman state, the company in general, had little contact with the British government. The Foreign Office subsequently agreed to help the company in the Eğridir-Beyşehir extension, because it was the only British Railway in Ottoman territory, and it had functioned efficiently for some sixty years. Matters however became more complicated when the Ottoman government began negotiating the construction of a railway line from Burdur to Antalya with an Italian syndicate. This line would fall south of the existing Smyrna-Aidin railway, and in the view of the SARC would constitute competition in the SARC-dominated zone, hence violating their 1906 concession. For the Foreign Office, given the intense strategic rivalry of the pre-war

⁶⁹ See: D.Mehmet Burak, ‘İngiliz J.R. Pilling’in Osmanlı Demiryolu İmtiyazını Ele Geçirme Mücadelesi’

⁷⁰ David Kushner, ‘The Haifa-Damascus Railway: the British phase 1890-02’, p.202

⁷¹ David McLean, ‘British Finance and Foreign Policy in Turkey: The Smyrna-Aidin Railway Settlement 1913-14’, *The Historical Journal*, Vol. 19, No. 2 (Jun., 1976), pp. 522-523

⁷² Ali Akyıldız, ‘Osmanlı Anadolu’sunda İlk Demiryolu: İzmir-Aydın Hattı, 1856-66’

period and the commentary such a violation would provoke in British political circles, the dispute between the SARC, the Italians, and the Ottoman government became an issue of vast importance.⁷³

McLean argues that had the issue been limited to supporting the company for the extension to Beyşehir, the Foreign Office would have provided some help through the Istanbul embassy, but would have refrained from involving itself too much with the affairs of the group. Under the new situation, Sir Edward Grey, the British Foreign Secretary, however, felt that the SARC would not be able to handle the now politicised negotiations on its own. For the first time, the Foreign Office exerted control over the company by installing a solicitor to help the SARC in the negotiations. The solicitor, who seemingly worked for the SARC, in fact, reported to the Foreign Office.⁷⁴ By directing the negotiations through an agent, the Foreign Office was, on the surface, maintaining its principle of non-involvement in the affairs of private companies. In assessing the nature of the British government's involvement in the company's management two points must be taken into consideration. First it is unlikely that the government would have actively engaged itself in the affairs of the SARC, had conditions in European politics not been so heated in 1913-14. Second, even when the Foreign Office did engage in the affairs of the business, it did so sparingly, and only through an agent. The directors of the SARC were most probably unaware that the government was following their negotiation so closely.

The Anatolian-Baghdad Railway is perhaps the single project within the empire that has been most associated with the involvement of a European government. It has been depicted as a project of the German Reich, conducted through the agency of the Deutsche Bank.⁷⁵ While there is truth in the assertion that the Kaiser's visits to the empire and the efforts of the

⁷³ David McLean, 'British Finance and Foreign Policy in Turkey: The Smyrna-Aidin Railway Settlement 1913-14', p.524

⁷⁴ Ibid., 524-7

⁷⁵ For instance: Lothar Rathmann, *Berlin-Bağdat Alman emperyalizminin Türkiye'ye girişi*, İlber Ortaylı, *Osmanlı İmparatorluğu'nda Alman Nüfuzü*

German Foreign Office helped secure the Anatolian and Baghdad concessions, the relationship between the German state and the CFOA changed quite substantially in the period 1888-1914. Initially, the Deutsche Bank under the direction of Von Siemens, the major force behind the project, was against the involvement of the German government.⁷⁶ A number of changes within the Deutsche Bank and the German diplomatic corps in Istanbul in the 1900s, coupled with the increasing tension of the pre-war years, saw the increasing control of the Foreign Office in decisions regarding the railways. Gwinner, Von Siemens's successor as Bank director, was not as actively involved in the management of the railway as his predecessor. Moreover, the Bank's official in Istanbul in the latter part of the 1900s was a fervent defender of German expansionism and opted for close contact with the Foreign Office. The Foreign Office, during the same period, found itself drawn into the affairs of the line, in order to protect what was in German public opinion the most important investment in the Near East. It has been argued, however, that even in the post-1910 period, the Bank made attempts to retain control of 'its' project.⁷⁷

The notion that foreigners and Christian Ottomans were preferentially employed on the Ottoman railways is in general accepted with little objection. This understanding is especially reinforced by the national triumphalism that accompanied the nationalisation of Turkish railroads in the 1930s. While it is clear that foreigners did in fact fill the highest positions in railroad companies, the degree to which Muslim Turks were consciously excluded from skilled is not exactly clear.

⁷⁶ Boris Barth, 'The financial history of the Anatolian and Baghdad railways, 1889-1914', p. 127. Siemens has been described as a man who "had never avoided a clash with German policy... even in strategic and political questions".

⁷⁷ Ibid., p.132

Two studies by Peter Mentzel suggest that the division of labour on the Ottoman railroads followed national rather than ethnic lines.⁷⁸ That is, foreigners were employed at the top of the managerial hierarchy, while Ottoman subjects belonging to various groups were dispersed throughout the middle and lower levels. Non-Muslims, such as Greeks and Armenians, were employed more frequently than Muslim Ottomans; however, this did not correspond to a clean-cut difference in the kind of jobs held by each group. Mentzel based his arguments on the employee records of the CFOA and the Oriental railways.

Mentzel found that a 1908 roster of more than 650 salaried employees showed that 450 were Ottoman nationals.⁷⁹ Among these men, 68 had names that clearly identified them as Muslims.⁸⁰ This is of some significance, as the salaried employees of the company undertook highly skilled tasks and were recruited among young men who were relatively well educated. Moreover, entry to these permanent positions depended on passing a series of examinations set by the company's administration. Hence, despite being underrepresented, Muslims were not entirely excluded from the skilled workforce of the CFOA as has hitherto been thought. Especially among on-train staff such as drivers and firemen there seems to have been an almost equal distribution of Muslim and non-Muslim personnel. Of the 23 Ottoman drivers in the 1908 roster for instance, 12 were Christian and 11 Muslims.⁸¹ It remains unclear whether the findings based on the CFOA represent a general trend in all foreign owned Ottoman railways. While the understanding that foreigners and non-Muslims were more dominant on the railroads is generally true, Mentzel's work challenges the extent of this

⁷⁸Peter Mentzel, 'The "ethnic division of labor" on ottoman railroads: A re-evaluation.' *Turcica* 37 (2005), and Peter Mentzel, 'Unity and diversity on Ottoman railways: a preliminary report on technology transfer and railway workers in the Ottoman Empire', in Ekmeleddin Ihsanoglu, Kostas Chatzis, and Efthymios Nicolaidis, eds., *Multicultural Science in the Ottoman Empire* (Turnhout, Belgium: Brepols Publishers, 2003).

⁷⁹ Here it is worth noting that the workforce on the CFOA and the Oriental railroads was organised into two groups corresponding to full-time, salaried employees and wage labourers. The roster included salaried employees only.

⁸⁰ Peter Mentzel, "The "ethnic division of labor" on ottoman railroads: A reevaluation." p.230

⁸¹ Peter Mentzel, "Unity and diversity on Ottoman railways: a preliminary report on technology transfer and railway workers in the Ottoman Empire", p.159

domination. In doing this, it helps create a more refined and clearer understanding of the working of Ottoman Railroads.

CHAPTER II

RAILROADS AND ECONOMIC POLICY IN THE TURKISH REPUBLIC, 1923-1945, TURKIFICATION AND NATIONALISATION

The first twenty years of the Turkish Republic witnessed radical changes in the country's economic structure. These changes were instigated by both the conditions of the interwar world economy and by the political motivations of the new regime's leaders. These developments in the political and economic arena were by and large, mirrored by changes in Turkey's policy towards railroads. This chapter deals with the relationship between the international economy, the economic policies of the Turkish government, and the history of Turkish railroads in the period 1923-1945. I highlight what I see as the major breaking points in the history of republican railways in an attempt to explain the transition from the Ottoman concessionary system described in Chapter I, to the full ownership of the republic's State Railway Corporation.

First, this chapter deals with the organisation of Turkish Railways during the decade of war preceding the declaration of republican rule. This section also focuses on the Turkification of railways during and immediately after the War of Independence. I then provide an overview of the Turkish economy in the post-war period touching especially on the limitations stipulated by the Lausanne Agreement and on the policies of the new government as laid out in the İzmir Economic Congress. The third section in this chapter focuses on two cases in republican railway history in vein of highlighting the continuity and change between the policies of the late Ottoman state and the Turkish Republic in its heyday. The case of the Chester concession displays continuity between the policies of the early Kemalist regime and the Young Turks. The second case in question, the nationalisation

of the Anatolian Railway shows signs of both continuity and tentative change between the policies of the two periods. In the final part of this chapter, I move on to deal with the actual development of railroads in Turkey, focusing on the construction, nationalisation and management of railway lines. I also attempt to show how developments in these areas were related to the shift to economic Etatism and changes in the country's international economic position.

1) The War of Independence and the Turkification of Railways

The first military organisations dealing with railways in the Ottoman Empire were the first and second railroad battalions set up under the auspices of the Ministry for the Construction of the Hicaz Railways in 1900. The administrative body that ran the Hicaz line later grew out of the first railroad battalion. Following the 1908 revolution, a battalion was also set up to protect and inspect stations along the Anatolian line, and in 1909 this was joined by a similar unit functioning on the Rumelian Railways. These two units operated under the Dersadet Railroad Regiment. The First World War saw the expansion of the military railroad corps as it was attached to the newly formed Muharebe ve Muvasala Mufettiş-i Umumiliği (General Inspectorate for Communications and Transport) and the number of railroad battalions rose to five. In 1917, the military railroading organization had become known as the Inspectorate of Railroad Detachments.¹ During the war, all British and French personnel were removed from the railroads.² This was significant, especially in the Aegean railroads, as all managerial roles had been fulfilled by these employees prior to the war.

¹ Mehmet Özdemir, *Mütareke ve Kurtuluş Savaşı Başlangıç Döneminde Türk Demiryolları: Yapısal ve Ekonomik Sorunlar (1918-1920)*, (Ankara: TC Kültür Bakanlığı Yayınları kültür eserleri dizisi 296, 2001), pp.22-6

² The Archives of the UK (TNA): Public Record Office (PRO), FO 232/90, 22 Sep. 1915, From Rathmore SOARC to Undersecretary of State.

Following the armistice, the allied occupying powers placed officers in certain stations and took nominal control of the Anatolian and Baghdad Railways; however at first, they did not operate the lines themselves. As railroads were needed in the demobilization of troops; the railroad battalions were the last to disband.³ The Aegean lines that had been taken over during the War were returned to the concession holding companies, who consequently laid-off the war-time military and civilian Turkish personnel favouring pre-war staff.⁴ During 1919, the occupier's control over railways increased and a military body, the Inter-Allied Railway Commission started running the Anatolian and Eastern lines. During the same year, railroads, especially in the Aegean area became the target of nationalist resistance activities. In late June 1919, the British Director of Railways in Istanbul was forced to order the withdrawal of personnel from the Aydın region.⁵ The Köşk-Eğridir section of the line was consequently run by the local resistance forces centred in Nazilli. In December 1919, an official administration led by Ahmet Muhtar Bey was formed to run this line.⁶

In response to the British withdrawal from Anatolia proper and to the tightening allied control over Istanbul, in March 1920, the new administration centred in Ankara announced that the sections of the Anatolian railways falling east of Bilecik would be run by the nationalist forces on behalf of the CFOA.⁷ The administration also announced that it guaranteed the safety all non-Muslim employees, as they were necessary for the efficient functioning of the line. Nonetheless, anti-Greek sentiments often manifested themselves in violent outburst against non-Muslim employees by regular and irregular nationalist troops. To the protest of many deputies in Ankara, Behiç Bey, the acting Director of Railroads,

³ Ibid, pp.27-8

⁴ Murat Ergun, *Bir Demiryolcunun Kurtuluş Savaşı Hatıraları: Milli Demiryollarımızın Kısa bir Tarihçesi*, (İstanbul: Ahenk Matbaası, 1966), p.14

⁵ TNA: PRO, FO 608/102/3, 26 June 1919, Director of Railways, Constantinople, to the DRR.

⁶ Murat Ergun, *Bir Demiryolcunun Kurtuluş Savaşı Hatıralar*, p. 20. Ahmet Muhtar who ran the Izmir railroad should not be confused with Ahmet Muhtar, the Ottoman director of railways and later Minister of Public Works.

⁷ Mehmet Özdemir, *Mütareke ve Kurtuluş Savaşı Başlangıç Döneminde Türk Demiryolları*, p.56

exerted much effort to keep Christian personnel out of harms way. Regardless of the compassionate aspect of this struggle, Behiç Bey was not motivated by warm feelings toward non-Muslim personnel or respect for their tenure.⁸ As Muslim staff became available, they replaced Christians working on the line. By 1922, the employment of Greeks, save for certain individual cases, was completely disallowed.⁹ Following the complete withdrawal of British troops, in September 1923, the Directorate of Railways took control of the Haydarpaşa station and port, the starting point of the Anatolian line.

Following the declaration of republican rule, the most immediate change in the way railways were administered took place in the composition of managerial staff. As shown above, a shift from non-Muslim to Muslim personnel was well underway during the War of Independence. In the very early republican period this transition was finalised with the help of the Greek-Turkish population exchange. This Turkification of employees took place mainly at the level of middle management and skilled labourers. Train drivers, firemen, conductors, station masters, inspectors and movement officers were to be Turkish and operate the lines using the Turkish language. This transition however, was not absolute. Foreign experts were still employed by the Turkish state, as well as certain specialised non-Muslim employees who were deemed necessary. Foreign companies, on the other hand, were perfectly free to employ foreign experts and executives as long as their general staff was Turkish.

This was a very important turning point in Turkish railway history as it gave birth to the triumphant notion of “national railroading”. In a reversal of the practices in the Ottoman era, Muslim Turks became the dominant group among railroad employees. This was ideologically significant for contemporaries, as railroads were now being run by the children

⁸ Emir Kivircik, *Cepheye Giden Yol*, (Istanbul: GOA, 2008), pp.163-4

⁹ TNA: PRO, T 160/1057, Alwyn Parker to Cooke, 4 Oct. 1922, Middle East Centre Archive, St Antony's College, Oxford, Osborne Mance Collection, GB 165-0200, Box H / File 8, 'Note on railways in Asia Minor', 16 May 1925. Both accounts state that all non-muslim personnel were forcibly removed from the Aegean railways towards the end of the War of Independence.

of the land, who supposedly bore in mind the efficiency of the operation and the comfort of their passengers before all other concerns. The return to foreign ownership in the İzmir railways for instance, does not seem to have sparked much animosity among the Turks who ran the line during the war. In his memoirs, Murat Ergun, a war-time employee, viewed the nature of the return to company ownership as a veiled victory. Despite being owned by foreigners, the line would now be operated in a “national” manner by Turks. Only the general directors and a few technical experts would be foreign. Moreover, for Ergun, this was a victory against both foreigners and certain Ottoman citizens who believed that Turks could not run railroads. Besides its ideological dimension, the Turkification of railroads also had practical importance. The process of “Turkification” was an important step towards the consequent nationalisation of railroads. As Turkish personnel were already in place, the future decisions to nationalise certain lines were reduced mainly to questions of finance.

2) The Post War Turkish Economy

The economic policies pursued in the early republican period very closely resembled those of late Ottoman Empire under the direction of the CUP. However, unlike the empire during the Great War, the republic was bound by international agreements. The general framework of Turkey’s external economic relations was set down in the Lausanne Peace Agreement of 1923. For a period of five years the republic would follow a tariff policy based on the 1916 Ottoman tariff system. This amounted to a general tariff of about 12.9 percent, and disallowed the use of selective measures to protect local industry.¹⁰ Under the same agreement, the government could not control imports and exports, or ban the trading of specific commodities. A great success on behalf of the Turkish party however was achieved

¹⁰ Korkut Boratav, *Türkiye İktisat Tarihi: 1908-2002*, (Ankara: Imge, 2003), pp. 44-5

insofar as capitulations were officially abrogated. Moreover, the crippling Ottoman debt was distributed to the various successor states. The Turkish Republic would to pay about two-thirds of the debt, the first instalment of which amounted to fifteen million gold liras to be paid in 1929.¹¹ In broad terms, the Turkish economy in the first six years of the republic has been characterised as one of reconstruction under the conditions of an open economy.¹²

In its early days, the republican government continued with the task of creating a Muslim bourgeoisie closely aligned with the state.¹³ Those state monopolies which were beyond the reach of the clauses of the Lausanne Agreement were handed over to selected individuals and companies. The existing Muslim bourgeoisie centred mainly in Istanbul had organised itself under the roof of the National Turkish Trade Committee in 1922.¹⁴ The explicit goal of this organisation was to “nationalise” trade by gradually taking over the roles previously played by Armenians and Greeks. It must be noted that Muslim tradesmen did not want abolish the system in which the Greeks and Armenians functioned, they merely desired to take over the roles of distributor, representative or commissioner for foreign companies. The İzmir Economic Congress of February 1923 was of critical importance as it brought together the Kemalist regime and the Istanbul bourgeoisie for the first time. Moreover, the conference laid out the general framework of the economic policies the government would choose to implement throughout the 1920s.

In his famous speech inaugurating the İzmir Economic Congress, Mustafa Kemal summarised what he saw as the problems of the Ottoman economy. The disability to freely tax foreign merchants, the open doors trade policy, and the concessionary system regulating

¹¹ Ibid, p.43

¹² Şevket Pamuk, Roger Owen, *Middle East Economies in the Twentieth Century*, (MA: Harvard University Press, 1999), Korkut Boratav, *Türkiye İktisat Tarihi: 1908-2002*

¹³ Efforts to create a national, Turkish bourgeoisie were already underway in the post 1908 period. See: Zafer Toprak, *Türkiye'de ekonomi ve toplum : 1908-1950 milli iktisat-milli burjuvazi*, (Istanbul: Tarih Vakfi, 1995)

¹⁴ Korkut Boratav, *Türkiye'de Devletçilik*, (Ankara: Savaş, 1982) pp. 12-14

foreign investments had crippled the state, leading to its subjugation to the great powers. However, while describing the new state's economic stance with regards to foreign investments, Mustafa Kemal burned no bridges. He declared that the new state was not opposed to foreign capital as long as it obeyed Turkish law. Much capital was needed to develop industry; foreign investors were welcome as both they and the new Turkey would gain from such deals.¹⁵ Indeed the most tangible product of the conference, the *Misak-ı İktisadi*, which set out the general economic approach of the new regime, included a clause directly relating to the issue of foreign investment. This article stated that the Turk was not against foreign capital, "however, he does not deal with foreign companies that disregard the language and law of the Turk in his own country."¹⁶ Indeed Ökçün's work has shown that among the 201 joint-stock companies created in the period 1920-30, 66 had foreign partners. The capital stock of these 66 companies constituted almost half of all paid up capital in the same period.¹⁷ In practice, it can be argued that in the early days of the republic, foreign groups provided the necessary capital, and their local partners forged the required bonds with the new administration. Investments were generally concentrated in sectors that would earn a good profit for each of the parties, rather than large scale infrastructural projects aimed at spurring industrial development.

Focusing specifically on the future of railroads in Turkey, the "workers group"¹⁸ in the İzmir Conference put forth a list of suggestions regarding the construction and running of railway lines. They agreed that Turkey needed foreign capital to construct railways, however argued that the conditions under which such capital operated had to be closely controlled due

¹⁵ Gündüz Ökçün, *Türkiye İktisat Kongresi 1923 – İzmir: Haberler – Belgeler – Yorumlar*, (Ankara: AÜSBF, 1968), p.211

¹⁶ Ibid, p. 324.

¹⁷ Gündüz Ökçün, *1920-1930 Yılları arasında kurulan Türk anonim şirketlerinde yabancı sermaye*, (Ankara: AÜSBF, 1971)

¹⁸ The İzmir Congress was based on the notion of vocational representation, and groups representing merchants, workers, industrialists and farmers were invited. According to Boratav the conference served the purpose of introducing the new government to the merchants of Istanbul and large land owners rather than bringing together members of the various sectors of the economy. Boratav, *Türkiye İktisat tarihi*, pp.45-6, *Türkiye'de Devletçilik*, pp. 14-6

to the unique importance of railroads. First and foremost, the group suggested that railway construction should be undertaken by the state. When this was not possible the state was to own and control at least half of the enterprise. Second, the group advocated that the kilometric guarantee system should be abolished, in vein of encouraging more efficient management on existing lines. Third, they stated that the construction of smaller local lines should be a priority, and that this should be undertaken by Turkish entrepreneurs aided by local administrations. Fourth and finally, the group asked for more government control over foreign railway companies in the areas of pricing and employment conditions.¹⁹ Despite not holding any official endorsement, this report is indicative of the special situation of railways in the early republican era. For many, the construction and management of railways was too important an issue to be governed simply through the general principle of being open to foreign investment as long as it carried no political implications.

In its first fifteen years, the new Turkish Republic's approach towards the construction and management of railways took several turns. As I will show, some of these were the results of external economic factors or pressing strategic needs, however a gradual change in railway policy occurred in the period 1923-38. This change closely mirrored the shift in the government's general outlook on economic policy. In what follows, I try to provide a history of the republican railways, highlighting both the continuity between the policies of the CUP and the Kemalists in the early days, and the gradual change occurring throughout the period 1923-38. In this vein, I first briefly focus on the republican phase of the Chester Railway Project, which clearly displays the continuity between the policies of the empire and the new state. I then deal with the 1924 decision to purchase the Anatolian line, and attempt to differentiate this from the full scale nationalisation of the 1930s by touching on

¹⁹ Ökçün, *Türkiye İktisat Kongresi*, pp.144-5

the strategic and financial imperatives behind the decision. Third and finally I will show how a gradual change occurred in railway policy in the period, and how this was related to changes in both national and international economic conditions.

3) The Emergence of a Republican Railway policy: the Chester Project and the Nationalisation of the Anatolian railway

In April 1923, the Grand National Assembly at Ankara approved a decision that rectified and restored the 1908 concession for the American Chester Railway project.²⁰ This railway amounting to four-thousand kilometres of track in eastern Anatolia and Mesopotamia was to be financed by capital raised in American markets by the Ottoman American Development Company. The Chester Group, led by the American Admiral Colby Chester, had secured the concession to construct a railway in eastern Anatolia in 1908, however this had never materialised due mostly to their inability to raise the required capital and to the outbreak of the First World War. When the victory of the Turkish nationalists became certain in late 1922, representatives of the group travelled to Ankara in hope of regaining the concession.²¹ In line with the economic outlook of the new government, the project was met with great enthusiasm, and the concession was granted providing the company fulfilled certain requirements. Work on the line was to be undertaken without a guarantee based on kilometres built or capital invested. The company would earn returns through running the railways and extracting mineral resources from surrounding areas. Fifty percent of the company's shares would be offered to Turks in local financial markets, stock that was not

²⁰ The most encompassing history of the Chester Project is B. Bilmez Can's *Demiryolunda Petrole Chester Projesi 1908-1923*, (İstanbul: Tarih Vakfı Yurt Yayınlar, 2000). For an assesment of the project in terms of an American overseas investment see: DeNovo, J.A., 'A Railroad for Turkey: The Chester Project, 1908-1913', pp. 300-329.

²¹ Yahya S. Tezel, "Birinci Millet Meclisi Anti-Emperyalist miydi? Chester Ayrıcalığı", *SBF Dergisi*, Vol. 25, no:4. , p.294

purchased following an initial period would be then made available to other investors. The railway would be open to inspection by the Turkish government, and the language for all communications and transactions would be Turkish. Moreover, the company would train Turkish personnel to work in the lower ranks of the railway, while reserving the right to employ foreigners for positions in senior management.²²

For the Chester Group, the attraction of the project was the right to mine the petroleum resources of Mesopotamia for a period of ninety-nine years. Naturally, when it became understood that the Mosul region would not fall into the territory of the new Turkish Republic later in 1923, the group lost interest in the project. Despite never materialising, the history of the Chester concession from 1908 to 1923 displays the continuity in economic policy between the Young Turks and the Kemalists in the early republican era. Indeed, Yahya Tezel advocated that the decision to restore the concession should not be undermined by the fact that the line never materialised.²³ It was indicative of the stance of the assembly: in economic terms they were not anti-imperialists or anti-capitalists. In many ways, the Chester Project embodied the form of foreign investment idealised by the new administration. A large amount of capital was to be tied down in an infrastructural investment, a group of shareholders were to be Turks, and the company was to adhere to Turkish law and official supervision.

After the peace, the government made no attempt to control most privately owned railway lines. The railroads in the Aegean region for instance, were handed back to the companies that owned them. However, the situation in the Anatolian line running from Istanbul to Ankara and Konya was somewhat more complicated. As German overseas holdings had been appropriated by the Allied powers, the ownership of the Anatolian and Baghdad lines remained in limbo during the first year of republican rule. The Allied

²² Ibid, pp.295-305

²³ Ibid, p.288

Reparations Committee held a section of the company's shares, and it appears that the remaining stock was in the process of being taken over by a British group.²⁴ Unlike the Smyrna to Aidin and Smyrna to Cassaba railway companies that were able to regroup and reclaim their lines following the war, the management of the Anatolian Railway Company had by and large been dissolved during the conflict. The Turkish State had assumed control of the entire line following the departure of British troops in 1923, however there was no consensus that the line should be permanently purchased.²⁵

In the fall of 1923, the ex-director of the Anatolian Railway Company, Mr. Hügenin travelled to Ankara to start negotiations for the hand over of the line back to the CFOA. Once the terms of the concession were restored, the British financial group that had taken over the enterprise would provide the necessary capital for the line's operation. A deal was reached between the company's representative and the Ministry of Public Works led by Muhtar Bey in December that year, however this was revoked by two parliamentary sub commissions dealing with infrastructure and finance.²⁶ The notion that a British led group would be controlling the railway leading to the new capital of the country so soon after the war caused a stir in parliament.

Muhtar Bey argued that as the other railway lines had been handed over to the concession holding companies, it was only natural for them same to happen in the case of the Anatolian-Baghdad Railway. The nationality of the chief financier was of little relevance, as the new company would be operated as a Turkish enterprise subject to Turkish law. Moreover, the line was not currently in good shape, and the company had pledged to make repairs as soon as it resumed operations. Muhtar also advocated that any large scale

²⁴ TNA: PRO, FO 608/102/2

²⁵ İlhan Tekeli, Selim İlkin, 'Cumhuriyet'in Demiryolu Politikalarının Oluşumu ve Uygulanması', in Tekeli and İlkin Eds., *Cumhuriyetin Harcı III: Modernitenin Altyapısı Oluşurken*, (İstanbul: Bilgi Üniversitesi, 2003), pp: 271-321

²⁶ İsmail Yıldırım, *Cumhuriyet Döneminde Demiryolları: 1923-1950*, (Ankara, Atatürk Araştırma Merkezi, 2001), p.126

expenditure should be channelled into the construction of new lines, not the purchase of existing railways.²⁷

The parliamentary finance sub committee, on the other hand, argued that the purchase of the line was an economic and political necessity. The line could not be left to a British group considering the ongoing Mosul crisis. Moreover, if the government was to purchase the line straight away it would do so at a favourable price. As the price was calculated based on the average receipts of the past five years, the government's move to Ankara would only increase the price of a future purchase. The issue was hotly debated both in parliament, and in the Republican Party group meetings. The debate went as far as triggering a confidence crisis in the cabinet, and when it became apparent that the agreement was going to be revoked, Muhtar Bey resigned from the Ministry of Public Works. A law passed in 22 April 1924 gave the government the authority to negotiate a contract to purchase the line.²⁸

This was the first breaking point in the history of republican railway policy. Despite not being indicative of a shift to a policy of full scale nationalisation, this decision showed that the new regime had confidence in both the state's ability to control and finance railways and in the ability of Turkish railwaymen. The idea that "national railroading" was both possible and desirable was, by and large, the outcome of a struggle between the two camps in the above mentioned debate. These two camps were spearheaded by two prominent figures in Turkish railroading: Muhtar Bey and Behiç Bey.

Muhtar Bey, the previous Secretary of Railways in the Ottoman Ministry of Public Works, was of liberal persuasion. He was an engineer and a railroader by career, having led the construction of the Hicaz Railway under the supervision of Heinrich Meissner. He

²⁷ Tekeli and Ilkin, "Cumhuriyet'in Demiryolu Politikalarının Oluşumu ve Uygulanması", p.282

²⁸ Ibid, p.298

favoured the concessionary system and did his utmost to protect the rights of foreign railway companies under what he saw as binding contracts. Behiç, the current director of the government operated Anatolian-Baghdad line, was a military legend, and a close associate of Mustafa Kemal. He had been the first person to argue that Turks should be preferentially employed on railways in a 1906 report, and had written the first Turkish language book on the military usage of railways in 1912.²⁹ Furthermore, he was responsible for the efficient provisioning of troops in both the Çanakkale Campaign in the First World War, and in the final push in the War of Independence.

It appears that Behiç Bey, who had first appeared to be neutral on the issue of nationalisation became a fervent defender following an encounter with the ex CFOA director Hügenin. In multiple accounts it is claimed that during the negotiations to restore the concession in late 1923, Hügenin began treating Behiç as a subordinate, offering him an inspectorial job once the company took back the line.³⁰ Angered by Hügenin's condescending attitude towards both himself and the idea that Turks could operate a railway, Behiç embarked on a campaign advocating the purchase of the line in an attempt to convince the most senior official in the government. Regardless of his role in the final decision, Behiç Bey soon grew in prominence after the law of April 1924. In late 1925 he was appointed Minister of Public Works, as well as retaining de-facto control over the directorate of railways. Until his resignation in 1928, Behiç held full control over the republic's railroads and in many ways shaped the organisation that became the SRC.

After drawn out negotiations, ownership of the line was finally handed over to the Turkish State in 1928. The Turkish State Railway Corporation controlled the operations of the line in the four years between the original law granting the state the authority to buy the line,

²⁹ Kıvırcık, *Cepheye Giden Yol*, p.23, p.47

³⁰ This incident most likely did occur, as it is mentioned in similar fashion both in Kıvırcık's work based on Erkin's diaries and in a contemporary letter from a member of the British diplomatic corps to an MP. Kıvırcık, *Cepheye Giden Yol*, p.276, TNA: PRO T 160/51/ f ii, 14 January 1925, R.C. Lindsay, İstanbul Mission, to Austen Chamberlain, MP

and the actual purchase in 1928. I contend that this previously overlooked irregularity is of some significance, hence warranting further attention. For the Turkish government, it is obvious that the decision to nationalise the line was finalised in 1924, there was no logic in handing back the operation to a private company. However, the directors of the Turkish Trust Company, which now controlled the share-stock of the old CFOA, clearly viewed the government's running of the line in this four year period as an illegal activity.³¹

The de-facto Turkish control of the line was a result of two factors. First, despite inheriting most of the Ottoman Empire's economic policies, the new republic was more inclined to flex its muscles when dealing with foreigners. In short, this was a spill over of the new regime's political nationalism into the economic arena. Second, it must be noted that the British group financing the company refrained from making an official complaint regarding this "illegal" situation. It is clear that the group was biding its time as it believed the negotiations would eventually fall through and the line would be returned to private hands. The company would take over operations only when the terms of the new concession were agreed upon, hence avoiding any liabilities pertaining to upkeep in the interim period.³² This is historically significant, as the company's confidence that the concession would be restored stemmed from the widespread belief that Turks would fail in the "technical exploitation of the line".³³ Indeed, this belief was held by both the British Foreign Office and the Anglo-Turkish trust company.³⁴

³¹ TNA: PRO T 160/51, f ii, 26 May 1924, Alwyn Parker, director of the Anglo Turkish Trust Company, to Lancelot Oliphant, Foreign Office

³² TNA: PRO T 160/51, fii, 7 May 1924, R.C Lindsay, British Mission in İstanbul, to Ramsay MacDonald, M.P.

³³ TNA: PRO T 160/51, f ii, 19 December 1923, Nevile Henderson, British High Commission in İstanbul, to Lord Curzon, Foreign Office

³⁴ TNA: PRO T 160/51, f ii, 26 May 1924, Alwyn Parker, director of the Anglo Turkish Trust Company, to Lancelot Oliphant, Foreign Office

4) The development of Railways under republican rule

In the fifteen years following the declaration of the Turkish Republic, the country's railroads transformed from a series of disconnected foreign owned lines into a nationalised railway network. The first step in this change was the expansion of railways into the east of the country and towards the Black Sea region which began in the mid 1920s. As the railway related holdings of the state grew with each new station that was inaugurated, the Anatolian and Baghdad Railways General Administration that ran the Anatolian line grew into a national railway corporation. In the 1930s, this was followed by the nationalisation of most foreign owned lines in the country. By 1940, the SRC controlled just under seven-thousand kilometres of railway line and employed almost thirty-thousand people.³⁵ I will now deal with the relationship between economic policy, economic conditions, and Turkish railways throughout this period by focusing on three main areas of activity: the construction of new railways, the purchase of foreign owned lines, and the creation of the State Railway Corporation.

As shown by the case of the Chester concession and the general attitude at the İzmir Conference, the administration of the new republic was in general, supportive of large scale foreign railway projects. However, this support was not met by eagerness on the part of foreign investors given the unstable condition and increasing isolationism of the interwar world economy. As the growth of the railway network was of primary importance to the new government, in 1924, the state itself undertook construction on two lines aimed at connecting Sivas with Samsun and Ankara. Despite its eagerness to expand the railways, difficulties in financing construction limited the number of projects upon which the government could embark.

³⁵ Yıldırım, *Cumhuriyet Döneminde Demiryolları*, pp.176-192

In 1927, as the international economic and monetary system began to regain its balance, the government was able to turn to foreign contractors willing to build railroads on medium term credit. Under these arrangements contracting companies such as Julius Berger, Fox Brothers, and Nydvist Holm (NOHAP) organised construction work on the lines, often sub-contracting to local companies, and accepted payment in instalments over periods of up to ten years.³⁶ The Swedish-Danish joint venture NOHAP gained the contract for the Irmak-Filyos and Fevzipaşa-Diyarbakır lines amounting to over eight-hundred kilometres in February 1927. In the summer of the same year, a contract was granted to the German Julius-Berger Consortium to build a railway line between Kütahya and Balıkesir, in vein of connecting the İzmir-Kasaba and Eskişehir-Konya lines.³⁷ These contracting companies provided medium-term finance, materials, and technical expertise for railroad construction. Most of the actual labour was sub-contracted to Turkish businesses, which through this process developed both their wealth and their experience.

Hit by budget cuts caused by the international depression, railway construction slowed down in 1930 and 1931. However, the following year saw a series of important events that dramatically changed the way in which railways were constructed in Turkey. In 1932, for the first time, the Turkish state turned to internal borrowing to finance railroad construction.³⁸ This ability to raise finance independent of contractors who were able to provide credit coincided with the maturation of large firms within the local contracting industry, who had hitherto worked as sub-contractors for foreign groups. In May 1933, the American Fox Brothers Group and two Turkish contractors Abdurrahman Naci and the Simeryol Consortium competed for the contract to build Sivas-Erzurum Railway. The Simeryol Group emerged victorious, offering to construct the line for half the price put forth by the Fox Company.

³⁶ Ibid, pp.77-93

³⁷ Tekeli and Ilkin, "Cumhuriyet'in Demiryolu Politikalarının Oluşumu ve Uygulanması", pp. 294-5

³⁸ Yıldırım, *Cumhuriyet Döneminde Demiryolları*, pp.154-7

From that point on, individual contracting companies, or groups like the Simeryol Consortium constantly undercut foreign companies in railroad construction bids. Moreover, by the mid 1930s, some Turkish contractors like the famous Mühürzade Nuri (later Demirağ) had achieved a level of capital accumulation that allowed them to provide medium term credit to the state, in the same fashion as foreign contractors. After 1933, all railroad construction work in the country was undertaken by local groups and financed by the state. During its first decade, the motto behind the republic's policy regarding the expansion of railways had shifted from "a foot more of rail, no matter how it is laid" to "Turkish capital, Turkish knowledge, Turkish labour".³⁹

The First World War and the War of Independence had seen the administration of railroads by the Ottoman military and Turkish nationalists. This task had been managed through the erection of ad-hoc organisations aimed at using the railway lines for military purposes. Following the 1924 decision to purchase the Anatolian line, a permanent organisation was formed out of the existing administration. The General Administration for the Anatolian-Baghdad Railways was thus created to control the Anatolian railway. At the same time, the construction of the aforementioned lines to Sivas and Samsun were managed by the General Administration for the Construction and Management of Railways formed in 1924. These two organisations functioned under the roof of the Ministry of Public Works until 1927, when the construction of railways boomed in earnest. As the railroads being built were extensions of the Anatolian line, and as a larger organisation was needed to manage this growing operation, the two organisations were amalgamated in 1927 to form the General Administration for State Railways and Ports, centred in Ankara.⁴⁰

³⁹ Tekeli and Ilkin, "Cumhuriyet'in Demiryolu Politikalarının Oluşumu ve Uygulanması", p.297

⁴⁰ Yıldırım, *Cumhuriyet Döneminde Demiryolları*, pp. 64-6

The 1924 decision to purchase the Anatolian line, and the eventual implementation of this decision in 1928 were not parts of a general scheme to nationalise railways in Turkey. This was a strategic choice, spurred by the recent relocation of the capital city and fears of British ownership of the country's trunk line. In the 1920s foreign railway companies operated under Turkish law using Turkish as their language of communication, and they employed mostly Turkish personnel. In comparison to the Ottoman era, the railway companies had been Turkified, however in this decade it appears there was no consensus that they should be nationalised and taken over by the state. This said, minor nationalisation occurred in the early 1930s, as the economic crisis worsened the condition of two of the country's lines that were already in a precarious state. Faced with the option between allowing these lines to shut down or purchasing them at a very favourable price, the government nationalised the short Bursa-Mudanya and Samsun-Çarşamba lines in 1931 and 1933 respectively.⁴¹

A policy of eager nationalisation first manifested itself in early 1934, following the renegotiation of the contract of the İzmir-Cassaba Railway Company. The company constantly pushed for a better deal throughout the negotiations in 1933 leading to the stagnation of the process. In January 1934, the Ministry of Public Works proposed that the line should be purchased. Following a quick deal, nationalisation took place in May 1934. During the same year, the state's decision to construct a railway between Antalya and Afyon caused a major dispute with the Smyrna to Aidin Company who demanded compensation based on the claim that such a line was against the terms of their 1906 concession. In early 1935 the state proposed to purchase this line to end the dispute. This was met with little resistance on the part of the company, and in June 1935 the line was nationalised under favourable conditions for the state. Similarly, the section of the Rumelian Railways remaining

⁴¹ Ibid, pp.129-132

in Turkey was purchased by the state in 1936.⁴² The fact that these purchases occurred without long, drawn out negotiations shows that nationalisation was relatively desirable for both the state and the companies.

It appears that the age in which foreign financial operations received good treatment in Turkey was drawing to a close following the shift to economic Etatism. The financial situation of foreign railway companies had worsened under the tighter control of the Turkish Republic; furthermore the depression had greatly decreased their revenues. Selling the assets of the railways and forfeiting their concessions for a reasonable price was a good deal for foreign groups. Moreover, there is evidence to suggest that the Republican government was intent in “squeezing out” the companies if an acceptable deal was not reached.⁴³ In an internal dispatch concerning the negotiations to re-purchase the İzmir-Aydın line, Percy Lorraine, the British Ambassador to Turkey, noted that during the negotiations the Turkish negotiator had “threatened to ruin the railway if no agreement was reached”.⁴⁴ For the Turkish state these negotiations presented a chance to purchase the railways under good terms and solidify its new policy of economic Etatism. Below, I examine the link between Etatism and the changes in the government’s railroad policy.

5) Depression, Etatism and Nationalisation

In 1929, a series of changes relating to Turkey’s external economic relations coincided with the first repercussions of the international economic crisis. The first instalment of Ottoman debt amounting to fifteen million liras was due that year. The strain this put on the country’s balance of payments was worsened by the speculative rise in imports caused by

⁴² Ibid, pp. 133-141

⁴³ This term was used by the Company’s director Mr. Eddy as early as 1932, as he explained the government’s attitude towards the Smyrna to Aydın Railway Company to General Mance. Middle East Centre Archive, St Antony’s College, Oxford, Osborne Mance Collection, GB 165-0200, Box H / File 8, ‘Note’, 2 August 1932.

⁴⁴ TNA: PRO T 160/1057, 15 February 1935, Percy Lorraine, Internal Dispatch, Ankara Embassy

hoarding in anticipation of the new tariff regime. As noted above, the five year ban on protective trade policies stipulated by the Lausanne agreement was to end in 1929.

Furthermore, the price collapse in the agricultural sector had a very negative impact on the country's exports. This decline in exports, coupled with the imbalance caused by the first payment of state debt and the rise in imports led to a severe balance of payments problem in 1929. This, in turn, led to what was then perceived as a monetary crisis as the lira devaluated by ten percent in seven months.⁴⁵

In the face of this crisis, the government shifted to more protectionism and intervention in the economy. First and foremost, the republic took an internal turn, limiting imports to necessities with the goal of achieving a balance in external trade. The newfound protectionism was joined by Etatism in 1932. These two features came to define the Turkish economy of the 1930s. The latter half of the 1920s had seen a slow realisation that foreign capital investments in large scale industrial and infrastructural projects would not be flowing into the country. Moreover, existing foreign capital was tied into partnerships with local firms operating state monopolies; a deal that was favourable for both parties but unfruitful in terms of economic growth. Towards the end of the decade, the notion that foreign companies were relics from the Ottoman period started to gain strength.⁴⁶ It has been asserted that by 1931 the idea that foreign capital would play a role in the development of the country had been completely abandoned. Indeed in the 1931 CHP party program 'normal' capital was described as national capital.⁴⁷ In the absence of sufficient capital accumulation in private hands, the state turned to Etatism as the answer to the problem of industrialisation.

Beginning in 1932, the government became a major investor, an entrepreneur and a regulator of economic activity in the country. Starting in 1932, the state took over the management of export oriented agriculture in areas such as sugar and tobacco. The true

⁴⁵ Boratav, *Türkiye İktisat Tarihi*, p.49

⁴⁶ Ibid, p.69

⁴⁷ Boratav, *Türkiye'de Devletçilik*, p.68

expansion of state involvement however was felt in the sectors of industry, mining, energy, transport and finance. By the mid 1930s the state controlled most of what existed in vein of industry, held tight control over interest rates and foreign exchange, and controlled external trade through quotas, bilateral deals and clearing agreements. The government was the driving force behind development, and the ever-growing State Railway Corporation was the jewel in its crown.

The history of railways in the early republican era can be categorised into three periods. The first of these periods spanned the four years following the declaration of republican rule and was characterised by the slow growth of state financed railways and the Turkification of foreign owned companies. This period fell under an economic regime that has been defined as reconstruction under the conditions of an open economy. The second period: 1927 to 1932 saw a bona-fide boom in railroad expansion, made possible through the availability of medium term foreign credit. This period also saw the creation of the National Railway Corporation as a central body to manage railways in the country. Towards the end of this phase of railway history, the international depression caused a slump in railway construction and severe changes in the country's economic policy.

The third period in question: 1932-1945 witnessed changes in railway policy that very closely reflected the governments move to economic Etatism. The two major changes were the moves towards wholesale nationalisation and internally financed construction undertaken by Turkish companies. Nationalisation, without a doubt, was fuelled both by the desire to lower rates on the lines in order to relieve agricultural producers, and by the notion that foreign capital was not desirable for the development of the economy. Moreover, the state's newfound role in the economy made the nationalisation of the lines something that was 'normal' or expected in the mid 1930s. The shift from building railways with credit provided

by foreign contractors to using internal financing and local contractors was also indicative of a major policy change.

In the ten years following the initial railway boom in 1927, changes in the Turkish railways mirrored the changes in the Turkish economy. In 1927 the country's railways were run by both the state and by foreign owned companies, by 1937 almost all lines belonged to the state. Similarly, in 1927 railways were being built by foreign contractors and local contractor subcontractors working together. In 1937 only the Turkish contractors remained. For contemporaries in 1937, the modern and national State Railway Corporation was Etatist Turkey's exemplary success story, and the cosmopolitan past of the Ottoman railways was looked upon in disdain

CHAPTER III

THE SRC: TURKEY'S FIRST MODERN CORPORATION

In this chapter I deal with the State Railway Corporation, focusing on this organisation as an entity in its own accord. I argue that beginning with its consolidation in 1927, the SRC became Turkey's first modern business corporation. Despite being state owned, the operations of the organisation was not subsidised to any great extent, and the SRC was run by professionals managing a largely independent budget. Moreover, the administration of the SRC closely followed global developments in management and work methods throughout the 1920s and 1930s. This was reflected in constant efforts to rationalise the work processes and structure of the organisation, and in the emergence of paternalistic employment practices.

Below, I explain the rationale behind my argument by briefly discussing how large railway companies have been called the pioneers of modern, large-scale business management in the American and British contexts. I then move to show that, despite certain differences, this argument is applicable to the Turkish case by focusing on the development of the SRC. In particular I deal with the creation of the organisation's structure, on efforts to rationalise certain aspects of its business, and on the various corporate welfare policies pursued by the SRC.

1) Railroads: The World's first big business

In a 1965 article, Alfred D. Chandler made the argument that the large American railroads of the 1850s were in effect, the first big businesses in the United States.¹ The structures and methods deployed by these pioneering organisations, according to Chandler, were the predecessors of the modern corporation. Unlike any other contemporary business, “railroads had to devise new methods for mobilising, controlling and apportioning capital, for operating a widely dispersed plant, and for supervising thousands of specialised workers”.² The management of railways called for significant expertise both on a day to day basis, and in the long-run. On a technical, daily basis, the organisation of traffic and the maintenance of the lines and machinery were critical not only for efficient business practices, but more importantly for the safety of cargo and passengers. In the long term, decisions such as the fixing of rates were critical as they had to both cover for high operating expenses and create an adequate return.

Therefore, Chandler wrote, professionally trained engineers and managers took on executive roles in running railroads, along side the financiers who helped fund them. He noted: “The fund of experience required to administer a large railroad brought the first technologically trained administrators to American business, men who completed engineering training and then rose to the top of the managerial ladder, making a lifetime career of railroading”.³

Focusing on Britain, Geoffrey Channon echoed Chandler’s fundamental argument. He noted that: “The railways were Britain’s first modern business, as they were in the United States, and elsewhere, and by far the largest of all private businesses until well into the

¹ Alfred D. Chandler, ‘The Railroads: Pioneers in modern corporate management’, *The Business History Review*, vol. 39, no.1, (spring 1965), pp.16-40.

² Ibid p. 16

³ Ibid p. 22

twentieth century...”⁴ Channon also noted that similar to their American counterparts, British railway companies formed elaborate managerial hierarchies and delegated authority to salaried managers. “Administrative structures and systems were devised according to certain ‘rational’ principles”.⁵

I argue that the above outlined arguments are, largely, applicable to the Turkish Republic. The SRC, and, in part, its predecessor the Anatolian Baghdad Administration were Turkey’s the first big businesses. The challenges faced by the administrators of the SRC in its heyday were similar to those faced by American and British railwaymen almost a century ago. However, the way in which the creators of the SRC were required to deal with these challenges was somewhat different. The American and British railwaymen of the 1850s had developed from scratch, managerial hierarchies and methods to run their businesses. In the ensuing decades they had gone about implementing incremental innovations to these methods and designs, resulting in a framework for modern railway management, and perhaps even for modern management itself. The Turkish railwaymen of the early twentieth century were not required to develop new solutions to the large-scale problems of railroading, they merely had to rapidly apply the frameworks that had been developed over the past century.

By dint of the challenges it faced, and the fact that it overcame them, the SRC became Turkey’s first big business. However, it is due to the fact that SRC officials so closely mirrored the contemporary zeal for rationalisation and corporate paternalism in the 1920s and 1930s that I call the SRC Turkey’s first “modern corporation”. To elaborate, the zeal for rationalism associated with scientific management, and corporate paternalism were the two most striking features of contemporary corporations in the 1920s and 1930s. Writing about this phenomenon, Cheape stated:

⁴ Geoffrey Channon, *Railways in Britain and the United States, 1830-1940, Studies in economic and business history*, (Aldershot: Ashgate, 2001) p.22

⁵ Ibid, p. 41

The techniques needed to handle a workforce numbering in the thousands are usually linked to the rise of scientific management and corporate welfarism in the late nineteenth and early twentieth centuries. Efforts by Frederick W. Taylor, Frederick Halsey, and others to speed up and coordinate flows of production, to reduce costs, and to improve quality focused not only on new technology and plant design but also on worker efficiency -- that is, the arrangement of workplace, the standardization of job routines, and the creation of incentives to induce labourers to accept a more rigorous factory discipline.

The movement [rationalisation] was paralleled by corporate welfarism that sought to create a more dependable, productive employee by emphasizing job satisfaction and positive work attitudes and by offering workers a variety of activities, including education, housing, pension plans, athletics and health, and life insurance. Hundreds of enterprises adopted some facets of scientific management and corporate welfarism as the movements flowered between 1900 and 1930.⁶

During these decades, SRC executives constantly tried to improve their organisation by implementing schemes of rationalisation, and trying to encourage workers at all levels to adopt “scientific” work methods. The range of welfare benefits offered to workers also constantly increased in the period 1923-1945. In short, the SRC closely followed and applied the most recent developments in corporate governance.

The fact that the SRC was state owned does not take away from the argument that it was Turkey’s first big business and first modern corporation. The economy of the Turkish Republic, save for its first few years, was characterised by a dominance of the state. Indeed, industrialisation in the country was, to a great extent, synonymous with state sector

⁶ Charles Cheape, ‘Paternalism and Corporate Welfarism in Large-Scale Enterprise: The Norton Company Experience’, *Business and Economic History*, 2nd Ser., No:13, (1984), p.50

investments during the 1930s and 1940s. Therefore, it was natural that the country's first business enterprise functioned under the auspices of the government. This said, the SRC retained enough independence to warrant viewing it as a business interest. It did not function, simply as a branch of any ministry. The corporation managed its own budget, which it was expected if not legally required to balance. This pressure to cover operating costs was met with government pressure to keep prices low, enforcing efficiency in the organisation.

2) Consolidating the railways: the creation of the SRC

Law number 506, which passed Assembly on 22 April 1924, officially created the Turkish "Administration of the Anatolian and Baghdad Railways".⁷ This was the central railroading body in the new Turkish Republic. However, the construction of new lines, and the management of the existing Erzurum-Sarıkamış railway were handled by other independent organisations. Beside these, the Izmir railroads, and the railway linking Istanbul to Europe were managed by foreign companies. Nonetheless, the Anatolian-Baghdad Administration was important insofar as it was the direct predecessor of the SRC. Despite later being relegated to the status of a geographical division within the larger corporation, the Anatolian Administration formed the nucleus of what would become the SRC.

Functionally the Administration followed the lines of the old CFOA, and was organised into three core departments: gear, roads, and movement. Each department was run in relative isolation, keeping its own statistics, accounts and personnel records. Above the functional level, the new legislation created a board of directors that would be staffed by nine people. Six of these nine members would be selected by the Ministry of Public Works, and they would select the other three from a list of candidates with technical knowledge of railroading.

⁷ 506 No'lu Kanun, *Düstur*, 3. Tertip, Cilt 5, s.1126.

In 1927, the SRC was formed through the consolidation of all state owned railways, railway construction projects, and ports within Turkey. The new body was mainly based on the existing Anatolian-Baghdad administration. However, the State Railway Corporation was centred in Ankara, and exerted control over different geographical regions. The legislation pertaining to the structure and duties of this body touched on the SRC's relations to the Ministry of Public Works, set out a general framework on how the board of directors would function, and pointed to the accounting standards to be used. The actual structure of the organisation however, was left largely to its executives.⁸

The law noted that the SRC would function as a self governing body, operating under the Ministry of Public Works. The organisation would run an independent budget attached to that of the ministry. The general director of the SRC would be selected by the cabinet, upon the suggestion of the Minister of Public Works, and this decision would be ratified by the president. The general director and a board of directors would oversee the working of the SRC, which would be organised into various regional divisions. The board of directors was to be comprised of nine individuals including the General Director. Four of the eight seats would be filled by candidates nominated by the Minister of Public Works; the remaining four would be filled by those nominated by the Minister of Finance. Each member would sit on the board for a four year term, and the board would elect a chairman at the beginning of each year.⁹

In general, the law confined the duties of the board of directors to inspectoral roles, and to the appointment of senior executives. For instance, the board approved the yearly budget and final accounts, approved of any large expansion in personnel numbers, oversaw the work of the pension fund, and appointed division managers and departmental directors. In short, the board was a supervisory body which did not interfere with the day to day

⁸ 'Devlet Demiryolları ve Limanları Idare-i Umumiye'sinin Teşkilat ve Vezifesine Dair Kanun', *Demiryollar mecmuası*, No. 28, (Haz. 1927).

⁹ Ibid.

management of the corporation, save for certain important decisions regarding the employment of executives.

Due to the complexities of railroad accounting, the organisation would not follow the general accounting practices implemented in other state offices, but the practices of private companies. The corporation was to adopt the government's fiscal calendar, and send monthly reports of its accounts to the government's Exchequer Department. Moreover, financial statements were to be sent to the Ministries of Public Works and Finance, as well as the Exchequer at the end of each fiscal year.

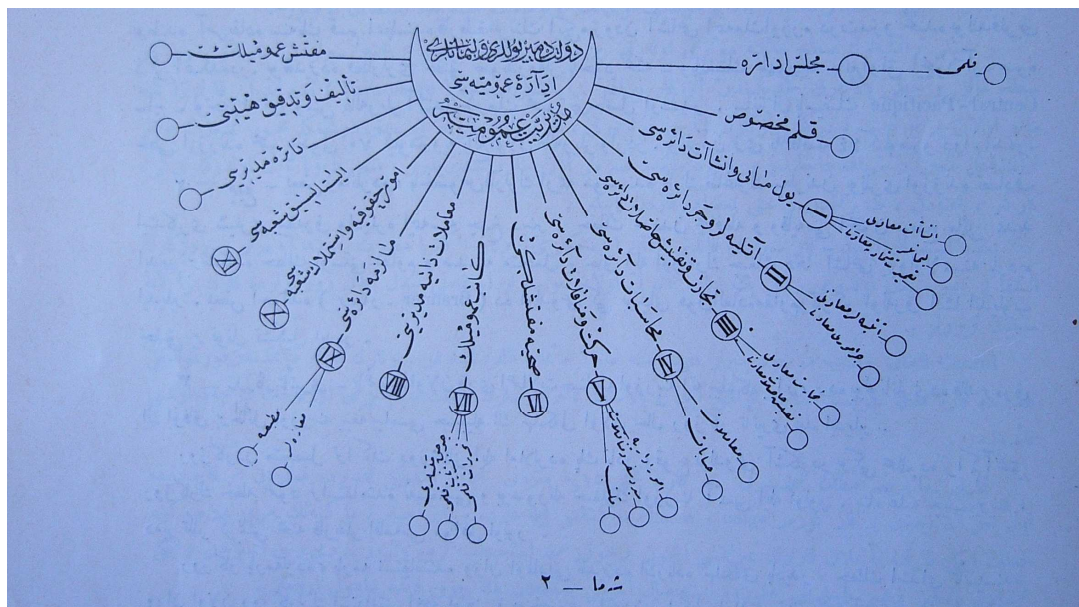
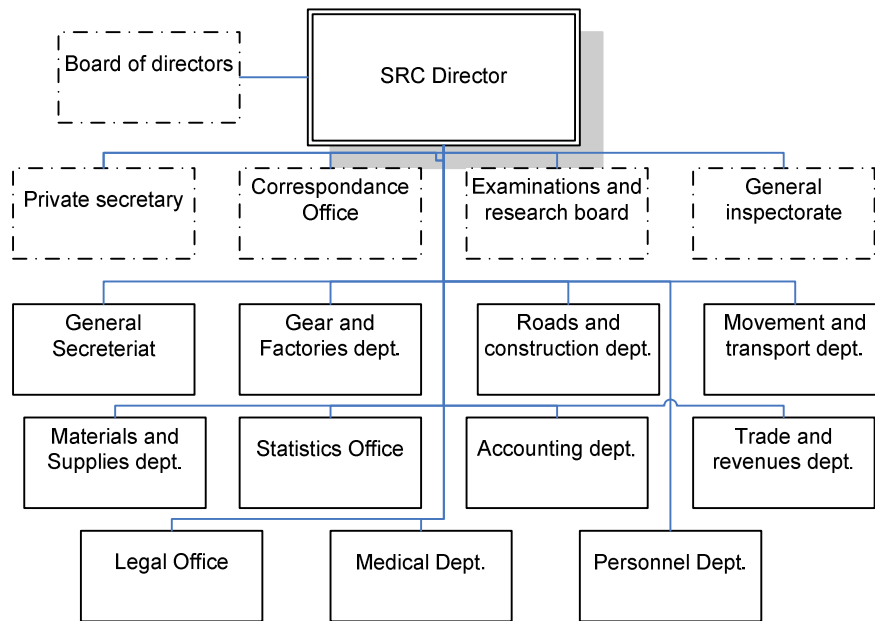
Two later pieces of legislation further clarified the SRC's role and its position vis-à-vis the central government. Law number 1483 of 1929 increased the control of the Ministry of Finance over the financial aspects of the SRC's operations. This legislation gave the ministry the right to appoint a standing auditor to oversee the expenses and accounts of the corporation.¹⁰ Law number 1818 of 1931 clarified the duties of the SRC, by separating the hitherto joint construction and management operations.¹¹ As of 1931 construction was to be managed directly by the Ministry of Public Works. This aimed to better account for the cost of railroad construction, and to turn the SRC into a "management" company. In May 1939, when the Ministry of Public Works was divided into the ministries of Public Buildings and Transport, the SRC continued to function under the authority of the Ministry of Transport.

The central administration of the SRC, located in Ankara, was organised into various functional departments. Besides core departments such as roads, gear, and movement, other auxiliary functions such as the accounting, personnel, supplies, revenues and trade, statistics, and legal departments were also created within the central Ankara office. Figure 1 displays a 1927 organisational chart, detailing the structure of the SRC's central office.

¹⁰ 1483 No'lu Kanun, *Düstur*, 3. Tertip, Cilt 10/2, s.1544

¹¹ 1818 No'lu Kanun, *Düstur*, 3. Tertip, Cilt 12, s.535

Figure 1: SRC Central Office - Functional Departments (1927)



Source: *Demiryollar mecmuası*, (Aralık 1927), No: 34

The establishment of the SRC's central administration also changed the structure of the previously independent regional administrations. Auxiliary operations, which had hitherto been handled within the various functional departments of the Anatolian Baghdad Administration or other local organisations, were handed over to divisional centres, and

departments at the central office.¹² To clarify, the gear, roads, and movement departments of the Anatolian Baghdad Administration each had separate accounting offices, functioning alongside the main accounting department. Following the creation of the SRC, these functional accounting offices were abolished. Under the new scheme, accounting practices were handled by the accounting office of the Anatolian Baghdad division, and overseen by the SRC's central accounting department in Ankara. Similarly, the business and personnel records offices, which had hitherto existed at functional levels within the independent administrations, were abolished. Their duties were handed over to divisional records offices and to the central personnel department.

More radically, some departments within the central administration took complete control over certain functions. For instance, the statistics offices of the previously independent administrations were all shut down, and their authority was delegated to the statistics department in Ankara. The procurement of materials, and the various depots and shops which had hitherto been managed at a local level, were controlled by the central materials department after 1927. Similarly, the major repair shops were attached to the central gear department, rather than the divisional administrations. All in all, the central office of the SRC was organised as an umbrella organisation. It oversaw the work of divisional administrations, and directly managed certain operations in which central control was deemed necessary.

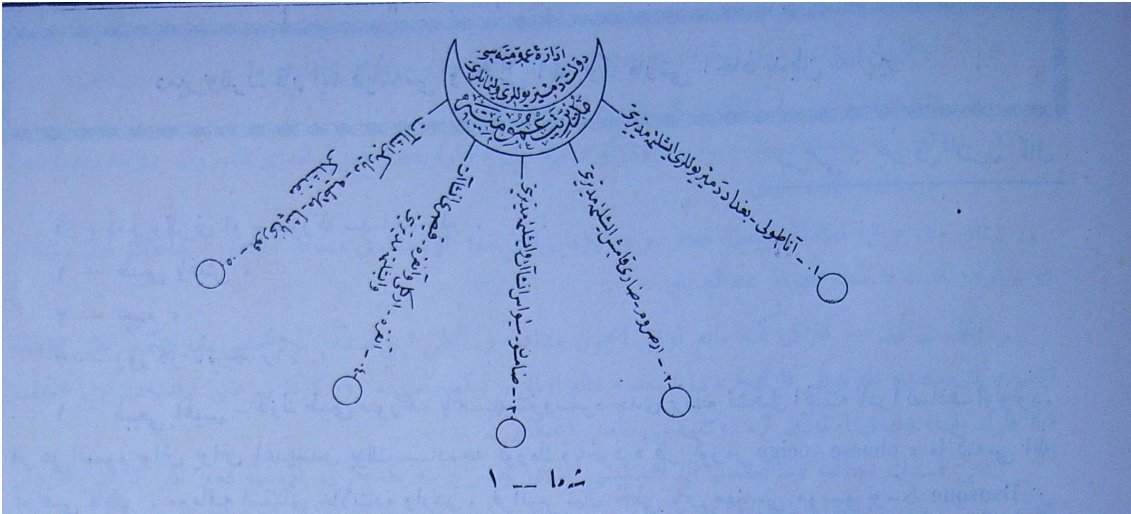
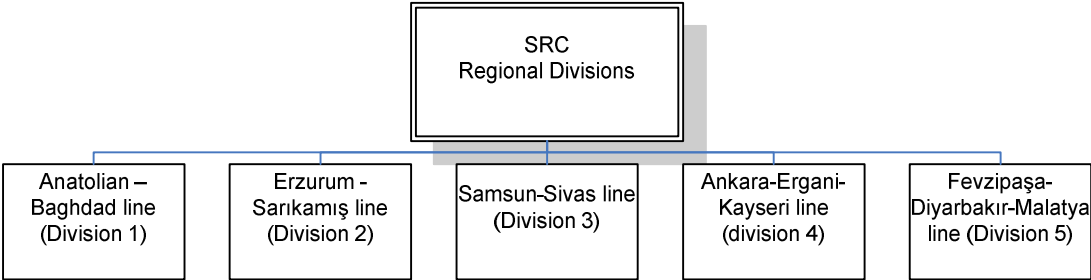
At its onset, the SRC was organised into five regional divisions.¹³ The first division centred in Haydarpaşa managed what used to be called the Anatolian-Baghdad line. The second division controlled the Sarıkamış-Erzurum railway. The third division in Samsun dealt with the management and construction of the Samsun-Sivas line. The fourth and fifth divisions managed the Ankara-Kayseri and Fevzipaşa-Diyarbakır lines respectively. A chart

¹² 'Devlet Demiryolları Idare-i Umumiyesi ve İşletme Müdürlükleri'nin Teşkilatı Hakkında', *Demiryollar mecmuası*, No.35, (Ocak 1928).

¹³ Ibid.

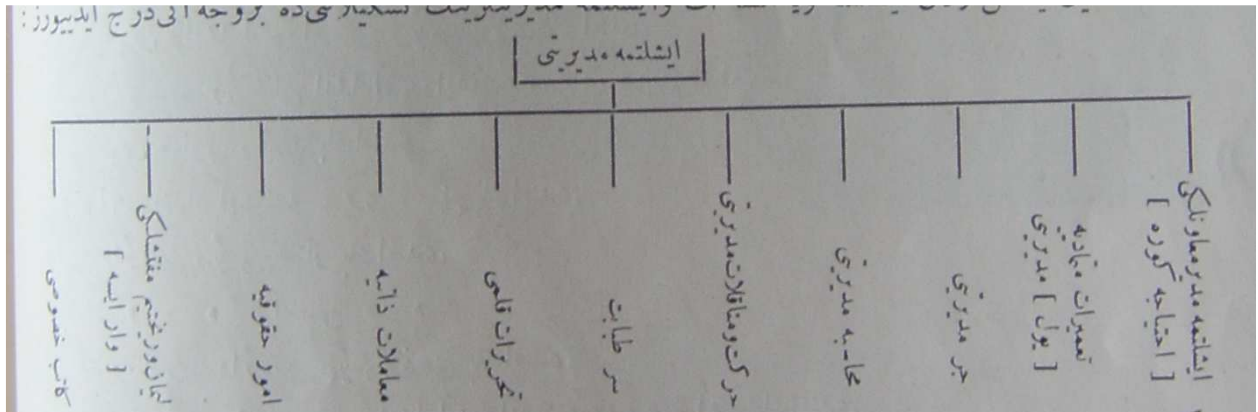
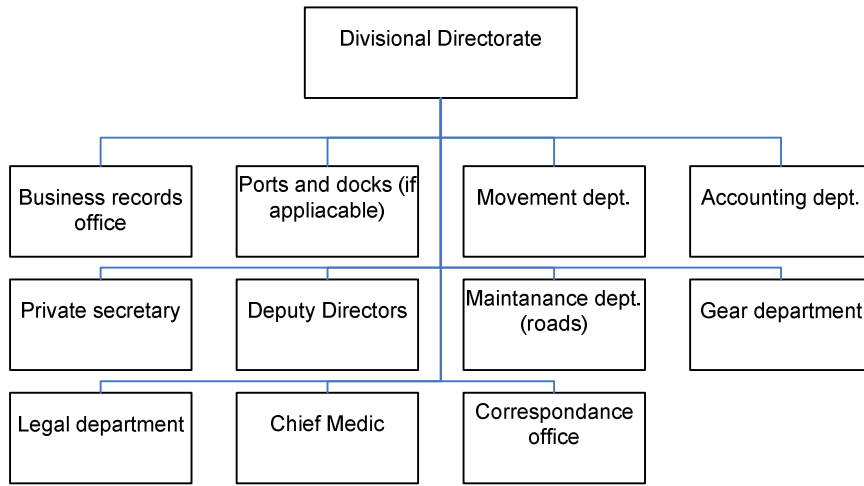
depicting the 1927 geographical divisions within the SRC can be found in Figure 2. Each such division had its own administrative structure as depicted in Figure 3.

Figure 2: Regional divisions of the SRC (1927)



Source: *Demiryollar Mecmuası*, (Aralık 1927), No: 34

Figure 3: SRC Divisional Administrations (1928)



Source: *Demiryollar mecmuası*, (Ocak 1928), No:35

3) Fine Tuning: The Reforms of the 1930s

The growth of the railway network, and the nationalisations that occurred during the 1930s soon necessitated changes in the above mentioned divisional structure. In 1933, as sections of the Adana Railroad were nationalised, a geographical division was established in Adana. Moreover, in the early 1930s, the administrations of the Erzurum-Sarıkamış line, and the near-obsolete Mudanya-Bursa line were demoted to the status of “offices”. That is, these lines were run by administrations that were much smaller in size than actual regional divisions. The Adana division, was followed by two divisions in the Izmir region as the Kasaba and Aydın railroads were nationalised in 1934 and 1935. These two divisions were consolidated in 1936, and a new administration was created inland in Afyon. The purchase of the Eastern Railway in 1937 also led to the creation of a division based in Sirkeci. New divisions were also created in the east of the country as the railway lines under construction began joining each other and reaching major centres. Similarly, redundant divisional centres were relocated as construction progressed.

After 1935, the divisions that had hitherto been named after their centres, or the lines they controlled were named by numbers. For instance the Haydarpaşa Administration was referred to as the 1st Division. Each section was accorded a number in relation to when it was created, or when it joined the SRC. For example in 1937, when the administration centred in Sirkeci joined the SRC, it became the 9th division, despite the fact that it neighboured what was referred to as division 1. As the dust settled following the above consolidations of neighbouring divisions and the abolishment of redundant ones, a total of eleven geographical

divisions emerged in the SRC in the early 1940s. The names and locations of these divisions were as in Table 1.

Table 1: Geographical Divisions SRC (1943)

1 st Division	Haydarpaşa
2 nd Division	Ankara
3 rd Division	Balıkesir
4 th Division	Kayseri
5 th Division	Malatya
6 th Division	Adana
7 th Division	Izmir
8 th Division	Afyon
9 th Division	Sirkeci
10 th Division	Erzurum
11 th Division	Sivas

Besides the aforementioned board of directors, the SRC also had an executive board that convened twice a year.¹⁴ These meetings brought together the directors of various functional and geographical offices. The first such meeting occurred on the 10th of December 1927, and was attended by officials such as the directors of each division, the technical advisor to the roads branch, the directors of accounting, revenues and movement, and representatives of the general inspectorate. In general, issues pertaining to the difficulties incurred in the day to day management of the lines were handled in these meetings.

The SRC's relation with the country's other railway lines were also managed actively through six-monthly "director's conferences".¹⁵ These conferences brought together the directors of the SRC, and the privately owned Adana, Eastern, Aydın, and Kasaba railroads. These meetings aimed to facilitate joint decisions about the general railroading conventions to be followed within the country, especially with regards to through passage and the shared use of certain rolling stock. It is unclear exactly when the director's conferences ceased to convene; however, considering the circumstances, the idea of an inter-firm meeting

¹⁴ 'İnşaat ve işletme meclisi', *Demiryollar mecmuası*, No.35, (Ocak 1928).

¹⁵ 'Türkiye demiryolları müdiran konferansı', *Demiryollar mecmuası*, Haz. 1928, No:40, 1928, 'Demiyollar müdiran konferansı', *Demiryollar mecmuası*, no.60, (Şub. 1930).

would have been redundant by 1937. It appears that the idea of the “director’s conference” was merged with that of the executive board, and revived in the early 1940s. Starting in 1942, the SRC’s regional directors and executives from its functional departments began meeting once a year in Ankara in conferences hosted by the Minister of Transport and the General Director of the SRC.¹⁶

In the mid 1930s, having established its central and regional managerial structure, the SRC finalised its institutionalisation with a 1935 law systematising workers pay, promotion, penalties and rewards.¹⁷ First and foremost, this legislation brought uniformity to the pay workers conducting similar jobs would receive. Workers over a dispersed network had hitherto received slightly different salaries, and arbitrary raises. Moreover, this law formalised the official training requirements for certain positions, and capped the advancement of certain workers. The time required to gain a promotion, and the process through which promotions would be granted were also formalised.

Beginning in 1936, the new pay-scale separating workers into four generic bands, and 19 levels was put in place. Under this scheme, senior managers and certain professionals fell under band A, professionals such as junior lawyers and engineers under band B, clerks under band C, and daily-wage earning manual railroad workers under band D. The breakdown of the numeric levels under the various generic bands can be seen in Table 2. A separate 9 level scale also existed for skilled labourers working in the repair factories. Under this scheme middle-school graduates joined the corporation at the 16th level. High school graduates entered at the 12th level and had the chance to advance as far as the 7th, as Band A positions required university degrees. University graduates started working at level 10, the highest

¹⁶ ‘Devlet Demiryolları işletme müdürleri umum müdürümüzün reisliğinde bir toplantı yaptılar’, *Demiryollar Dergisi*, (Nis-Haz. 1943), No:218-20, ‘Daire Reisleri, İşletme ve Atelye Müdürlerinin ikinci yıllık konferansı’ *Demiryollar Dergisi*, (Nis-Haz 1944), No: 230-32, ‘DD Yolları daire başkanlarıyla işletmeler ve atelyeler müdürlerinin konferansı’, *Demiryollar Dergisi*, (Nis-Haz. 1945), No:242-4.

¹⁷ 2847 No’lu Kanun, *Düstur*, 3. Tertip, Cilt 17, s.15.

position within Band C. However, candidates with documented knowledge of a foreign language could begin working at level 9.¹⁸

Table 2: SRC Pay Scale as of 1936

A Band	1, 2, 3, 4, 5, 6.1, 6.2
B Band	7, 8, 9
C Band	10, 11, 12, 13, 14, 15, 16
D (wage-workers)	17.1, 17.2, 17.3, 18.1, 18.2, 18.3, 19.1, 19.2

The new pay-scale was also accompanied by a new system of promotion, appraisals and punishments, as well as regulation into holidays and retirement. Workers were to be promoted based on two criteria: merit and tenure. Each position was accorded a fixed length of tenure as a pre-requisite to advancement. Workers who fulfilled this length of service would be evaluated by their superiors and appointed to any suitable openings. Under the new rules, certain types of unwarranted behaviour, or misconducts would be punished in a uniform way, with an emphasis on punitive measures with immediate effects rather than long term measures such as pay-cuts.

In short, the new system of pay and promotions finalised the institutionalisation of the SRC as it brought uniformity to the entire service. Each job, the education required to fulfil it, and its positions vis-à-vis other jobs was defined, leading to the clarification of the organisations hierarchy. For instance, the hierarchy between the divisional and functional managers at the highest level can be seen in Table 3. Moreover, a unity in processes and practices was established over a wide geographical area. To paraphrase the SRC's personnel director, the truant in Edirne was to be punished in the same manner as the truant in Erzurum.¹⁹

¹⁸ Mukbil Sezginer, 'Devlet Demiryollarında memur vaziyeti', *Demiryollar Dergisi*, (Eyl-Eki. 1938), No: 164-5.

¹⁹ Mukbil Sezginer, *Bugüne Kadar Demiryollarımız*, (Ankara: Aleattin Kırıl Basımevi, 1939) p.30.

Table 3: Pay Scale for band A SRC executives (1936)

Letter band	pay grade	central administration	regional divisions
A	1	General director	-
A	2	Deputy Director, Chief inspector	-
A	3	Directors: Roads, Gear, Movement, Trade and Revenues	Level 1 Division Directors
A	4	Directors: Accounting, Supplies, Legal. Inspector, Directors: Technical committee of roads and gear	Level 2 Division Directors
A	5	Director: Medical, Personnel. General Sec., Inspectors, Deputy Director: Roads, Movement, Gear, Director of Ports.	Level 1 Director of Factories
A	6,1	-	Small Division Superintendent, port chief inspector, chief inspectors: roads, movement, gear.
A	6,2	Level 1 inspector, Medical Doctor, Lawyer, Chartered Accountant, Statistic officer, Trained Engineer,	Doctor, Lawyer, inspector: roads, gear, movement, 2nd Level Repair factory director

4) Rationalisation in the SRC

Beginning with the quasi-official Turkish takeover of the railroads in 1923, the forerunners of the SRC attempted to rationalise certain aspects of the functioning of the Anatolian-Baghdad Railroad. These efforts intensified following the creation of the SRC, and were vital both in the efficient running of the lines, and in the integration of new sections and previously company owned lines into the corporation's network. The SRC closely followed contemporary notions of rationalisation and scientific management, and aimed to standardise procedures and increase efficiency both in the lines, and in auxiliary services such as repair factories. I focus on three areas in which such efforts were most concentrated and vital: the rationalisation of rolling stock and gear services, the rationalisation of procurement, and the rationalisation of rates and tariffs.

After the decade of war, the government of The Turkish Republic controlled a total of 171 locomotives, of 17 different types. Moreover, only fifty or so of these locomotives inherited from the CFOA or salvaged from other sources were in working order, and these used a wide variety of non-standardised spare parts.²⁰ After initially concentrating on repairing the existing locomotives, the Anatolian Baghdad Railway Administration implemented a plan to rationalise the rolling stock. Under the new scheme, the selection and purchase of locomotives would be based on three guiding principles. First, the minimum possible amount of different loco types would be used. Second, these different loco types would ideally share standardised parts. Third, the most powerful and fastest locomotives would be used to form long trains and to compete with automobile transport in terms of speed. Moreover, the simplest designs would be selected as to lower maintenance costs, which at the time outweighed any gains more complex designs afforded in fuel consumption and performance. In the ten years between 1923 and 1933, the SRC ordered a total of 173 locomotives under eight different designs.²¹

Similarly, the SRC opted for metal freight and passenger wagons instead of the old wood types. Beginning in 1931 these were installed with air-brakes, greatly increasing the security of both freight and passenger trains. This also allowed trains to travel at higher speeds. The rationalisation of rolling stock, coupled with more efficient repair and maintenance routines contributed to more cost efficient, higher speed journeys. All in all, the attempts to rationalise rolling stock led to lower costs and higher efficiency in the first ten years of the republic. Even fuel consumption improved, reducing from 19 to 14 kilograms of coal per kilometre.²²

²⁰ Tefik, 'Cumhuriyet Idaresinde Demiryolculuğumuz', *Demiryollar Mecmuası*, (Ekim-Kas. 1933), No: 104-5. Tefik, the author of this article was the director of the SRC's gear department.

²¹ Ibid.

²² Ibid.

The chief repair facilities of the CFOA, which were consequently inherited by the SRC were located in Eskişehir. As of 1923, the main repair shop had last been renovated following a fire in 1906.²³ Given the state of the administration's rolling stock following the war, the factory's capacity was inadequate to deal with the backlog of servicing and maintenance, as well as carrying out regular repairs. Starting in 1923, the Administration purchased turn benches and other machines for the repair factory, added a number of furnaces to the metal works section, and expanded the foundry attached to the atelier. These attempts however, fell short of fulfilling the long term needs of what would become the SRC's main factory. Prior to 1925, certain work, such as the cleaning and flanging of boilers was undertaken in the factory yard, due to a lack of space and facilities within the actual building. Moreover, machine parts were kept in the open, and the processing of certain pieces created bottlenecks that kept whole locomotives waiting within the factory.²⁴

In the summer of 1925, a renovation program undertaking more comprehensive changes was put in place.²⁵ This plan had two interrelated aims. The first goal was to quicken the average time required to completely overhaul a locomotive at the plant, reducing the current 120 days per locomotive to 90. The second aim was to increase the plant's capacity, raising the number of locomotives that could be fixed at any one time from 9 to 18. Together, these two improvements would double the yearly output of the plant.

Such a target required both the use of more and better machinery, and also more efficient practices. In this vein, the foundry, turn benches and iron works in the factory were also to be renovated. Moreover two gantry cranes were to be purchased and installed in the locomotive repair section. The SRC also planned to implement a "new work process", which had been in place in Europe for some time. This would further reduce the 90 days spent repairing one locomotive. The details as to how exactly further changes were implemented

²³ 'Milli şemendiferlikte mühim bir hadise', *Demiryollar Mecmuası*, (Tem. 1925), No. 5

²⁴ Ibid.

²⁵ Ibid.

are unclear; however it is apparent that the machine tools in use and the organisation of the plant significantly improved after 1925.

Until the late 1930s, the Eskişehir plant continued to act as the central repair facility for the SRC, supported by smaller repair shops in Yedikule, Izmir, Sivas and Haydarpaşa. However, as the railways had expanded significantly towards the east, and as traffic had also increased on these lines, the SRC drastically developed the hitherto insignificant Sivas Repair Shop in 1939. The new Sivas Gear Factory was designed from scratch, and the internal lay-out of the plant was advised by a German expert.²⁶ By 1942, this plant employed 2000 workers.²⁷ In the cases of both the Eskişehir and the Sivas plants, it is apparent that the SRC aimed to adapt modern work methods and machinery insofar as possible, with the aim of creating a faster and more cost effective repairs service.

During first years of its existence, the SRC also significantly rationalised procedures of procurement and distribution for materials and spare parts. When the Turkish administration took over the Anatolian line, the importation of materials and machines, and any purchases in the domestic market were controlled by a central shop, and then distributed to smaller shops in various locations. In the days of the CFOA, the Anatolian-Baghdad line had been supplied through at total of three such shops: one main shop in Haydarpaşa, and two smaller ones in Eskişehir and Konya.²⁸ During the First World War and the following War of Independence communications between these outlets had ground to a halt. Therefore, the first task of the new administration in 1923 had been to send officials from the Haydarpaşa shop to take stock and assemble lines of contact with the other two outlets. The Haydarpaşa shop

²⁶ BCA 30.18.1.2 Yer No. 85.100..15.

²⁷ PRO, FO 371/ 33347, Baleon (United Kingdom commercial corporation) to Clutton (FO) 15 July 1942, Extract from Jarvis and Soden report: 'Turkish Railway Administration'.

²⁸ 'Yirmi yıllık Türk demiryolculuğunda malzeme işlerinin geçirdiği safhalar ve bugünkü durumu', *Demiryollar Dergisi*, (Ekim-Ara 1943), No: 224-6

continued to serve as the central shop until 1927. All imported materials ran through this office, as did large scale domestic purchasing. Stock was brought there for inspection and all tax related issues were handled at Haydarpaşa.

When the SRC was consolidated in 1927, the hierarchical relationship between the three outlets was abolished, and a supplies department was created within the central administration. Under the new scheme, each shop was tied to this central office, and had the duty of providing for its own area. Moreover, an office of reception and distribution was set up in Haydarpaşa, as it still constituted the main port of entry for imported goods. This office was charged with the reception of goods, with their distribution within the country, and with quality control. Indeed, a laboratory was also created within this office in vein of guaranteeing the physical and chemical quality of purchases.²⁹

The main rationalisation drive within the department however was the creation of a system of materials classification. A standardised system of classification for materials was necessary to ensure uniformity among the different services and regions. Moreover, such a system would help determine the monthly and yearly need for each specific item, and help keep stock at an optimal level. The system inherited from the CFOA assigned numbers to items at a general level, however, it made no differentiation between different sizes, or places in which such parts would be used. Prior to the creation of the department of supplies, the administration had conducted examinations of several systems of classification used on European railways. In 1927, a commission comprised of the deputy director of supplies, shop managers, and representatives from various functional departments set about the task of creating a system of classification specific to the SRC. The new system was put in place in 1928, enabling the central administration to track stock levels accurately and to conduct procurement in a more efficient manner.³⁰

²⁹ Ibid.

³⁰ Ibid.

At the regional level, the new system enabled smaller shops and depots to differentiate between items that would be constantly kept in stock, and those that would be ordered as the need arose. Moreover, the SRC aimed to implement a similar lay out for storing parts in each depot, leading to safer and more efficient handling and distribution processes.

The growth of the SRC's track length in the 1930s promoted further development within the supplies department. For instance, a fourth shop was opened in Ankara in the early 1930s. As both Izmir railroads were purchased by the SRC in 1934 and 1935, the corporation inherited their shops in Alsancak and Halkapınar. As they were in close proximity, only the Alsancak shop was maintained by the SRC to service the Aegean region. In 1937, the Yedikule shop belonging to the Eastern Railroad was also taken over by the SRC. As foreign owned shops came under the control of the corporation, they were integrated into the existing system of classification and attached to the department of supplies. In 1939, two further shops were inaugurated in Sivas and Erzurum in order to service the new Gear Factory and the Erzurum-Sivas line.³¹

The third area in which the SRC implemented wide scale rationalisation was in the rates and tariffs system used on the lines. The business of creating a specific rates system was one of the most specialised non-mechanical tasks associated with running a railway. The administration had to strike a balance between implementing a tariff that was low enough to stimulate traffic, yet high enough to cover fixed expenses. Contrary to the old CFOA, the SRC, as a public service provider, was also concerned with the development of transport for transports sake rather than sheer profit maximisation. Therefore, the new system would aim

³¹ Nazif Oytun, 'Devlet Demiryolları teşkilatında mağazalar ve vazifeleri', *Demiryollar Dergisi*, (Kas-Ara 1941), No: 201-2.

both to provide the most revenue to the corporation and also to benefit the public good insofar as possible.

An immediate reform in the tariff system however, would have proved undesirable in the 1920s, when certain clauses of the Lausanne agreement still bound Turkey's foreign trade regime. In the early Republican era, even the stimulation of long-distance intra regional freight was undesirable considering the precocity of local economies in the 1920s. The stimulation of freight for goods imported under a low import tariff regime would have proven devastating to the national economy. Therefore, any major rate reform, decreasing prices and differentiating between various freight items or passenger groups only became plausible in the 1930s.

Following the war, state owned railroads had adopted tariffs based on the prices of the old CFOA. The Anatolian-Baghdad line implemented a tariff that amounted to a five fold increase in pre-war prices.³² For newly constructed lines, tariffs were increased by eight times. In short, the old tariff regime was adapted to current conditions, with price rises compensating for heavy inflation during the war. These price levels have been described as "low enough to make personal travel affordable, but high enough to discourage freight".³³ The first changes in this pricing system occurred in the early 1930s. In 1931, the difference between the two groups of lines was abolished in favour of a flat rate at six times the pre-war prices. This move no doubt aimed to increase the use of the new lines by financing their fixed expenses through the more lucrative Anatolian-Baghdad section. Moreover, the first student discounts, and special workers rates were introduced in 1930 and 1931. As of 1930, students were accorded a fifty percent discount for one journey made during the summer. Persons travelling in pursuit of work in groups of ten were given a 30 percent discount beginning in

³² Ali İlhami, 'Devlet Demiryollarında tarife işleri', *Demiryollar Mecmuası*, (Ekim-Kas. 1933), No:104-5

³³ Ibid.

1931. Similarly rates for passenger travel were reduced in periods surrounding the two main religious holidays.³⁴

In 1932 the SRC finally undertook a large scale project with the aim of creating a rate system that would stimulate both freight and passenger traffic within the country. Charles E. Bell, an American rates and management expert who was contracted to help design the new system spent some 9 months in Turkey, examining various regions and railway lines and preparing a report for the central administration.³⁵ In 1933, the new, rationalised tariff system was implemented. This new system was geared at increasing the utilisation of existing train journeys, increasing the SRC's revenue, and stimulating the transport of agricultural and industrial goods. First and foremost, the new tariff system greatly reduced the cost of long journeys, which had hitherto been priced at a fixed per-kilometre rate. Under the new scheme, journeys of up to 600 kilometres were charged at the full rate. Journeys in excess of this length were charged at the full rate for the first 600 kilometres, and then at a 60 percent discount per kilometre. For travel that exceeded 800 kilometres the discount rate after the initial 600 kilometres was increased to 80 percent. As a result of such arrangements, the cost of transporting goods across 1200 kilometres, for instance, was reduced by almost fifty percent.

Moreover, the new tariff system differentiated between different types and classes of freight. Finished goods of all kinds were carried as first class cargo, and charged at a flat rate. A more detailed system existed for second class and third class cargo comprised of commodities such as timber, steel and iron, or agricultural products and livestock. Second and third class cargo was categorised under four rubrics. The first category included materials that were vital to the livelihood of the population such as livestock, hay, water and flower. The second category included construction materials such as bricks, timber and iron girders. The

³⁴ Ibid.

³⁵ BCA 30.18.1.2 yer no. 39.67..8, Bell's report is dealt with in more detail in the following chapters.

third was comprised of minerals and coal. The final category included both agricultural goods such as cereals and fruits, and also products such as salt and beer. Among these commodities, which were all transported at discounted rates, cereals were carried at the lowest rate, with additional discounts available if cereals were being sent to port cities. This was aimed at keeping the price of cereals down in large cities, and promoting exportation should any excess accumulate.

Under the new tariff and rates system, the special passenger discounts that had been adopted in 1930 and 1931 were further developed. For instance, a flat 50 percent discount was introduced on all student travel. The 33 percent discount offered to groups in pursuit of work was also increased to 50 percent. Moreover special rates were developed for sports teams and performance artists travelling in groups, and for people travelling to seasonal residence and recreation centres such as hot water baths and plateaus.

5) Corporate Welfare and Paternalistic Employment

Following the 1927 consolidation of the railways, the SRC provided an increasing amount of social welfare for its employees. The corporation greatly developed its existing retirement scheme, provided wide ranged health insurance to employees and their families, took on a role in schooling the children of railroaders, and even promoted leisure and sports activities by supporting railroad sport's clubs in a variety of locations. These activities went beyond the standard range of benefits provided by all state and private sector employees in Turkey, perhaps with the exception of the armed forces. I argue that the SRC had developed into a paternalist employer by the mid 1930s. The welfare provided by the organisation was a means of securing the dedication and loyalty of an ever increasing workforce. Moreover, such a paternalist approach to employment aimed to impede the development of political activism

among the nation's largest group of industrial workers. Below, I focus on the development of corporate welfare within the SRC, touching on the pension system, healthcare, education, and leisure services provided to workers.

The first efforts to create a pension fund for railway workers had occurred under the aegis of the Anatolian-Baghdad Railway Administration in 1926.³⁶ This fund was designed along the lines of those used in European railways, as it was created after a series of foreign pension schemes were examined, and their rules and regulations translated into Turkish. The fund aimed to provide for workers in the event of accidents, sickness and retirement, and for their families upon death. This provision took the form of a one-off lump payment. Up until 1931, workers' contributions to the fund were matched by a proportionate contribution by the central government. However, after 1931, state support stopped. Besides providing for workers upon the termination of their employment, the fund also gave loans to current employees and housing credit to groups of employees planning to construct or purchase homes.

In 1934, this basic pension scheme was developed significantly. First and foremost, workers, both blue collared and white, were given the right to retire on a pension. That is, the fund would now provide for the worker and his family throughout his retirement, rather than delivering a one-off payment. This was subsidised by a mandatory five percent cut from the workers' wages or salaries, coupled by an equal contribution by the SRC. The chance to retire as such had previously only existed for white collared government employees and soldiers. By 1934, The SRC, for the first time, had created an independent, self funded pension system that covered all of its employees. Within the SRC, the new retirement scheme was by and large, credited to the efforts of Ali Çetinkaya, who became Minister of Public

³⁶ Ferit, 'Cumhuriyetin Nimetlerinden: Devlet Demiryolları tasarruf Sandığı', *Demiryollar Mecmuası*, (Eyl-Eki. 1933), No: 104-5.

Works in 1934. Çetinkaya's efforts to pass the law pertaining to the new retirement fund, and his support for the SRC throughout his tenure helped him become a figurehead within the SRC, the first time a minister became so prominent after Behiç Bey.³⁷

Starting in the early 1930's, The SRC provided education for the children of railway personnel, especially in cases where station workers were positioned in locations in which no schools were available. It is unclear exactly how many SRC sponsored schools existed, however at least one case is relatively well documented. The Eskişehir Family School provided primary education for the relatives of railwaymen stationed within Eskişehir, or in the general region.³⁸ Relatives of workers living in Eskişehir attended the school as day pupils, those from outside the city boarded at the institution. Students were given priority depending on their relationship to an SRC worker. Children and adopted children had the highest priority, followed by brothers and sisters, grand children, nephews, cousins and relations in law.

Boarders paid twice the rate paid by day students; however, this amount was capped at 16 percent of a worker's monthly earnings. Discounts were made available for workers sending more than one child to board at this school. The SRC took care of boarded students, supplying them with clothing, stationary, and food. Moreover, a matron was employed at the school to undertake duties "normally belonging to a housewife" such as teaching the children table manners and tending to their general cleanliness and clothing. The school followed the general curriculum, and provided additional instruction in German.

³⁷ Mukbil, 'Yeni Tekâüt Sandığı' *Demiryollar Mecmuası*, (Tem-Aus. 1934), No: 113-4. Nurettin Taneri, 'Tekâüt Sandığına Dair', *Demiryollar Mecmuası*, (eyl-eki. 1938), No: 164-5.

³⁸ Zat İşleri Müdürü Şevket, 'Devlet Demiryolları Mensubinin Hizmete Alınmaları ve Yetiştirilmeleri', *Demiryollar Mecmuası*, (May. 1932), No:82.

However efforts were made to cultivate a railroading spirit within students, and they were raised as “railroaders from the core”.³⁹

Since its inception, the SRC had in place a network of physicians positioned in each railway zone, and organised under a distinct department within the central administration. Personnel and their relatives enjoyed access to these doctors, and medication if necessary. Under the 1935 regulations dealing with the working practices of SRC personnel, special assistances for childbirth were added to employees’ health insurance. In the absence of sufficient facilities in any region, employees and their wives were to be transported to the nearest maternity ward free of charge, and provided with specialist doctors if necessary.⁴⁰ The same regulation also added dental care to the list of services provided by the organisation. As of late 1934, SRC personnel also had access to the corporation’s own hospital located in Eskişehir.⁴¹ This hospital included fifty beds, two surgical theatres, and the latest medical devices such as X-ray machines. By any standard, the level of health care provided by the SRC in the mid 1930s was remarkable, not least considering the state of the Turkish Republic in the pre World War II era.

Writing about the benefits available to employees as of 1934, Mukbil Sezginer, who would later become the director of personnel, touched on the motive behind the welfare drive. He noted:

“Healthcare is brought to our feet, our children are educated in our ever expanding schools, and our futures are now under guarantee. All that remains for us to do is to work. To work, and to be useful to the corporation that is a family home to us”.⁴²

Similarly, in 1938 Sezginer stated:

³⁹ Ibid

⁴⁰ Mukbil Sezginer, ‘Devlet Demiryollarında memur vaziyeti’

⁴¹ ‘Eskişehir hastanesi’, *Demiryollar Mecmuası*, (Ara. 1934), No: 118

⁴² Mukbil, ‘Yeni Tekaüt Sandığı’ *Demiryollar Mecmuası*, (Tem-Aus. 1934), No: 113-4

“What a worker wants is to provide for his family, make sure they keep in good health, and are guaranteed a good future. These are all provided by the administration for the workers.”⁴³

In these short but telling statements, Sezginer emphasised that the corporation took care of every aspect of the employee’s life, making sure that all the worker had to worry about was how to best go about his job. Moreover, he stressed that the SRC was not just a place of work, but a family of which the employee was a member.

To reinforce this notion, the SRC also took measures to provide appropriate leisure activities for railwaymen and their families beginning in the early 1930s. Fitting with contemporary sentiments regarding the need for a physically fit generation, the corporation focused on the promotion of sporting activities. Local “Demirspor” clubs were set up in a number of locations beginning in 1930. Railwaymen were encouraged to participate in the activities of these clubs, and to follow their activities if this was not possible.

The first such club was founded in Eskişehir, in August 1930, with the support of relatively high level SRC employees such as Şaban (Daga), Ferit Bey, and Tarık Bey.⁴⁴ This was most likely a local effort, condoned and encouraged by the central administration. Football was the central activity at Eskişehir Demirspor, followed by athletics and wrestling. During the same year, Hüseyin Yakup, chief inspector of the Samsun-Sivas line also set up a Demirspor club in Samsun.⁴⁵ Ankara Demirspor soon followed, as it was formally founded in 1932 under the guidance of the central administration.⁴⁶ The official goal of this club was to raise a generation of physically fit, strong, and intellectually capable railwaymen. Each of the Demirspors used a similar emblem derived from that of the SRC, and adopted blue and navy blue as club colours. For samples of various club emblems See Figure 4.

⁴³ Mukbil Sezginer, Mütchassis memur yetiştirilmesinde tutulan usul’, *Demiryollar Mecmuası*, (eyl-eki.1938), No:164-5

⁴⁴ ‘Tarihçe’, *Eskişehir Demirspor Club Website*, (<http://eskisehirdemirspor.com/page/33-0-tarihicerik.htm>), accessed: 20 April 2010.

⁴⁵ ‘Devlet Demiryollarında spor hareket ve faaliyetleri’, *Demiryollar Mecmuası*, (Tem-Aus. 1934), No: 113-14

⁴⁶ Ibid

Figure 4: Emblems for various Demirspor Clubs



The number of Demirspor clubs grew significantly throughout the 1930s. These clubs concentrated mostly on football, athletics and wrestling. Following a 1941 change in legislation dictating that all businesses employing more than 500 workers had to form sports clubs, the Demirspors changed slightly in structure. First and foremost, they became legally mandatory in large sections of the railways. Second, non railroaders were disallowed, contrary to previous practices in which enthusiastic sportsmen could compete under the aegis of these clubs.⁴⁷ By 1942, there were some 48 Demirspor clubs throughout the country.⁴⁸ The largest and most prominent, apart from the aforementioned, were Adana Demispor, Istanbul Demirspor, Kayseri Demirspor, Izmir Demirspor and Sivas Demirspor. Despite competing in independent local leagues, these teams sometimes met in friendly matches hosted by local SRC divisions. Moreover, the railroading magazine covered the activities of the various Demirspors increasingly throughout the 1930s and 1940s, aiming to cultivate a sense of enthusiasm among railroad workers.

⁴⁷ Necmeddin Tardu, 'Devlet Demiryollarında spor teşekkülleri ve Ankara Demirsporü', *Demiryollar Dergisi*, (Tem-Eki. 1941), No: 197-200.

⁴⁸ 'İşte Türk sporunun demir direkleri', *Zaman*, 21 September 2009.

CHAPTER IV

TECHNICAL EDUCATION AND THE MAKING OF TURKISH RAILWAY PERSONNEL

As the construction and running of railroads required a body of highly specialised and skilled workers, the development of technical education was paramount in the SRC's success in running and expanding the rail network in the early republican period. Here, I use the term technical education in the broadest sense. This varies from factory-based craft schools instructing young men in manual work, to university-level institutions training engineers. Below, I provide an overview of how various institutions of technical education functioned in pre World War II Turkey, and what roles they played in creating railroad personnel. I focus on institutions at three different levels. First I examine the development of the Istanbul Engineering School that later became Istanbul Technical University. Second I deal with the corporation's body of railroad schools and courses training station and train staff. Finally, I briefly discuss the role the apprentice schools that trained workers for depots and repair shops.

Some of these institutions, such as the Istanbul Engineering Academy, have previously received attention from scholars. Similarly, the roles of the various "railroading schools" in raising personnel have been briefly touched on. However, the different roles played by the entirety of these institutions in creating a railroading workforce have hitherto not been examined in any detail in one study. In this chapter, I hope to introduce the notion that a system of technical railroading training aimed at educating various personnel at different levels was created in the early years of the Turkish Republic.

1) The Istanbul Engineering School

The sole institution training highly qualified technical personnel to work in the construction and administration of railroads in both the Ottoman and the republican era's was the engineering school in Istanbul. The school, founded in 1883, was originally named the *Hendesi-i Mülkiye* and function as a civilian institution under the auspices of the military engineering academy, the *Mühendishane-i Berri Hümayun*. The first class graduated in 1888, and for the next two decades the school remained a sub-section of the military academy. The instructors were mainly officers, foreigners or graduates retained at the school. Following the revolution of 1908, the school was renamed the *Mühendis Mekteb-i Alisi*. It was detached from the military and tied to the Ministry of Public Works in 1909.¹ Despite the relatively small number of students and the somewhat archaic teaching methods in the pre-republican period, the school was instrumental in raising the first generation of Turkish engineers. For instance, in the 1900's half of the students in each graduating class were sent to work on the Hicaz Railway.² Two of the republic's first ministers of public works, Ahmet Muhtar Bey and Süleyman Sırrı Bey were early graduates of this institution.³

Prior to 1923 the school functioned with no more than one-hundred students at any given time, and on average twelve engineers graduated each year. The restructuring of 1909 coincided with an increased interest in the school; however after an initial rise the number of graduates fell dramatically as the decade of war beginning with the 1912 Balkan conflict took its toll.⁴ The fluctuating class sizes throughout the Ottoman period are depicted in figure 5.

¹ 'Yüksek mühendis mektebi hakkında malumat', *Mühendis Mektebi Mecmuası*, No:73 (Ekim 1933)

² Ufuk Gülsoy, *Hicaz Demiryolu* (Istanbul: Eren, 1994), p.114-5.

³ 'Nafia Vekili muhteremi Süleyman Sırrı Beyefendi'nin mühendis mekteb-i ali'sinde şayan-ı dikkat bir hitabeleri', *Demiryollar mecmuası*, No: 9 (Kasım 1925). Besides being an alumnus of the engineering school Süleyman Sırrı also served as a lecturer and principle in this institution.

⁴ 'Yüksek Mühendis Mektebi Hakkında Malumat'. *Mühendis Mektebi Mecmuası*.

After the declaration of republican rule, the school remained attached to the Ministry of Public Works and functioned without much change in its administrative status and structure. However, the size of the student body grew steadily following 1923. During the first year under the new regime, the school had a total of 83 students; by 1925 it was attended by 137. Three years later, the student body amounted to 233 prospective engineers.⁵ As the engineering school applied a six-year curriculum, graduating classes were very small in size prior to 1930. Only after 1930 were pre World War I graduating class sizes reached and surpassed as students who enrolled after 1923 began graduating. Figures 6 and 7 depict the number of yearly graduates, the total number of students attending the school, and the number of enrolled freshmen for the period 1923-33.

⁵ Ibid

Figure 5: Pre 1923 graduates of the Engineering School

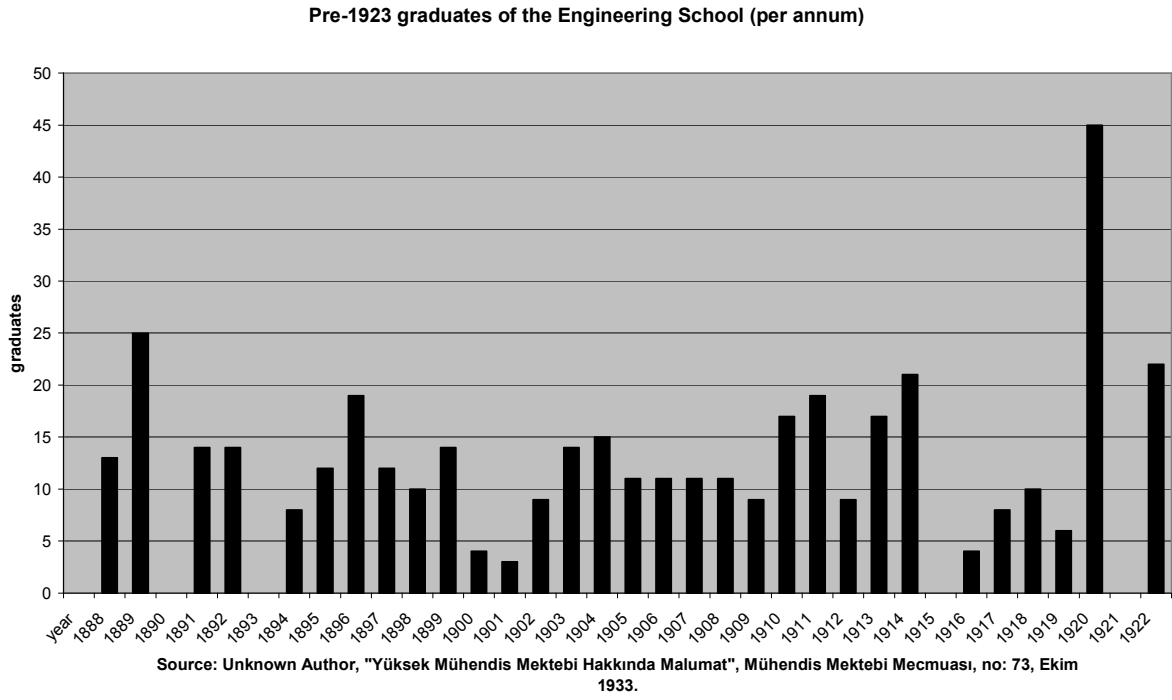


Figure 6: Post 1923 graduates of the Engineering School

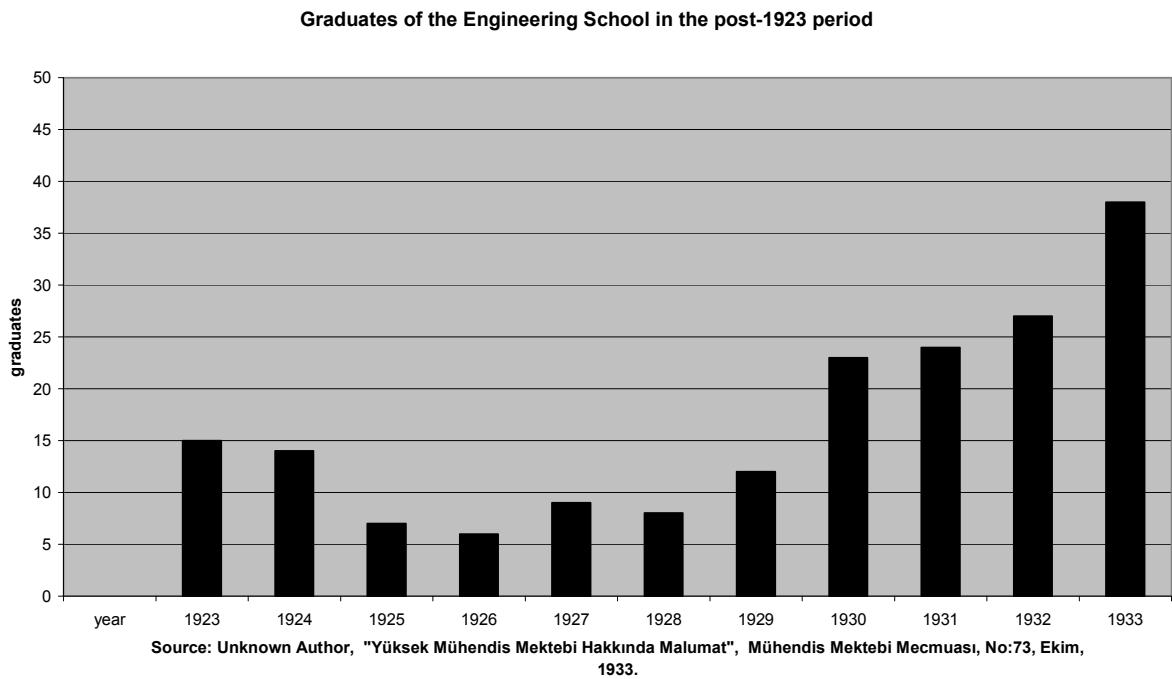
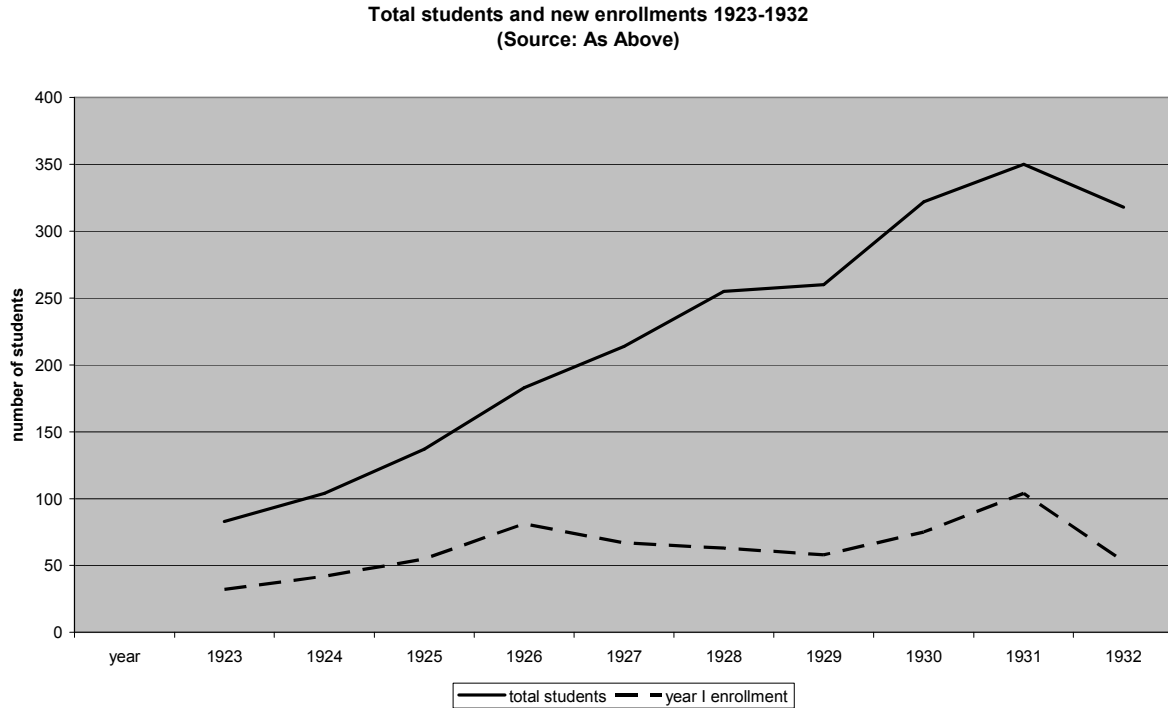


Figure 7: Student body and first year enrolment at the engineering school: 1923-1932



By the early 1930s the engineering school had reached a total of above 300 students, tripling its size in the late Ottoman period. In the eleven years from 1933 to 1944, it is known that 562 students graduated.⁶ Despite the unavailability of yearly figures, it seems that the school had reached a relatively stable situation after 1933 with an average graduating class of about fifty, and a student body of over three-hundred.

Besides this great increase in size, the Republican period also saw a gradual qualitative change in the way the engineering school functioned. First and foremost, law number 1275 of May 1928 redefined the position of the school under the new government, changing the name of the institution to *Yüksek Mühendis Mektebi*.⁷ The school kept this name

⁶ Kazım Çeçen, *Istanbul Teknik Üniversitesi'nin kısa bir tarihçesi*, (ITU Bilim ve Teknoloji Tarihi Araştırma Merkezi Yayın No: 7, 1990)

⁷ 'Yüksek Mühendis Mektebi Hakkında Kanun', *Demiryollar mecmuası*, No: 42 (Ağ. 1928).

until 1944, when it officially became Istanbul Technical University. Under the new legislation, the school would function as an independent body loosely connected to the Ministry of Public Works. It would run its own yearly budget, retaining earnings with the approval of the ministry. The school would receive income from a number of sources including funding from the state, donations, tuition fees, and profits gained through the commercial use of laboratories and printing facilities. The school was also given the building it occupied free of charge. The administrative structure and the educational program to be followed were left to the school administration, as the law stated that these issues would be covered in the institution's own regulations.

The school was open to all Turkish citizens who were high school graduates, with the conditions that they were under the age of 23, of good health, and had no criminal records.⁸ It is noteworthy that the engineering school, and hence the engineering profession was open to non-Turks, considering the often open bans on the participation of minorities in certain professions and areas of education.⁹ Students were selected based on the results of examinations in the fields of mathematics, geometry and Turkish. Those who saw themselves fit, or graduates of general universities could also sit examinations to jump to the 2nd, 3rd or 4th year. The school administrations however, also held the right to deny any student the right to enrol in the school. In the 1930s, most of the student body were categorised as "*leyli meccani*", that is, non-paying boarders. There were some students who paid tuition who either lived on or off the premises, however it is unclear what criteria were used to establish whether students paid fees or not. Beginning in 1927, the first women also took their places in the academy. The entirety of these female students lived at home.¹⁰

⁸ 'Yüksek Mühendis Mektebi tedrisat talimatnamesine merbut kayıt ve kabul şartları', *Demiryollar mecmuası*, No: 37-8 (Haz-Tem 1930).

⁹ For instance, the SRC's own educational facilities did not admit applicants who were not "Turkish".

¹⁰ 'Yüksek Mühendis Mektebi Hakkında Malumat'.

The first three years of study in the institutions comprised of core courses which were taken by all students. These aimed to develop the students' skills in preparing reports, technical drawings, and doing actual craft work. In the fourth year of study students were separated into three specialised groups: roads and railroads, waterworks, and general construction. According to one of their own publications, the most important change in the school's general curriculum in the republican era was a new found emphasis on practical, as well as theoretical learning.¹¹ Theory was reinforced by practice through lab-work, field-work, and workshop classes. Moreover, each student was sent to intern on an actual engineering project over each summer holiday. In vein of modernising the program, some of the classes taught in the Ottoman era were abandoned completely and new subjects were introduced in the republican period. For instance, instruction in religious studies and logic were abandoned as it was believed these had no place in a technical institution. Basic sciences such as chemistry and physics were given more weight, and new courses on electrics, concrete buildings, and basic economics were added to the curriculum. The library and laboratories were also developed significantly. The library, which was home to a small number of basic texts in the Ottoman period, was expanded to the extent that it housed ten-thousand or so volumes in 1933, including major European engineering periodicals.

The roads and railroads branch of the school was the chief source of qualified engineers for the State Railroad Corporation. Except for the minority who pursued careers in road construction, the two main engineering-career options for graduates of this branch were working for the corporation, or for railway construction contractors. Graduates of the engineering school entered the service of the SRC without examinations. Following the systematisation of pay and promotions that took place in 1935, they were expected to gain promotions biannually. Inexperienced engineers entered the eighteen level pay-scale at the

¹¹ Ibid.

tenth level, the highest possible position for mid-level employees. Said level could only be reached by a middle-school graduate after twenty or so years of service. Despite the relatively attractive conditions of employment offered to its graduates, it appears that the academy failed in supplying the SRC and the railroad contractors with adequate numbers of engineers. It must be noted however, that the failure was one of quantity and not quality. As I will show later on in this chapter, the SRC and the railroad contractors alike, were forced to hire both Turkish and foreign engineers throughout the period dealt with in this study. The significant increase in the number of engineering graduates in the republican period was insufficient to fulfil the needs of the ever expanding railroad network, and the body governing it.

2) The Technical Training of Mid-Level Personnel: The Railroading Schools

Prior to the First World War, the only genuinely Ottoman-operated railway, the Hicaz line, had been run mostly by military men. These soldiers who had been involved in the construction of the line eventually took on operational roles, sharing the responsibility of managing the line's traffic together with foreign workers. During the war, when the Ottoman State took over the administration of railway lines owned by enemy countries, those soldiers who had worked on the Hicaz line constituted the main source from which Turkish personell could be drawn. The main issue in keeping the railroads functioning effectively during this period was not one of finding qualified engineers, but mid-level staff. The railroads required high numbers of movement staff who had gained skills through apprenticeships or formal training programs. To clarify, the men in question would work as traffic operators, station masters, conductors, engine drivers, firemen, and road inspectors.

In order to fulfil this immediate need, and fitting with the nationalistic sentiments of the time, the first railroading school for Turks was inaugurated in Izmir in 1915.¹² Although it was open to civilian candidates, this was a military institution run by Captain Iskender Bey, commander of the 4th Railroading Battalion. President Cemal Bayar, later suggested that the school was a project envisioned and supported by himself and Rahmi Bey, then governor of Izmir.¹³ During the same year, the İzmir School was followed by a similar military course in Yeşilköy, İstanbul. These courses functioned in terms lasting about six months, only to be closed down in 1918, following the Ottoman defeat. It has been claimed that the total number of students who trained at these schools was 1040.¹⁴ During and after the Great War, the railwaymen trained in these schools were put to work primarily in the Izmir railways, first under military control, and then under the control of the nationalist forces. Others also worked on the Anatolian, Eastern and Baghdad lines, replacing foreign and Christian workers, especially in the post-1919 period.

Following the War of Independence, a similar railroading school was set up in Konya in 1923, where the Railroads Administration under Behiç Bey was temporarily stationed. This was the first republican institution providing technical training for railway personnel. Following two terms at Konya, the school followed the Railroads Administration and moved to the station building at Haydarpaşa. The Haydarpaşa railroading school remained the central body in training movement and train staff throughout the pre-World War Two period. Previous studies often remain unclear on the nature of these courses as they are usually mentioned only in passing as “important institutions for raising personell”.¹⁵ The Konya course, for instance, has been described as a distinct entity running alongside the

¹² Despite being more resemblant of a course than an actual school, I define the institution as a school based on its original name: *şemedifer mektebi*. The Turkish word mektep translates directly to school.

¹³ Celal Bayar, *Ben de yazdım: milli mücadeleye giriş* (İstanbul: Baha Matbaası, 1967), vol. 4, pp.1556-8.

¹⁴ Vedat Erbil, *Hareket Kursu 1923-1948* (İstanbul: 1948)

¹⁵ Seyfi Yıldırım, ‘Türkiye demiryollarında istihdam edilen yabancı uzmanlar (1925-1950)’, *Atatürk Araştırma Merkezi Dergisi*, Cilt.23, No.67-9 (Mart-Tem.-Kas. 2007).

course at Haydarpaşa. It is asserted that the school “produced fourteen cohorts before being shut down, . . . only to re-open again in 1930”.¹⁶ Such descriptions stem from the previous lack of knowledge and focused research regarding these institutions. Below, I will try to clearly define the railroading school’s role in the technical training of staff, and attempt to shed light on how this course, and other courses that followed it functioned.

In the simplest terms, the Haydarpaşa Railroad School trained staff to work at stations and on board trains. The personnel attending this institution would form the backbone of the railroad’s workforce, performing the day to day tasks of running the lines. Young men between the age of eighteen and twenty-seven, who had attended either middle or high school, were recruited as prospective candidates for such positions.¹⁷ After a minimum of three months of work experience on the lines, the candidates attended the Haydarpaşa course. The course raised two types of staff: station workers and train workers. These two branches followed different programs within the school, as station workers were trained for longer periods and in larger numbers. These workers attended the school for five months, and were required to sit formal examinations at the end of this period. Those who passed were sent to various stations to work as trainee traffic officials. Having fulfilled a further six months of work experience under this title, the recruit would become a fully qualified movement official with the approval of his section’s traffic inspector.¹⁸ In this sense, the Haydarpaşa school was part of an in-house training process that lasted a minimum of fifteen months. The young men recruited as trainee officials were expected to work their way up to the position of station

¹⁶ İsmail Yıldırım, *Cumhuriyet Döneminde Demiryolları 1923-1950* (Ankara: Atatürk Araştırma Merkezi, 2001), p.190, Seyfi Yıldırım, ‘Türkiye demiryollarında istihdam edilen yabancı uzmanlar (1925-1950)’. These two most prominent historians of the republican railways share this misplaced assertion concerning the railway school.

¹⁷ Zat İşleri Müdürü Şevket, ‘Devlet Demiryolları Mensubinin Hizmete Alınmaları ve Yetiştirilmeleri’, *Demiryollar mecmuası*, No:87 (May. 1932)

¹⁸ Ibid.

master. For a few among them, there was a possibility of being selected as a future traffic inspector.¹⁹

The student body of the train section of the school was comprised of conductors being trained to become train chief officials. In contrast to the station workers, the train personnel attended the school after achieving a series of promotions. To elaborate, train conductors were selected from young and promising brake-guards, who worked as acting-conductors for a while before being formally examined and promoted to standing positions. After becoming a conductor, with the consent of his superiors, the worker could apply to the school to train to become a chief official. Classes at the train section of the school lasted for three months, after which candidates sat further examinations. Those who succeeded were promoted to the rank of train chief official, a position akin to station master.²⁰

At the school, the candidates received general instruction relating to almost all areas of railroading. Movement and signals, tariffs, and gear classes were given the most weighting. These were followed by classes in telegraphs, roads, health, law, and accounting. Beginning in 1927 students also received lectures on the economic conditions of each region, and the relationship between these conditions and the tariffs in use.²¹ Each class was taught by a specific instructor; indeed by 1940, the school employed a total of 19 Teachers.²² Some classes were taught by engineers and managers who took on teaching jobs such as Eşref Demirağ, who had earlier worked on the Izmir railways during the War of Independence, and later took on the role of general manager of the 6th division in Adana.²³ This said, for some of the personnel, teaching at the railway school was a career in itself. For instance, Iskender

¹⁹ Ibid.

²⁰ Ibid.

²¹ ‘Şemendifer Mektebi’, *Demiryollar mecmuası*, No:38 (Nis.1928).

²² TC Münakalat Vekaleti Devlet Demiryolları, *27 ve 28 inci Hareket Kursu Mezunları*, (Haydarpaşa, 1940)

²³ Demirağ temporarily acted as director on the Turkish controlled section of the Izmir-Aydın line during the War of Independence. See: Murat Ergun, *Bir demiryolcunun kurtuluş savaşı hatıraları*, p.25

Sayiner, who started the first course at Izmir, continued to teach at the courses in Konya and Haydarpaşa. He later became course director in 1936, keeping this position until retirement.²⁴

It is unclear what kinds of materials were used in instruction at the school, however, by 1932, at the latest, it is apparent that Turkish language books, specifically written for the school were in use. For instance, *Ameli Şemendifercilik Dersleri: Hareket Rehberi*, written by Şemsettin²⁵, the schools instructor in movement, was used in classes. This book contained a chapter on signals and their meanings, a chapter on safety equipment, and a further section on the duties and work of movement officers. This section dealt with the structure of the movement department, the duty of various persons in this department, and the classification of stations and the division of work within these. The book also described the daily tasks a movement official undertakes to ensure safety on the line, and what one should do when faced with inconvenient situations such as the death of a passenger during a journey. The most important aspect of the book however, was that it was not simply a translation from a foreign text. It was written by a Turkish instructor, bearing in mind the structure and conditions of the Turkish railways and the SRC. It is unclear how many texts as such were actually used at the railroading school; however Şemsettin's book shows that by 1932, significant steps had been made in the direction of developing national resources for technical education within the SRC.

As it was the SRC's first and most important facility providing technical education to personnel, the Haydarpaşa School was an object of great sentiment among the administrators of the organisation especially in the first years of the republic. The graduation ceremonies were attended by high-level corporation officials as well as statesmen, and it is clear the school was seen as much more than a six-month course delivering technical training. For instance, the director of the movement department, Zihni Bey, attended each ceremony

²⁴ Ibid.

²⁵ Şemsettin, *Ameli Şemendifercilik Dersleri: Hareket Rehberi* (Istanbul: 1932)

during his tenure, customarily delivering speeches to the student body on behalf of the SRC administration.²⁶ The general director or one of his deputies was also usually present at the ceremony together with a group from the board of directors. During his time as minister of public works, Behiç Bey himself attended graduations more than once, and sent telegrams if he was unable to come.²⁷

In the graduating-day speeches delivered by the top of the graduating class, the railroad directors, and the school principle, a set of common themes were often dwelt on. The railroading school was seen as a “home of science” and indeed a home for the young railwayman. This was a place where young Turks were raised to fulfil a national goal. Upon departure they would join one of the nation’s largest families. Moreover, the students were urged to recall their days at the school in fondness, and the first and second students in each class were awarded a silver and nickel watch respectively.²⁸ It is clear that the railroading school was a place where young workers were initiated into the paternalistic culture of the SRC as well as receiving formal technical training. Towards the end of the 1930s, as the scope of training activities under the control of the SRC increased and as the idea of Turks operating railroads became something less novel, the official hype surrounding the railroading school decreased to an extent. For instance the graduation ceremonies were no longer attended by the

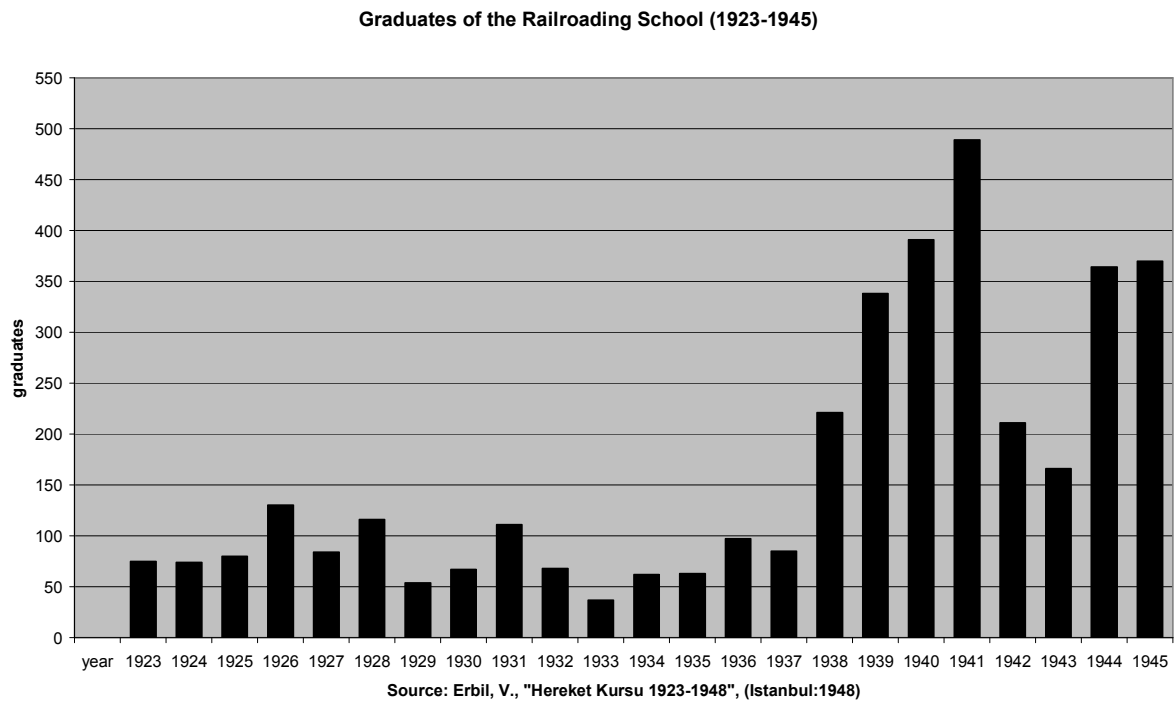
²⁶ ‘Bu ay şemendifer mektebi 6ncı devre efendilerinin tasdiknameleri tevzii edildi’, *Demiryollar mecmuası*, No:10 (Kas. 1925). ‘Şemendifer mektebi tevzii mükafat resmi’, *Demiryollar mecmuası*, No:14 (Nisan 1926). ‘Şemendifer Mektebi’, *Demiryollar mecmuası*, No: 38, (Nis. 1928). ‘Hareket ve münakelet mektebi’, *Demiryollar mecmuası*, No:41 (Tem. 1928). ‘Demiryol hareket ve münakelet mektebi’nin onbeşinci devresi’, *Demiryolları Dergisi*, No: 66-68 (Eki-Ara. 1930). ‘Hareket ve münakelet mektebi onaltıncı devre talebesi tevzii mükafat resmi’, *Demiryolları Dergisi*, No:75 (May. 1931). ‘Memurlarımızın hareket ve münakelet mektebi’, *Demiryolları Dergisi*, No:82, (Ara. 1931). ‘Şemendifer mektebi onsekizinci devre talebesinin şahadetname ve mükafat tevzii merasimi’, *Demiryolları Dergisi*, No:89-90 (Tem-Aus. 1932).

²⁷ ‘Şemendifer mektebi tevzii mükafat resmi’, No:14. ‘Şemendifer Mektebi’, No: 38. ‘Şemendifer mektebi onuncu devresi tevzii mükafat resmi’, *Demiryollar mecmuası*, No:29, (Tem. 1927).

²⁸ For transcripts of the speeches delivered by the school administrators, students, and SRC officials see above articles in the *Demiryollar mecmuası* as well as: ‘Anadolu Bağdat Demiryollar İdaresi şemendifer mektebi beşinci devre mezunları’, *Demiryollar mecmuası*, No:6 (Ağu 1925). ‘şemendifer mektebimizin tevzii mükafat resmi’, *Demiryolları Dergisi*, No:100 (Haziran 1933).

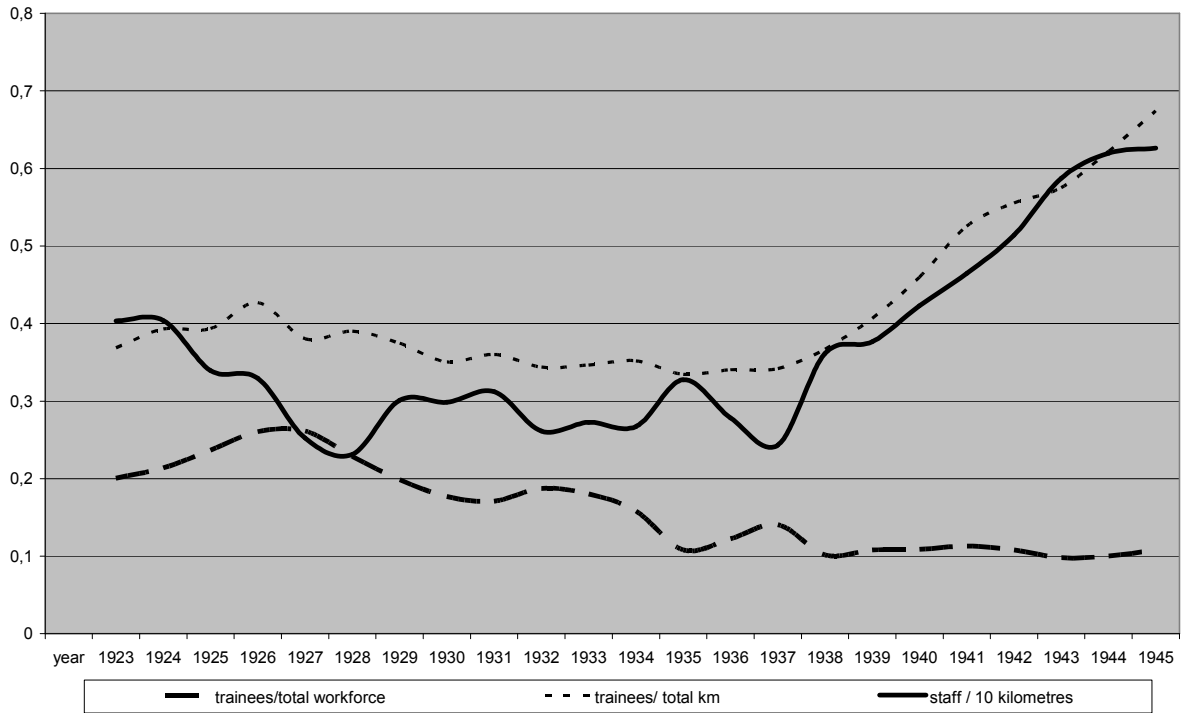
highest SRC officials, and the railroading journal covered the graduation stories in less detail.²⁹

Figure 8: Number of employees trained at the Haydarpaşa School 1923-45



²⁹For instance: 'Devlet Demiryolları Haydarpaşa Hareket Kursu'nun 24 ve 25nci devreleri, *Demiryollar Dergisi*, No:167 (Ocak 1939). Indeed, the Haydarpaşa course is not covered at all in the journal after 1940.

Figure 9: Ratio of railroading school graduates to the entire workforce, graduates per total km of railways, and total state workforce per 10 km of state controlled line.



Sources: Ismail Yıldırım, *Cumhuriyet Döneminde Demiryolları 1923-1950*, (Ankara: Atatürk Araştırmaları Merkezi, 2001), p.192. Vedat Erbil, *Hareket Kursu 1923-1948*, (İstanbul: 1948). TCDD Araştırma, Planlama ve Koordinasyon Dairesi, *Türkiye Cumhuriyeti Devlet Demiryolları 1923-2005*, (Ankara: 2005), p. 3.

As the SRC had full control over the number of students attending the school, it is clear that the frequency of courses and the number of persons attending them varied in accordance to the budget and the personnel needs of the corporation. In the period 1923-1929 the school generally ran two six-month terms a year, training two cohorts amounting to between fifty and one-hundred-and-twenty employees each year. Between 1929 and 1938, the school shifted to training one cohort a year in a single spring term. The yearly output, despite being somewhat lower in average, remained between 50 and 100 employees. This was most likely a response aimed at rationalising the training process following the world economic crisis of the early 1930's. In the period 1938-1945, the course returned to the two-term-a-year program, with increased class sizes. Yearly output varied between 200 and 500, and at times

cohorts were divided into classes within themselves. Figure 8 depicts the yearly number of employees trained at the Haydarpaşa railway school.

In order to understand the changes in the number of railroading school graduates through the years, and to better understand the role of the school in raising personnel it is necessary to compare the schools output to certain other indices. Using the numbers of total personnel and the total length of railroads as measuring sticks, it is possible to contextualise the role of the railroading school. Figure 9, depicts the change in three ratios throughout the period in question. The bold-font cut line displays the ratio of railroading school graduates to the entire SRC workforce.³⁰ The uncut line depicts the number of total SRC staff per ten kilometres of state controlled railway line. The dotted line shows the ratio of railroading school graduates to the total kilometres of railway track in the country.³¹ The numeric data used to construct this graph can be found below in Table 4.

It must be noted that the data in this figure is indicative of a general trend at best, as it is based on the somewhat flawed assumption that every graduate of the school, including the pre-republican graduates from Istanbul and Izmir, continued working for the railways until 1945. While it is not unreasonable to assume that most graduates did work for the railways, and many probably did continue working for almost thirty years, it is clear that the graph does over-represent the total number of graduates who continued working for the SRC. This is due in part to the fact that some war-time staff trained in Izmir and Istanbul would have stopped working for the railroads after the war, and in part to the fact that some workers would have retired over the years.

Notwithstanding the abovementioned flaw, the data suggests that at any point between 1923 and 1934, the ratio of total railroading school graduates to the SRC workforce

³⁰ The disproportionate number of graduates to total personnel in the pre 1935 period is due to the fact that graduates also worked on company owned lines.

³¹ In order to render the trends in the two ratios comparable on the same graph, the ratio of the graduates to the length of railway is given at graduate per kilometre, for total staff the ratio is staff per 10 kilometres.

was between 2/10 and 3/10. Following a decrease in 1934 and 1935, this number dropped to 1/10. Aside from a slight rise between 1936 and 1938, the ratio of railroading school graduates to total employees remained at 1/10 in the period 1935-1945. The declines that occurred in 1934, 1935 and once again in 1938, were no doubt the effects of the nationalisation of the Izmir and Eastern railways. As the personnel from these lines joined the SRC, the ratio of graduates to the total workforce evened out at 1/10. This was most likely closer to the actual ratio of graduates to total personnel throughout the period, when one takes into account those graduates working for company lines. This notion is supported by the very stable number of railroading school graduates working per kilometre of railroad in the period 1923-38. Indeed, for the best part of this period 0.35 to 0.40 graduates were employed, for each kilometre of railway in the country. Similarly, after an initial stagnation in the total number of staff during the first few years of the republic, the SRC struck a balance of between 2.5 and 3 workers per kilometre after its first major recruitment drive in 1928-9. Altogether, the data suggests that the ratio of railroading school graduates to total railways workers in Turkey was about 1 to 10.

I argue that the above mentioned ratio was deliberately maintained throughout the period 1938-45. The steep rise in total personnel per total kilometre which occurred after 1938 was matched almost evenly by the rise of railroading school graduates per kilometre of line in operation. The vast increase in the number of yearly graduates that occurred after 1938 can therefore be seen as part of a general attempt at improving the staffing of the railroads. This did not amount to a dramatic increase in the proportion of graduates in the workforce. Despite the absolute increase of graduates in the period 1938-1945, the ratio of total railroading school graduates to total personnel remained stable. In short, the railroading schools raised about one out of ten railroad workers in the country in the period 1915-45. Moreover, this number was not coincidental.

Table 4: Total SRC employees, railroading school graduates, Km's of railroad run by the SRC and total railroads within Turkey, 1923-45.

Year	Total SRC employees	Cumulative railroading school graduates	Km of railways run by the state	Total km of railways ³²
1923	5558	1115	1378	3026
1924	5564	1189	1378	3026
1925	5359	1269	1579	3227
1926	5369	1399	1630	3278
1927	5673	1483	2251	3899
1928	7000	1599	2453	4101
1929	8326	1653	2766	4414
1930	9731	1720	3261	4909
1931	10715	1831	3436	5084
1932	10137	1899	3878	5526
1933	10745	1936	3941	5589
1934	12641	1998	4733	5678
1935	19075	2061	5824	6161
1936	17653	2158	6340	6340
1937	15968	2243	6559	6559
1938	24253	2464	6713	6713
1939	25940	2802	6890	6890
1940	29364	3193	6947	6947
1941	32575	3682	7009	7009
1942	36017	3893	7009	7009
1943	41450	4059	7057	7057
1944	44048	4423	7110	7110
1945	44503	4793	7110	7110

Aside from the standing Haydarpaşa School, the SRC also set up a number of courses aimed at training mid level personnel, beginning in the mid 1930s. These were mostly temporary in nature, in the sense that they trained the necessary number of staff before disbanding. For instance, in 1934 a course was held in Eskişehir to raise train conductors. Twenty brake-guards from various areas, and eighteen soldiers from the Railroad Battalion

³² Note that the measurement of total railways in this section includes the state owned railways and the three major company lines in which graduates of the movement school were employed. Some minor company lines were omitted from this calculation, for instance the Bursa –Mudanya line, and the somewhat larger Mersin-Adana line.

were instructed for three months, and then examined by a movement inspector. The instructors were a volunteering mid-level manager and two movement workers from the Eskişehir station.³³ Due to its historically central role as meeting point of the two branches of the Anatolian line, and the existence of a major repair shop, Eskişehir became a hub for training activities in the late 1930s. Three-month courses for instance, were set up for firemen and train drivers. Candidates took theoretical classes in the morning, and worked in workshops in the evening.³⁴ A conductor's course was also set up in Malatya in the early 1940s, presumably to raise personnel for the fifth division centred there. Training lasted two months, and six cohorts of around ten students each were trained by 1944.³⁵

In the 1940s, institutions of technical training further proliferated within the TCDD, increasing both in scope and in number. In 1940, a roads course was inaugurated in Eskişehir, in a building that had previously been used by the Siemens Company. This was a standing institution which primarily trained section chiefs. However, other personnel working under the roads department, such as labourers, guards and switchmen also attended various courses in this building. The first cohort instructed in the section chief course was comprised of 17 interns who were high-school graduates and 14 section chiefs who had already been working in this position for a while. Upon completion of the course the new interns earned the right to work as section chiefs, while nine of the experienced students were promoted to the rank of branch chief. Inexperienced candidates selected through examination, attended the school following a six-month internship on the lines. Experienced section chiefs were put forth by their superiors as the course was also a means of advancing within the roads department.³⁶

³³ 'Eskişehir Şemendiferçilik Kondöktor Kursu', *Demiryollar mecmuası*, No:113-4, (Tem-Ağu. 1934).

³⁴ 'Cumhuriyetin 20nci yılında devlet demiryollarının personel yetiştirme faaliyetleri: okullar, kurslar, pansiyonlar', *Demiryollar Dergisi*, No:224-26 (4.Çeyrek 1943).

³⁵ 'Beşinci işletmede açılan hareket kursunu bitirenler', *Demiryollar Dergisi*, No: 227-29 (1.Çeyrek 1944).

³⁶ 'Eskişehir Yol Kursu', *Demiryollar Dergisi*, No:201-2, (Kas-Ara. 1941).

An accounting course, aimed at updating the knowledge of the accounting department was set up in 1941. Abdülkadir Gözen, deputy manager of the central accounting department delivered the first lecture in this course summarising its chief goals. His opening speech criticised the existing mindset among the railroad's accountants, claiming that they had been captivated by a fear of taking on responsibility and a reliance on bureaucratic procedures. Gözen stated that the new generation had to be raised in a different way. Courses like this would provide instruction not only in methods, but also instruction that would gradually change the accountant's mindset helping him work in a way more akin to his European counterpart.³⁷

Perhaps the most important development in the technical training of railway personnel since the opening of the first railroading school in Izmir in 1915, was the inauguration of the Vocational Railroading High School in Ankara in 1942. This school was a boarded institution, providing the equivalent of high school training together with vocational classes in railroading. The school was situated in the SRC's old central office near the Ankara train station. Young men selected through examination would study both the general curriculum and specific railroading classes for a period of three years in this institution. Tuition was free of charge; moreover many of the student's general needs including food, clothing, haircuts and even pocket money were provided for by the school.³⁸ 120 students were admitted each year, and the school did not accept students wanting to join in the second or third year. In return for their upkeep and education, graduates were bound by five years of compulsory service to the SRC. The administration also intended to send ten to fifteen of the best graduates each year, to receive further training in Europe. However, it is unknown if this plan ever materialised.

³⁷ Abdülkadir Gözen, "Biz ve Onlar", *Demiryollar Dergisi*, No:200-1 (Kas-Ara.1941)

³⁸ The clothing allowances given to students were generous considering the effects of the Second World War on the consumer economy. Moreover students were taken on summer holiday to Pendik were they could "rest their minds, and get even sun-tans". Haşim Başar, 'Bilgi ve teknik ocaklarımız: idaremizin kültür kurumlarından biri: demiryol meslek okulu, *Demiryollar Dergisi*, No:239-241 (1. Çeyrek 1945)

To apply to the school one had to be a Turk³⁹, to have finished middle-school, to be between the ages of fifteen and eighteen, and to be at least 1.56 metres in height. Candidates were subjected to physical and psycho-technical evaluations, and examinations in maths, Turkish, and physics. Examinations were held in the divisional centres around the country. Training at the school followed a joint curriculum, with an emphasis on general classes for the first two years. In the third year of study, emphasis was shifted to professional learning and students were divided into branches. Students were also given education in German, English or French depending on the language they had studied at middle-school. Professional education was limited to general classes in railroad construction and administration, machines and motors, and telegraphy during the first two years. In their final year, students specialised in roads, movement, or accounting. The school also emphasised practical learning through trips to depots, workshops and stations. The contemporary national zeal for athletics and sports also manifested itself in the schools program as daily exercise was part of the curriculum, and the pursuit of competitive sports was encouraged among students.⁴⁰

Graduates of the school were to be recruited into positions usually filled by those who attended the Haydarpaşa School or the Roads Course at Eskişehir. This said, it is unknown whether the institution aimed to supplement or replace these courses. The former is more likely as the graduates of the road section for instance, were to be examined at the Eskişehir course in order to gain promotions. These graduates started work as intern section chiefs, with the possibility of advancing to the position of road chief inspector. Similarly, graduates of the movement class started as intern traffic officials, with the possibility of being promoted to roles such as movement inspector, or chief movement inspector. In this sense, the school prepared candidates for managerial jobs at the station level, and regional inspectional

³⁹ It is clear that this referred to being of the Turkish race rather than being a Turkish citizen.

⁴⁰ For a detailed study of the Turkish governments policies on sport and physical education in the early republican era see: Yiğit Akın, *Gürbüz ve yavuz evlatlar: Erken Cumhuriyet döneminde beden terbiyesi ve spor*, (Istanbul: İletişim, 2004)

jobs. Positions in the central administration and managerial roles in divisional centres were beyond the reach of such personnel. The vocational railroading school, which produced its first graduates in 1945, represented the most systematic attempt at creating a standing system of training railroad personnel to that date.

3) The Apprentice Schools and Courses

Besides qualified engineers and mid-level operational personnel, the State Railway Corporation required skilled and specialised labourers to work in machine repair shops and on board trains. Like trained Turkish traffic officials or conductors, experienced and efficient Turkish factory workers, firemen, and drivers were in relatively short supply in the beginning of the republican period. To improve both the numbers of qualified workers, and their future efficiency, the SRC established in-factory schools aiming to raise workers from a young age. These courses were of a semi-formal nature, as they were merged into the traditional system of apprenticeship.

The first such school was the Eskişehir Apprentice School located within the Eskişehir Repair Shop. Although it is unclear when this school first started training workers in an official capacity, it is known that it had developed into a formal organisation by 1928.⁴¹ By 1932, 210 students attended the school.⁴² The Eskişehir Apprentice School admitted boys who were between the ages of 14 and 18, and had attended elementary school. The most critical pre-requisite to enrolment was to be related to an employee of the SRC in some way. As such a school catered primarily to students who were not going to attend middle school, it offered a means of professional training to the children of labourers. White-collared employees, who had all attended middle-school at worst, would most likely choose to put their children

⁴¹ ‘Almanya ve bizde demiryollarına memurin ve müstahdemin yetiştirilmesi’, *Demiryollar mecmuası*, No:40 (Haz.1928).

⁴² Zat İşleri Müdürü Şevket, ‘Devlet Demiryolları Mensubinin Hizmete Alınmaları ve Yetiştirilmeleri’.

through more academically oriented institutions. In this sense, the apprentice school also aimed to establish railroad related labour as a family trade in the Eskişehir region.

Instruction in the school was mainly practical, however, a total of five hours of theoretical classes per week were also provided in the fields of math, geometry, Turkish, mechanics, and drawing. For the first six months, students learned the very basics of metalwork, and then branched out into the various functional divisions of the factory. Apprentices trained to become levellers, lathe operators, founders, stokers, carpenters and electricians. Third and fourth year students undertook actual work by themselves, and were appraised based on the results they achieved. Upon completion of the course a fourth year student who could undertake every aspect of his work by himself was promoted to the rank of an assistant worker. As they assisted with the factory work, students were paid daily wages that increased as they progressed through each grade.⁴³

In 1941, the Sivas School was inaugurated inside the new Sivas Repair shop.⁴⁴ This school functioned in a similar manner to its counterpart in Eskişehir. Shorter courses were also set up to train workers for specific tasks. For instance, a master's course functioned simultaneously with the school at Sivas, with the goal of further training workers already working in repair shops and depots.⁴⁵ At Eskişehir, two short courses were also created to instruct workers in machine overhauling and boiler cleaning. In the early 1940s, a system was also put in place through which workers above schooling age would be raised in the Eskişehir workshop. Under this system, candidates took three phases of courses lasting between 4 to 6 months each. Work experience was required between each phase. Though the combination of

⁴³ Ibid.

⁴⁴ 'Cumhuriyetin 20nci yılında devlet demiryollarının personel yetiştirme faaliyetleri: okullar, kurslar, pansiyonlar', *Demiryollar Dergisi*.

⁴⁵ Ibid

attending courses and gaining work experience, mature candidates became master labourers within a few years.⁴⁶

4) The Systemisation of Technical Railroading Education

As the variety of training programs under the auspice of the TCDD increased throughout the early 1940s, an Office of Schools and Courses within the central administration was set up to coordinate training activities in 1942. In 1943, this office listed its targets for the near future. These can be summarised under three heading. First, the office aimed at encouraging the proliferation of railroading as a family trade to be passed from father to son. This was to be achieved by giving the children of railroad workers priority at craft and vocation schools. The second aim was to provide opportunities for the continuous education of existing staff. On a concrete level this would be achieved by improving the existing facilities of mobile teaching in order to communicate the most recent developments to staff, and by organising training trips within the country or to Europe. Moreover, publications targeting existing workers would be increased, and more material would be made available to help employees prepare for examinations relating to promotion. The third target of the Office of Schools and Courses was to improve the current system of technical education on the railways. This would be achieved by making sure that the curriculum at the vocational school was always up to date, that expert educators were employed at this institution, and that textbooks specifically tailored for the SRC were used. Furthermore, case studies based on customer complaints and other real situations would be introduced to the classroom in vein of preventing future occurrences.⁴⁷

⁴⁶ Ibid

⁴⁷ ‘Cumhuriyetin 20nci yılında devlet demiryollarının personel yetiştirme faaliyetleri: okullar, kurslar, pansiyonlar’

Throughout the period concerning this study, the administration of the SRC followed developments in personnel training methods in the rest of the world in vein of comparing their own facilities and methods to those of other countries. The most visible evidence of this practice is the series of articles authored by SRC personnel that appeared in the official railroading journal. For instance, the European zeal for psycho-technical worker evaluation was an issue of interest as early as 1926.⁴⁸ In 1932 and 1933, nearly every edition of the journal contained an article dealing with the training and recruitment procedures for railroad employees in America, The British Empire, China, Japan, Belgium, France, Spain, Italy, Holland, Portugal and other European countries.⁴⁹ Naturally, the country that was followed most closely and used as the absolute yard-stick was Germany. SRC officials who visited this country spoke in praise of the vast training facilities of the German State Railroads.⁵⁰ The German training facilities which utilised a mock train station and real rolling stock were viewed as the epitome of practically oriented learning. In the training grounds near Brandenburg, candidates were instructed both in theory and through practice fulfilling the day to day tasks of railroad workers. The worker could practice every aspect of a train journey from determining the price of a specific voyage, to handling passengers and cargo, and to guiding the train out of the station. SRC officials compared their own facilities to the likes of those available at Brandenburg, and wrote about the vast differences in the resources channeled into the training of railroaders.

⁴⁸ ‘Yeni bir fen: psikoteknik, Makinistlerin ruhi imtihanı’, *Demiryollar mecmuası*, No:13, (Mart 1926)

⁴⁹ See: Mehmet Ali, ‘Demiryol personelinin yetiştirilmesi’, *Demiryolları Dergisi*, No:84, No:85, No:86, No:87 (Şub-May 1932), Ş., ‘Amerika, Britanya İmparatorluğu, Çin ve Japon demiryollarında personelin yetiştirilmesi usulü’, *Demiryolları Dergisi*, No:88-94, (May-Ara 1932), Ş., ‘Belçika, Fransa, İspanya, İtalya, Felemenk, Portekiz ve bunlara ait müstemlekat şimendiferlerinde personel yetiştirme usulü’, *Demiryolları Dergisi*, No: 97, No:98, No:99, No:100, No:101, (Haz-Tem. 1933).

⁵⁰ ‘Almanya ve bizde demiryollarına memurin ve müstahdemin yetiştirilmesi’, *Demiryollar mecmuası*. ‘İltisakı olmıyan bir istasyon, Almayya’da Kirhmözer köyünde kain Alman Devlet Demiryolları Merkez Mektebi ve İran komşumuzun istifadesi’, No:65 (Tem.1930). Lohman, ‘Alman D. Demir Yollarında personel seçilme ve yetiştirilme usulleri’ Trans. Müh. Burhan Engin, *Demiryolları Dergisi*, No: 169, (Mar. 1939).

To conclude, it is clear that the SRC followed an increasingly systematic program of professional training for railroad workers in the period 1923-1945. Before the declaration of republican rule a large number of movement workers had been trained on the Hicaz Railroad, and in the war-time railroading schools in Izmir and Istanbul. The SRC built on this foundation, concentrating on raising mid-level station and train officials, and skilled repair workers at its Haydarpaşa and Eskişehir schools throughout the 1920's and 1930's. The need for academically trained technical personnel was partially fulfilled by the Istanbul Engineering School, which functioned as an independent body loosely connected to the Ministry of Public Works. However, the SRC did experience a shortage of professional engineers throughout the period 1923-45. Foreign recruits were used to overcome this shortage. A similar practice was out of the question for more junior positions. All station and train personnel were selected from among Turkish candidates, and trained by the SRC.

In the late 1930's, the variety of technical courses within the organisation increased to a considerable extent, as did the student population of the flagship Haydarpaşa School. This was related to the increase in total staffing that occurred between 1938 and 1945. In this seven year stretch, the number of employees working per kilometre of railway line rose from 3.8 to 6.2. This rise was matched almost evenly by a rise in the number of personnel who were railroading school graduates. The creation of the vocational high school in 1942 represented the most significant investment in technical training up to date, and displayed how seriously the administration took the issue. All in all, the drive for technical education undertaken by the Turkish government and the SRC paid off as, engineers, large numbers of mid level personnel, and skilled labourers were raised in the period 1923-45. The workforce trained in these institutions still required the help of foreign workers and advisors in certain tasks; however, they were able to manage the day to day aspects of keeping the railroads running.

CHAPTER V

TECHNOLOGY TRANSFER AT THE SRC: FOREIGN EXPERTS IN TURKEY, TURKISH RAILWAYMEN IN EUROPE

Starting with the Izmir Railroading School inaugurated in 1914, the SRC and its predecessors focused on the training of adequate numbers of ethnically Turkish mid-level railroading personnel. Engineers and higher level managers were recruited mostly from the Istanbul Engineering School, from Istanbul University, or from the existing state bureaucracy. While the staff required to run the Anatolian railroads on a day to day basis had been created by 1923, the year in which the line was taken over by the new Turkish state in a de facto manner, the SRC still lacked sufficient numbers of skilled engineers and technical specialists. This shortage was a critical issue, considering the government's ambitious railroad expansion project, and the need to maintain existing lines and machinery.

Moreover, the business of running the railroads was not simply one of keeping the trains running in a timely fashion. Despite being a state corporation, the SRC was required to balance its own budget, and hence run its railroads in an economical and rational manner. Besides issues pertaining solely to movement, gear, and roads, the core functions of railroading, the SRC was required to develop and keep up with the latest technologies in railroad accounting, tariff pricing, and personnel management. As advanced knowledge of these fields, and certain technologies relating to the core functions of railroading were lacking within the SRC, the period 1923-45 saw efforts to transfer knowledge from more developed and experienced railroading nations.

Technology transfer from foreign railways to the SRC was facilitated through two main channels. The first was the employment of foreign railroad experts within the SRC. The second channel was comprised of the various journeys Turkish railwaymen made to Europe. This chapter focuses on the work of foreign railroad experts within Turkey, and on the travels of Turkish railwaymen to Europe, with the aim of underscoring the role of technology transfer in the creation of the modern SRC and its capabilities.

1) Foreign Expert in the SRC: Two levels of involvement

The employment of foreign experts in infrastructural projects and in the modernisation of the military was a common practice in the late Ottoman Empire. Aside from those advisors employed by the Ottoman government, foreign engineers were also employed by concession holders especially on railway projects. It is unclear to what extent technology transfer took place between foreign experts and Ottoman subjects in this period. However, Peter Mentzel's recent work suggests that technology transfer occurred on the Ottoman railways, at least through on the job training on an informal basis.¹ The employment of foreign experts by the state continued in the republican era, as did the employment of foreigners by private companies, albeit under tighter control.²

The employment of foreign experts in the Turkish railroads was widespread throughout the period 1923-1945. I attempt to analyse this phenomenon in a number of ways. After providing a basic breakdown of the nationalities of foreign railway experts, and comparing my results to those of a recent study, I move on to analyse the different roles

¹ Peter Mentzel, 'Unity and diversity on Ottoman railways: a preliminary report on technology transfer and railway workers in the Ottoman Empire', in Ekmeleddin Ihsanoglu, Kostas Chatzis, and Efthymios Nicolaidis, eds., *Multicultural Science in the Ottoman Empire* (Turnhout, Belgium: Brepols Publishers, 2003).

² The foreign contractors working for the state for instance, had to employ a Turkish workforce. Under the contracts signed between the government and the contractors, foreign specialists and engineers could be employed only with the express permission of the Minister of Public Works. Middle East Centre Archive, St Antony's College, Oxford, Osborne Mance Collection, GB 165-0200, Box H / File 7 'Note on the Swedish and Belgian railway contracts in Turkey', 19 April 1927, 'German Contracts', 4 November 1927.

played by these men. I differentiate between those who joined the workforce of the SRC, and those who fulfilled advisory roles. While doing so, I also attempt to assess the importance of each group in the development of railroading technology in the Turkish Republic.

Based on the available records, it is certain that at least 86 foreign experts worked in some capacity on the Turkish railroads in the period 1923-45, aside from foreign managers working on company owned lines prior to nationalisation.³ Recently, Seyfi Yıldırım claimed that a total of 74 foreigners were employed between 1923 and 1950.⁴ Both these numbers however, are most likely under representations of the actual figures. This is due to the nature of the existing records. First, these records are not located in a collection specific to the SRC. By and large, the documentation is limited to copies of cabinet decisions sanctioning the employment of foreign workers and allowing their entry into the country. These are scattered across various archival fonds. Second, it is certain that official documentation relating to certain foreign workers does not exist, or has not survived. Therefore the below analysis cannot claim to account for all foreign experts working on the Turkish railroads.

Among the 86 recorded foreign employees of the SRC, there was a clear dominance of Germans in particular, and employees from German speaking countries in general. 33 of the SRC's foreign employees were German; seven were Austrian, and six Swiss. Seven Hungarians were also employed by the SRC. The nationality of 17 employees was not stated in the documents, or could not be accurately deduced from their surnames. Table 5 shows the nationalities of foreign railroad experts working for the SRC. Seyfi Yıldırım's findings for the period 1923-1950 can be found in Table 6.

³ A full table of the names and nationalities of foreign workers, together with the years in which they came to Turkey can be found in Appendix 1. The same table also provides references for each case, either from the BCA, the PRO or the *Demiryollar mecmuası*.

⁴ Seyfi Yıldırım, 'Türkiye demiryollarında istihdam edilen yabancı uzmanlar (1925-1950)', *Atatürk Araştırma Merkezi Dergisi*, Cilt.23, No.67-9 (Mart-Tem.-Kas. 2007), p. 9

Table 5: Foreign employees of the SRC by nationality, 1923-1945

33	German	2	French
18	Unknown	2	American
7	Hungarian	1	Romanian
7	Austrian	1	Italian
6	Swiss	1	Polish
2	Swedish	1	Greek
2	Russian	1	Bulgarian
2	UK	86	Total

Table 6: Foreign employees of the SRC by Nationality 1923-1950 (Seyfi Yıldırım, ‘Türkiye demiryollarında istihdam edilen yabancı uzmanlar 1925-1950’)

23	German	1	Polish
13	American	1	Sweden
12	Austria	1	Russian
11	Hungarian	5	French
5	Swiss	1	Greek

Table 7: Functional roles of the foreign SRC employees 1923-1950 (Seyfi Yıldırım ‘Türkiye demiryollarında istihdam edilen yabancı uzmanlar 1925-1950’)

26	Construction	7	Technical committee- Roads Division
15	Gear	3	Architecture and decoration
11	Management	4	Application, Maps, Supplies

Despite some minor differences which stem partly from the different periods examined in each study, and partly from differences in the sources used, both Yıldırım’s work, and my own show that Germany and the successors of the Austro-Hungarian Empire were the main sources of foreign railroad experts in the early Turkish Republic. This was natural considering the close political relationship between Germany and the Ottoman Empire, and the history of German advisors working in the country during World War I. Moreover, the railroading technology used on the lines, by and large, was of German design, as it has been inherited from the CFOA. The employment of Swiss, Austrian, and Hungarian railroaders can also be explained through their familiarity with German machinery and methods. The discrepancy between Yıldırım’s and my own findings regarding the number of

American's working for the SRC stem from the fact that Turkey's close relationship with America only began in the post World War II period.

Dealing with the nature of the work undertaken by foreign experts Yıldırım focused on the functional areas in which they operated. He stated that the largest number of foreign experts worked in construction, gear and management. Foreigners were also employed in the technical committee of the roads division, in general architecture and decoration and in the supplies office. Specific numbers are provided in Table 7. Yıldırım also aimed to classify foreign workers according to their professions. He came to the conclusion that 45 were engineers, and a further 21 were experts.⁵ He also noted that it was likely that many of the experts were in fact engineers. While Yıldırım's analysis of foreign experts' functional roles provides useful insight, his distinction between the experts' professions does not contribute to our understanding of the subject at hand. It is only natural that foreigners employed on the railroads were engineers, or specialists of some kind. Setting aside futile distinctions between professions, and going beyond the functional categorisation approach, I deal with the roles played by foreign experts in a more fundamental manner.

I categorise foreign railroad experts working for the Turkish railways in the period 1923-45 under two generic groups. The first of these groups was comprised of those engineers and experts who joined the SRC's workforce, undertaking certain tasks in the construction and management of railroads in the absence of Turkish engineers. These employees were generally hired on yearly contracts, often to be extended at the end of each calendar year. The second group, which was smaller in size, consisted of engineers, economists and railroad professionals who were summoned by the SRC to fulfil consulting roles. The crucial difference between these two groups was the difference in roles they played in the

⁵ Seyfi Yıldırım, 'Türkiye demiryollarında istihdam edilen yabancı uzmanlar (1925-1950)', p.15

development of the SRC. Those engineers, experts and craftsmen who joined the SRC’s workforce filled up the vacancies created by the shortage of adequately qualified Turkish engineers. Foreign experts acting in advisory roles on the other hand, helped shape the structure and the working methods of the SRC. Both groups played an active role in the transfer of railroading technologies to the SRC and to Turkish personnel. Despite being smaller in absolute numbers, I will try to show that those foreigners in advisory roles were more instrumental in the refinement of Turkish railroading technology.

2) The foreign expert as an employee

The majority of foreign railroading experts employed by the SRC in the period 1923-45 were engineers who joined the corporation’s workforce in the absence of sufficient numbers of qualified local staff. These employees were not necessarily fulfilling roles that Turks could not undertake effectively. In most instances, they were hired alongside Turks working in similar positions. They joined the SRC chiefly to work in construction, in the road department’s technical committee, in positions as skilled labourers, or as specialists in managerial roles. Below, I provide a breakdown of the SRC’s foreign workforce among these four functional lines, and explain what kind of jobs were undertaken by foreigners.

Table 8: Functional roles of SRC’s foreign employees 1923-1945

31	Construction
13	Specialist Labour
8	Specialist Management
7	Technical committee RD
3	Unknown

The highest number of foreign employees worked as engineers on the construction of new railways lines. The employment of European engineers in construction projects continued between 1923 and 1940, however it was most widespread in the earliest republican

projects. In 1925 and 1926 a total of 11 foreign engineers were hired to work on the state constructed Ankara-Sivas, and Samsun-Sivas railways.⁶ There is no record relating to the employment of foreigners in construction in the period 1927-1930. This is most likely due to the fact that the five years between 1927 and 1932 were characterised by wholesale contracting to foreign companies. The engineers therefore, were not directly entering the service of the state. Beginning in 1930, foreign engineers were employed once again, albeit on a lesser scale. Throughout the 1930's a total of 18 foreign experts worked for the SRC on the construction of the Fevzipaşa-Diyarbakır, Sivas-Ulukışla, Filyos-Ereğli, Antalya-Afyon, Sivas-Erzurum and Diyarbakır-Cizre lines.⁷ It is clear then that foreign experts were dispersed around the new railway projects aiming to link the east of the country to the west, and the north to the south. As the majority of these projects were undertaken by large Turkish contractors it is unclear what exact positions foreign experts held. They were employed by, and therefore represented the SRC administration or the Ministry of Public Works in some capacity. It is known for instance, that they sometimes had inspectoral roles.

The relative decline in the number of foreigners employed in the 1930s in comparison to 1925-6 is most likely due to two causes. First, the roles played by foreign experts changed between the two periods. As noted above, their role shifted to that of an inspector or government representative as engineers working for contractors oversaw the bulk of construction work after 1930. Second, the rise in numbers of graduate Turkish engineers most likely made the employment of foreign engineers in larger numbers unnecessary. As of 1940, only one foreign engineer was still employed in construction work.

⁶ BCA 30.11.1.0 Yer no. 14.25..8, BCA 30.11.1.0 Yer no. 15.29..2, BCA 30.11.1.0 Yer no. 14.26..6, BCA 30.11.1.0 Yer no. 14.25..17, BCA 30.11.1.0 Yer no. 14.25..8, BCA 30.11.1.0 Yer no. 14.26..6, BCA 30.11.1.0 Yer no. 15.29..2, BCA 30.11.1.0 Yer no. 23.11..17, BCA 30.11.1.0 Yer no. 23.11..17, BCA 30.11.1.0 Yer no. 28.37..10, BCA 30.11.1.0 Yer no. 25.21..5.

⁷ BCA 30.18.1.2 Yer no. 9.14..11, BCA 30.18.1.2 Yer no. 24.79.2, BCA 30.18.1.2 Yer no. 35.23..16, BCA 30.18.1.2 Yer no. 42.2..2, BCA 30.18.1.2 Yer no. 46.42..13, BCA 30.18.1.2 Yer no. 51.9..14, BCA 30.18.1.2 Yer no. 51.9..14, BCA 30.18.1.2 Yer no. 60.97..13, BCA 30.18.1.2 Yer no. 64.39..16, BCA 30.18.1.2 Yer no. 79.89..3, BCA 30.18.1.2 Yer no. 78.73..9, BCA 30.18.1.2 Yer no. 79.89, BCA 30.18.1.2 Yer no. 84.64..12, BCA 30.18.1.2 Yer no. 82.3..16, BCA 30.10.0.0.0 Yer no. 99.640.15, BCA 30.18.1.2 Yer no. 84.64..12, BCA 30.18.1.2 Yer no. 88.94..9, BCA 30.18.1.2 Yer no. 91.70..14

In the 1930s and early 1940s, skilled foreign labourers were also employed by the SRC, mainly in the repair shops at Eskişehir and Sivas. The employment of foreign experts other than white-collared engineers and advisors in the railways has previously been overlooked. This was important insofar as the transfer of practical skills to lower level employees was best facilitated by the employment of skilled labourers who would perform highly specialised manual tasks, while also teaching Turkish labourers how to use the required materials and equipment.

For instance, in 1931, A German labourer was employed at the Eskişehir repair plant to operate the oxygen cutting machine and to train local workers to take on this job.⁸ In 1934, another German labourer named Müller was employed in the same position.⁹ In 1936, a team of eight German labourers worked at Eskişehir to cover for technicians sent on internships to Europe.¹⁰ Moreover, these workers would train staff to work in the future Sivas Repair Factory. The following year, another German labourer was employed to operate the furnace at the Eskişehir plant.¹¹ In an interesting case, a worker from Sweden was called in during 1937, to repair a turn-bench which had been purchased from the Swedish NOHAP company some ten years ago.¹² The last labourer hired by the SRC was a Hungarian decorator named Bernhard, who was employed to decorate the interior of several station buildings, presumably in a contemporary European manner.¹³

Among foreign experts employed in managerial positions, a significant number worked in the technical committee of the roads department. Employment on this committee

⁸ BCA 30.18.1.2 Yer no. 19.22..8

⁹ BCA 30.18.1.2 Yer no. 48.70..6

¹⁰ BCA 30.18.1.2 Yer no. 63.30..15

¹¹ BCA 30.18.1.2 Yer no. 74.32..4

¹² BCA 30.18.1.2 Yer no. 77.69..3

¹³ BCA 30.18.1.2 Yer no. 98.41..15

tended to be longer term in comparison to employment in construction or other departments. In 1926, two German's, Dickmann and Reiner were hired to work in this committee.¹⁴ They were followed by one Austrian engineer employed in 1932, one Swiss engineer in 1938, and two Hungarian's in 1938 and 1942.¹⁵ This committee most likely functioned as an advisory body for the roads department, however little information is available regarding its day to day working.

Other than the technical committee, foreign experts were employed in a variety of specialised managerial positions especially within the gear and materials departments. For instance, a number of important roles in procurement, quality control, and depot and workshop management were fulfilled by foreigners throughout the period. In 1924, Rayzrik was appointed depot manager on the new Samsun-Sivas line.¹⁶ Similarly in 1926, a German engineer named Arnold was employed as an engineer at the Ankara-Sivas atelier, the forerunner of the Sivas Factory.¹⁷ Schleichten, a German specialist of railroad materials was appointed to manage receptions and quality control at the Haydarpaşa Shop in 1929.¹⁸ The SRC also employed experts abroad to control purchased equipment as it was being manufactured. For example, Corts, an ex gear official of the German Railways was commissioned in 1938 to inspect materials purchased in Europe.¹⁹ Their familiarity with European parts and materials obviously made the employment of such personnel favourable for the SRC.

Other than in positions related to materials, the employment of foreign managers appears to have been rare and circumstantial. For instance, at least in one case, a manager from a company owned line was retained after the line was nationalised. Sioul, from the

¹⁴ BCA 30.11.1.0 Yer no. 23.14..20, 'Şimendifer Mektebi Yedinci Devre', *Demiryollar mecmuası*, (Nis. 1926), No:14, BCA 30.18.1.2 Yer no. 61.3..7

¹⁵ BCA 30.18.1.2 Yer no. 26.13..5, BCA 30.18.1.2 Yer no. 84.83..17, BCA 30.18.1.2 Yer no. 84.89..8

¹⁶ BCA 30.11.1.0 Yer no. 9.33..18

¹⁷ BCA 30.11.1.0 Yer no. 23.15..14

¹⁸ BCA 30.18.1.2 Yer no. 12.50..9

¹⁹ BCA 30.18.1.2 Yer no. 84.82..9

Kasaba Railroad was taken on by the SRC to manage the gear department of this line following the nationalisation of 1934.²⁰

3) The Foreign Expert as an Advisor

Turning to foreign experts who undertook advisory roles in Turkey, I provide a brief overview of the work done by each group or person in question. This sheds light on both the reason of their employment, and on how such advisory work was conducted. Relatively detailed information is available for a number of cases. I deal with these in some length, while briefly mentioning others for which less detailed information is available.

First I focus on the case of Henrich Meissner, who lead construction on the Hicaz line, and then took on an advisory role within the SRC and a teaching position at the railroading branch of the Istanbul Engineering School. Second, I look at the work of the German committee of 1928, who advised the SRC as to their administrative structure shortly after the various railroad administrations were integrated. Third, I touch on Charles E. Bell's 1932 visit to Turkey, and the reports he prepared for the SRC. Finally, I provide an overview of the impressions of two British Engineers working at the new Sivas Gear Factory in 1942.

Focusing on the relatively different tasks undertaken by the persons and committees in questions, I aim to shed light on the variety of roles foreign advisors held in the SRC. Here, I the aim to deepen knowledge on the subject of foreign advisors by providing detailed insight into each case. Moreover, I tap into the impressions of foreign advisors, when available, as they provide interesting insight into the working practices and shortcomings of the Turkish railways.

²⁰ BCA 30.18.1.2 Yer no. 49.75..6

3.1) Meissner Paşa: 55 years in Turkey

The first foreign advisor to work with the Turkish Republic's Railroads Administration was Heinrich Meissner, a German engineer who had previously worked in the construction of the Anatolian and Baghdad Railways, and more importantly on the construction of the Hicaz Railway. Meissner had developed an interest in Turkey as an engineering student in Dresden, and had travelled to the Ottoman Empire to seek employment in 1886, at the age of 24.²¹ Meissner was later commissioned by the Imperial Porte in 1901 to lead the construction of the Hicaz line, once it had become apparent that Turkish engineers would not succeed by themselves.²² While working on the Hicaz line, he contributed to the development of Turkish engineers, gradually turning over his duties to Ahmet Muhtar Bey. He also earned the appreciation and gratitude of the Ottoman administration, and hence was given the right to use the prestigious title of "Paşa", seldom granted to foreigners. Moreover, he was given large land holdings within the Empire. After leaving the Hicaz line in 1909, Meissner worked on the construction of the Baghdad line, only to serve the Ottoman State again during World War I. Following the Ottoman-German defeat, he returned to Germany in 1918.²³

Meissner was invited back to the new Turkish Republic in 1924, to take a position as technical advisor to the railways.²⁴ It is unclear how and why Meissner was invited back, however it seems that the deal was beneficial both for the SRC and for Meissner. He was an accomplished railwayman, who knew Turkey and the Turkish language, and was willing to live in the country. He had worked closely with the Ottoman administration, and with Turkish engineers. From 1924 to 1932, Meissner fulfilled the role of technical advisor to the SRC. In

²¹ W. Pinhas Pick, 'Meissner Pascha and the construction of railways in Palastine and neighbouring countries', in Gad Gilbar Ed., *Ottoman Palestine, 1800-1914: studies in economic and social history*, (Israel: University of Haifa, 1990), p.179

²² Murat Özyüksel, *Hicaz Demiryolu*, (Istanbul: Tarih Vakfı Yurt Yayınları, 2000).

²³ W. Pinhas Pick, 'Meissner Pascha and the construction of railways in Palastine and neighbouring countries', p.181

²⁴ Seyfi Yıldırım, 'Türkiye demiryollarında istihdam edilen yabancı uzmanlar (1925-1950)'

this position, he followed the latest developments in European railroading and helped apply these to the Turkish lines. For instance, in June 1927 Meissner published a technical article in the Railroading magazine, suggesting that trials be made to determine the most rational ‘excess gap’ to be used on the railway lines. In June the next year, Meissner wrote that there was no need for such trials, as recent experimentation on the German State Railroads had led to a standardised practice, which could easily be implemented on SRC lines.²⁵

In 1932, Meissner, aged 70, was appointed lecturer at the railroading branch of the Istanbul Engineering School.²⁶ He fulfilled this role until his demise in 1940. While working as a lecturer, Meissner continued to advise the SRC on specific issues. In 1935, he joined a commission that examined the tunnels on the Afyon-Antalya railway line, with the aim of taking measures to prevent any damage that may result from landslides.²⁷ In short, Meissner was the only foreign railroader who had worked on the Ottoman railroads, and then continued to work in important roles in the SRC for a significant amount of time. He spent the best part of 55 years in Turkey, witnessing the initial construction of the Anatolian line, its takeover by the SRC, and the growth of Turkish railroading. He was instrumental in the transfer of technology to Turkish railroader in the Hicaz Project, in the technical branch of the roads department, and finally in the Istanbul Engineering School.

3.2) The German Committee of 1928

In late March 1928, a delegation composed of directors from the German State Railways (GSR) arrived in Turkey, with the goal of advising the recently consolidated SRC on how to structure its organisation. The three members of the committee were all relatively

²⁵ Heinrich Meissner, ‘Maysnır Paşa’nın mühim bir nokta-i nazarı’, *Demiryollar mecmuası*, No:40 (Haz.1928).

²⁶ BCA 30.18.1.2 Yer no. 31.64..16

²⁷ BCA 30.18.1.2 Yer no. 61.3..7

high ranking officials of the German State Railways, and were only able to undertake this task with the express permission of their employers.²⁸

Nemelius, an executive of the GSR who specialised in gear and in general business administration led the delegation. He had worked as chief of the gear department on the Hicaz Railway during the Great War, and was familiar with Turkey and its people. He had entered the service of the GSR as a repair shop manager following the war, and had shortly been promoted to a position within the central management of the organisation. The second member, Dordutt, was an expert in movement and construction. He was the general manager of the Postdamer Bahnhof, a railway terminal in Berlin. The final member of the committee, Zommermeir, specialised in railroad finance and economics and was employed as a consultant at the GSR. It is evident that this group was purposefully constructed. As a whole, the group could provide advice regarding a wide variety of functions and practices including roads, movement, gear, accounting and tariffs, as well as general management.

Describing how the employment of this delegation came about official railroading magazine stated:

When the time came to form the General Management of the State Railways, Behiç Bey, Minister of Public Works, shaped the organisation drawing on the previous experiences of railroading in Turkey, and on knowledge gained from examinations of European railways. However, the minister, who is extremely inclined to innovation and devoted to the perfection of every business he undertakes, also requested that a committee from the German railroads come to the country. This request came after the Minister visited the most developed railroading nations in Europe, and saw the German State Railroads and the improvements achieved there in recent years.²⁹

²⁸ ‘Demiryollarımızda Alman tetkik heyeti’, *Demiryollar mecmuası*, No: 40, (Haz. 1928), ‘Almanya’dan celb olunan heyet’ *Demiryollar mecmuası*, No:38, (Nis. 1928). All information regarding the visit of the German delagation was derived from these two articles.

²⁹ ‘Demiryollarımızda Alman tetkik heyeti’, *Demiryollar mecmuası*

Reading past the blatant flattery in the article, it is clear that Behiç Bey requested the help of a group from the German railroads in structuring the new central railway administration. The committee would be undertaking a crucial role in shaping the structure of the SRC.

Before travelling to Turkey, the group met with a number of SRC officials in Berlin, in order to receive briefings on the Turkish railway system and the current practices of the SRC, and to plan the committee's work in Turkey. This would also assure that the GSR employees spent the minimum amount of time away from their real jobs. A delegation of seven SRC officials travelled to Berlin in January 1928, and undertook discussions both with members of the German committee and also with other various German railroading experts and managers. It is clear that this trip was taken seriously by both parties, as even the general director of the GSR attended at least one meeting. The Turkish delegation, led by İhsan Bey, the SRC's chief of accounting, also included the deputy manager of the inspection department İhsan Ali Bey, the director of the statistics department Ferit Bey, Sırrı Bey from the statistics departments acting on an interpretive capacity, Şaban Nazmi Bey from the gear department, Kamil Bey director of repairs, and deputy director of movement Kalidis Efendi.³⁰ It is worth noting that during their time in Berlin, the Turkish delegation did not limit their selves to consulting with the GSR directors. They undertook examinations in areas concerning their own departments, focusing especially on the structure of the German pension fund, the use of new safety equipment, and systems of automatic sleeper injection.

As the members of the German committee had gained sufficient theoretical insight into the working of the Turkish railways and planned their work in advance, they were able to go straight to work upon arrival to Turkey. The committee met the Minister of Public Works on the 27th of March, and started travelling on the railway lines the next day. Their observational tour in Turkey lasted about a month, and the group communicated their advice

³⁰ Kalidis was an exception insofar as he was a Greek employee of the Ottoman railroads, who continued to serve the SRC after the War of Independence. Kalidis earned Behiç Erkin's trust while serving during the war, however it is unclear exactly how he was allowed to keep his position.

and suggestions to the SRC officials orally before departing. After returning to Berlin the committee prepared a fuller, written report. It is unknown what improvements were suggested by the German experts, or whether these suggestions were realised.

Figure 10: SRC officials meeting with the executives of the German State Railways in Berlin



Source: ‘Almanya’dan celb olunan heyet’, *Demiryollar mecmuası*, No: 38, (Nis. 1928). Front row right to left: Dr. Hamer, Director of supplies GSR, Ihsan Bey, Director of accounting SRC, Dr. Dorpmuller, General Director GSR, Ihsan Ali Bey, Deputy Director of inspections SRC, Nemelius, Director of gear department GSR. Stranding right to left: Dr. Wolf, General Secretary GSR, Sirri Bey, Statistics Dept. SRC, Ferit Bey, Director of Statistics SRC, Zommermeir, German delegation to Turkey, Şaban Nazmi Bey, Director of gear SRC, Dordutt, German delegation to Turkey, Kalidis Efendi, Deputy director of movement SRC, Dr. Fanidorr, GSR, Kamil Bey, Director of repairs SRC.

In June 1929, a group of ten foreign railroad experts were granted permission to travel on the Eastern railways, and to examine any section of the line including those areas that were nominally forbidden military territories.³¹ These experts would assess the risk of potential accidents and to provide advice regarding precautionary measures. They would be employed by the Eastern Railway Company, not the SRC; nonetheless permission had to be granted at the cabinet level. The advisory activities of foreigners summoned by private

³¹ BCA 30.18.1.1 Yer no. 29.33..14

companies, rather than the SRC were also important, as these men worked together with the Turkish workforce, who would sooner or later enter the service of the SRC.

A similar group from Paris entered Turkey in the fall of 1931, with the duty of inspecting the construction of the Sivas-Erzincan railroad and the Gazi Bridge.³² It is unclear how many members this party had, and to what nationalities they belonged. However, the financial expert in the group, a Russian émigré to France named Robert Kann, required express permission to enter the country. Kann was allowed entry in August 1931, for a period of two months. Presumably the planned duration of the French group's visit.

3.3) Foreign experts and the rate reform: the Bell report

By the early 1930s, the SRC had been trying to find a suitable arrangement with a foreign tariff expert for some time. As early as 1927, the Railways Administration had contacted M. Munich, an international rate expert working for the French PLM Railway, with the view of employing him to “advise them as to the adaptation of their railway tariffs to the present economic requirements of Turkey”.³³ It appears that a deal with Munich was never finalised. The idea of permanently employing a foreign tariff expert was also entertained for a while. In early 1932, the Turkish Ambassador in Bern, Cemal Hüsnü Bey, was asked to search for a rate expert by the Ministry of Public Works. As he reported that only a “second class” expert would be available on a permanent basis, the idea of permanent employment was abandoned in favour of hiring someone to fulfil a consulting role. Cemal Hüsnü Bey was able to convince the General Director of Swiss Railways, Anton Schrafl to travel to Turkey for a month or two, to advise the SRC on rates and tariffs. In March 1932, it was decided that Schrafl would be employed for a two month period.³⁴

³² BCA 30.18.1.2 Yer no. 22.57..7

³³ Middle East Centre Archive, St Antony's College, Oxford, Osborne Mance Collection, GB 165-0200, Box H File 7/8, Personal note of 25.4.1927.

³⁴ BCA 30.18.1.2 Yer no. 26.20..3

It appears that Schrafl's views and suggestions were found inadequate by the SRC, as in December 1932, Charles E. Bell, an American expert in railroad administration was employed to advise the SRC on a new system of rates, and to examine the functioning of the railways.³⁵ Bell was initially hired on a three-month contract; however this was extended a further three months twice, to allow him more time to inspect the various railways and to prepare reports. Bell was paid 2250 Gold Dollars per month, in advance.³⁶ His and his assistant's accommodation, food, and travel costs were also provided for by the SRC. The tariff reform obviously held high priority for the SRC, given the time and financial resources spent in pursuit of the best available advice.

While in Turkey, Charles Bell studied the rules and regulations as well as the practices of the SRC, and then proceeded to inspect the lines and stations. The first line Bell dealt with was the Ankara-Samsun Railway.³⁷ He travelled on the railroad, together with the director of the SRC and several other officials, talking to movement workers, various merchants and townspeople. For instance, he spent a day in the Samsun Chamber of Commerce, meeting with the cities merchants and producers. Drawing from reports provided by the ministries of agriculture and economics, Bell assessed the trade potential of both the old lines taken over from the empire, and the newly constructed lines. In his journeys, Bell was assisted by Tarık Bey, a young engineer who had trained in America and therefore spoke good English.³⁸ Besides devising methods to increase traffic through the implementation of a more detailed tariff system, he was also requested to advise the SRC on how to efficiently compete with ever growing automobile transport sector.

³⁵ BCA 30.18.1.2 Yer no. 39.67..8

³⁶ To put Bell's fee into perspective it is worth noting that the director of the SRC earned 400 to 500 US dollars per month in 1935.

³⁷ 'Amerikalı mütehassis Mr. Charles E. Bell ve tetkikleri', *Demiryollar Mecmuası*, No:101, (Tem. 1933).

³⁸ Ibid.

Other than one main report specifically focusing on rates, Bell prepared a number of other reports for the SRC. These included reports on specific topics such as the October 1933 paper on the departmentalisation of the SRC, and a very general report containing his impressions and suggestions regarding the SRC.³⁹ Bell's general report amounted to some 557 pages and touched on four main topics. In the first section, Bell provided suggestions on how to improve passenger and freight traffic on various lines and ports. Next, he detailed the shortcomings of the accounting practices on the SRC and suggested that a new system be implemented. In the third part of the report Bell advocated that the instalments for purchased railway lines should be paid out of the government's general budget rather than being subsidised by the earning of the railways. The final section of the report dealt with the general administration, personnel and departments of the SRC.

The Bell report provides interesting insight into two areas. First, it displays how a foreign expert commissioned by the SRC approached and went about his job. Bearing in mind the goal of reducing the rates, Bell undertook a diagnosis of the SRC's problems, and offered certain concrete solutions. Second, the report provides insight into the various shortcomings of the SRC administration. This is valuable insofar as these are omitted in officially oriented sources.

Bell began the first section of his report by stating that he had spent most of his time in Turkey examining the problems of transport on the lines, and devising methods to increase traffic. He wrote that one issue of foremost importance was to encourage agricultural production and exportation. This was especially true for fruits and vegetables, which he stated were produced in abundance, but not distributed, due to lack of markets, high transport costs and bad packaging practices. Bell suggested that fruit production and packaging should be

³⁹ BCA 30.10.0.0 Yer no. 147.48..22, Devlet Demiryolları Hakkında tedkikat yapan Amerikalı mister C.E Bell tarafından yazılan rapor hülasası. This document was a translated and abbreviated version of Bell's general report.

rationalised, and practices such as tinning or drying introduced. Exporting fruit would yet prove difficult, but if demand were regulated and transport costs reduced, fruit freight could increase transport on certain sections of the Anatolian railways. Stimulating the agricultural sector for the benefit of the SRC could be achieved by setting up an “agricultural development department” within the corporation.

Similarly, Bell advocated that the transportation of fish, packed with ice or salt would be possible, without resorting to the use of expensive refrigerated wagons. In general, the existing locomotives and wagons, as well as the number of voyages were sufficient according to Bell, with the exception of a need for more frequent services if fruit and livestock were to become a major freight items. Bell also wrote that there was need for more contact between the SRC and the producers. At present, most freight was handled through commissioners. Simplifying the process of receiving and delivering goods at stations, and increasing the insurance coverage on freight items would improve trust in the SRC.

Turning to passengers, Bell stated that a more detailed rate system providing discounts to groups and people seeking employment, as well as discounts for those travelling to holiday destinations should be put in place. Before lowering the tariffs, however, it was necessary to restructure the department of trade and tariffs within the SRC. First and foremost, this department was to be clearly delineated from the income and accounting departments. The department was to focus on stimulating trade, and on refining rates to suit needs in conjunction with the proposed “agricultural development department”.

Given the increase in automobile transport, Bell suggested that the railroads and roads should be controlled by a separate Ministry of Transport. Moreover, he wrote that roads should be improved and developed in a complementary manner to the existing trunk railroads. The integration of small roads and major railway lines through joint ticket schemes for instance, would be of great benefit to both customers and the SRC. This would also have the

advantage of shifting automobile transport from a position of a direct competitor to a partner. Automobile transport was an unregulated sector, in which prices were fixed through informal arrangements among service providers. Bell suggested that the automobile transport sector should be regulated tightly by the Ministry of Public Works, and should be inhibited from functioning in a manner detrimental to the well being of the railways.

The second section of the Bell report focused on the shortcomings of the SRC's accounting practices. According to the author, railroad accounting was a field of its own, and this business could not be run using the practices of a bank or a commercial firm. The railroading accounting system needed to be specifically tailored in order to minimise expenditure through calculating the expenses and earnings of each section and each department separately. In short, Bell focused on better cost and depreciation accounting practices. The report also suggested that accounts should be drawn up quickly and regularly on a monthly basis, allowing the results of each month to be compared with previous periods. Bell also noted that the SRC's accounting department was under the sway of the Ministry of Finance, more so than the general administration of the SRC. As the budget was drawn up by this department and then approved by the budgetary commission of the National Assembly, major budgeting decisions were taken with little contribution from professional railroaders. Furthermore, Bell noted that the general administration was so surrounded by accounting rules and regulations that it was unable to conduct its financial affairs in an independent and efficient manner.

As a solution to these problems that prevented the lowering of operating costs and therefore a reduction of rates, Bell put forth a series of concrete suggestions. The first issue at hand was to change the laws governing the railroad's accounting system and the organisation of the accounting and statistics department. The new department was to be led by a competent

chief accountant, who would have full control of accounting practices and be answerable to the general administration. This chief accountant would see that stock was taken twice a year, and accounts inspected at least once a year. The department would also prepare regular and relevant statistics for the general administration in vein of increasing the efficiency of the operations. An internal auditing service would be created within the accounting department; however an extensive external audit was also to be commissioned on a yearly basis.

In the third part of his report, Bell suggested that the burden of purchasing the Anatolian-Baghdad Railways and associated ports should be transferred from the SRC to the government. This was an essential pre-requisite for rate reductions; since instalments were paid out of the line's operating earnings. Furthermore, Bell stated that the current practice meaninglessly differentiated between lines that were purchased and those that were being constructed. Construction was financed out of the state budget, were as the SRC paid for the purchased lines. Shifting the burden of debt to the government, according to Bell, would spread the cost of nationalisation to the general tax-payer rather than making railroad users pay for the entire scheme.

In the final section of the report, which dealt with the general administrative structure of the SRC, Bell made a number of interesting remarks. First and foremost he praised the dedication and hard work of the railroading staff, especially the relatively junior station staff and section inspectors. However he also pointed to a number of problems. At the general level, Bell stated that there were too many rules and regulations surrounding the work of the SRC. Instead of focusing on the current needs and future development of the lines, the central administration was flooded in paperwork that could easily be handled at a local level. This was directly related to the fact that despite the nominally de-centralised structure, the central departments at Ankara exercised control over functional units within the local divisions. This control also created a vast amount of redundant correspondence. Moreover,

some of the highest officials did not have the capacity to run the railways in an efficient and economic manner. Finally, Bell suggested that in spite of the need to work in co-operation, departments were often jealous of one and other and inter-departmental coordination was unsatisfactory.

For mid-level workers, the control exerted by the central administration amounted to a restriction of authority, which according to Bell hindered their ability to do their duties. This, together with the excessive rules and regulations, created a culture of avoiding responsibility among workers. Moreover, there was a widespread fear of one's direct superior among employees. In turn, superior officials did not want their juniors to acquire sufficient ability, due to the fear that they would be replaced.

In solution to these problems, Bell put forth a number of propositions. First the administration had to adopt a less centralised administrative structure. This could be achieved by giving more authority to divisional inspectors, who would report directly to the general manager. Next, the lines of authority were to be clearly delineated as to avoid confusion with regards to whose responsibility which task was. The central administration was to be concerned with the development and future of the lines, more so than their day to day management. Bell also suggested a streamlining of bureaucratic procedures, with the aim of freeing the administration from "*kırtasiyecilik*". The adoption of a systematic approach to pay and promotions was encouraged to ensure fairness. Finally, Bell wrote that the required improvements should be undertaken by Turkish personnel, as they had both the capability and will to develop.

Fitting with Bell's suggestions for improvements, the SRC instigated a number of changes in the way it worked. It is unclear if these changes were directly related to Bell's suggestions; however most of the reforms of the 1930s were in line with his views. For instance, the tariff reform described in Chapter III was implemented, reducing the cost of

passenger travel and freight. Moreover, the SRC concentrated on its accounting practices, hiring foreign experts and sending Turks to intern in the accounting departments of European railroads. Moreover, the law of 1935, which organised pay and promotions, was in line with the suggestions made in the final section of the Bell report.

During the 1930s, the SRC also sought the advice of foreign experts on issues relating to the organisation and design of its industrial plants. For instance, a German expert was commissioned to oversee the re-organisation of its Eskişehir repair shop in 1935.⁴⁰ In 1938, Gernster, a locomotive plant manager from the German State Railways, was commissioned to design the entire work process at the new Sivas factory, and to help renovate the existing plant at Eskişehir.⁴¹

3.4) New Alliances: British engineers and the Sivas Factory

In 1942 Jarvis and Soden, two British engineers working for a locomotive manufacturing company, were employed at the newly inaugurated Sivas factory, to advise personnel on how to construct a locomotive which had been shipped there in pieces.⁴² They were the first British railwaymen to work with the SRC, reflecting the corporation's newfound interest in Britain as a supplier of railway materials, and the relatively warm, war-time relationship between the British and Turkish governments. A report they sent to the United Kingdom Commercial Corporation provides candid insight into the general working of the Sivas plant and the results of Gerstner's above mentioned work in structuring the factory. Despite not being generalisable to the entire SRC, the report displays the limits of the corporation's technologies in repair services.

⁴⁰ BCA 30.18.1.2 Yer no. 63.21..16

⁴¹ BCA 30.18.1.2 Yer no. 85.100..15

⁴² PRO, FO 371/ 33347, Baleon (United Kingdom commercial corporation) to Clutton (FO) 15 July 1942, Extract from Jarvis and Soden report: 'Turkish Railway Administration'.

In their report, Jarvis and Soden praised the individual capabilities of the engineers in charge of the various departments within the factory, and also the general lay-out of the plant. However, turning to the lower echelons they stated simply that they believed “The Turk was not naturally adapted to engineering”.⁴³ Setting aside the blatant bigotry in this remark, it is worth focusing on Jarvis and Soden’s main criticisms regarding the Sivas factory. In general, the section of the report concerning the administration and capability of the facilities suggested that there were two interrelated problems.

The first issue was that the factory system was not being implemented in an efficient manner. The report praised the lay-out the factory for instance, yet stated that it was not used in the way originally intended. This created bottle necks which slowed down work and diminished output. Foremen and managers exercised little direct control over the workers, as managers mostly remained in their offices throughout the day and foremen lacked the required authority. This also had the result that finished works were not inspected as closely as should be. Moreover, the ten-and-a-half hour work day was unreasonably long, leading to very low productivity after lunch time.

The second generic issue was that the workforce did not possess the adequate training and the correct attitude to undertake factory work. In 1942, the Sivas factory employed 2000 labourers who were mostly inexperienced new recruits. Jarvis and Soden wrote that they had trouble in overcoming “the national it will be done tomorrow attitude” among labourers.⁴⁴ They emphasised that workers lost interests in a piece of work as it neared completion, either interesting themselves in other things, or leaving out finishing details such as split pins and pipe clips. On the other hand, they claimed that in the lowest grades, workers had a tendency to overconfidence. As a result, machines were often taken to bits by workers who were unable to reconstruct them. Similarly, they noted that certain employees such as crane operators and

⁴³ Ibid.

⁴⁴ PRO, FO 371/ 33347, Baleon (United Kingdom commercial corporation) to Clutton (FO) 15 July 1942, Extract from Jarvis and Soden report: ‘Turkish Railway Administration’.

engine drivers were not concerned with safety measures, and were inclined to take unnecessary risks.

It is likely that the above described situation was mostly caused by the fact that the Sivas Repair Factory was very new in 1942. The workers had been newly recruited, and had not yet gained sufficient experience. The Jarvis and Soden report, and the case of the Sivas factory provides a good example to the limitations of technology transfer in the most labour and technology intensive area of railroading: locomotive repair work. The layout of the plant had been advised by a foreign expert and the factory was staffed by engineers who had received formal training abroad. Moreover, a training program for labourers was in place. The factory could undertake a wide range of repair tasks, and produce certain locomotive parts. Nonetheless, in 1942 experience and time was still required to get the factory running in a manner akin to its European counterparts.

4) Turkish Railwaymen in Europe

Throughout the period in question, the SRC sent Turkish railwaymen and engineering students to Europe for a variety of purposes. Despite differing significantly in scope, the totality of these visits constituted the second mechanism through which international technology transfer was facilitated in the SRC. In general, railwaymen travelled to Europe to fulfil any one of three purposes: to attend institutions of higher education or take internships, to conduct examinations of foreign railways, or to attend international railroading conferences. Students and interns sent to Europe were primarily new graduates of the Engineering School, or junior railroading personnel. Those attending conferences or undertaking inspections, on the other hand, were all relatively highly ranked SRC officials.

Similar to practices in the late Ottoman period, certain graduates of the Engineering School were sent to Europe to undertake further studies in the early republican era. Despite being a generally well known phenomenon, the details of this process, such as what proportion of student were sent to Europe and how they were selected are relatively unknown. It is apparent that certain students were selected for overseas programs through competitions instigated by the ministries of Public Works and Education, the SRC, and the Aviation Society. In the six years between 1926 and 1932, for instance, 44 students from the Engineering School were sent to Europe.⁴⁵ It is unknown what proportion of these students specialised in railroads.

Perhaps more important than students pursuing formal degrees, the SRC also sent junior personnel and students to Europe to gain practical and theoretical experience beginning in the mid 1930s. These personnel, selected from the gear and accounting departments were sent chiefly to Germany to intern on railway lines or in factories. The length of these internships varied from two-months to one year. For instance in 1936, an unknown number of workers from the gear department were sent to Germany.⁴⁶ The same year, Mucip Karamızrak, a member of the SRC's medical staff, travelled to France to undertake a residency and to examine the medical branch of the French railroads.⁴⁷ In 1937, a group of 21 managers, labourers and craftsmen from the same department were sent to Germany to intern for a full year.⁴⁸ Prior to their deployment, Şaban Daga, the technical chief of the gear department travelled to Germany to meet with GSR officials to determine the program the interns would follow, and in which factories they would be employed.⁴⁹ During the same year, Abdülkadir, Mazlum, and Emin, three accountants from the finance and accounting

⁴⁵ 'Yüksek mühendis mektebi hakkında malumat', *Mühendis Mektebi Mecmuası*, No:73 (Ekim 1933)

⁴⁶ BCA 30.18.1.2 Yer no. 62.12..7

⁴⁷ BCA 30.18.1.2 Yer no 80.92..12

⁴⁸ BCA 30.18.1.2 Yer no. 79.83..005

⁴⁹ Ibid

department were sent to work for a year on the German Railways, and to examine and learn the German system of railroad accounting while doing so.⁵⁰

Based on the few records available, it appears that the flow of interns from the SRC to Germany was cut off with the beginning of the Second World War. Indeed, Zahit Morben, an employee who was sent on a two-month internship in mid-July 1939, left Germany prematurely on the second of September, a day after the launch of Germany's invasion of Poland.⁵¹ While it is clear that the series of internships to Germany ended when they did due to the outbreak of war, it is necessary to elaborate why they began when they did. The years following 1933 had witnessed a massive growth in bilateral trade between Germany and Turkey, leading to the accumulation of Turkish money in blocked German accounts, especially after 1936.⁵² Turkey was able to pay interns out of this account in the period 1936-39. The SRC and the German State Railways had developed a relatively close relationship since the inception of the former in 1927. Coupled with the increase in trade between the two countries, it is plausible that this gave the SRC, who now had the means to fund overseas internships, a position to request that Turkish interns be employed in German factories. Naturally, the SRC chose to send employees mostly from the gear and accounting departments. The gear department dealt with the most technical aspects of railroading, and required personnel with the latest knowledge of European machinery. The accounting department, on the other hand, was being modernised in the mid 1930s, in an attempt to implement European railroad accounting practices.

⁵⁰ BCA 30.18.1.2 Yer no. 72.18..13

⁵¹ BCA 30.18.1.2 Yer no. 90.37..19

⁵² While a comprehensive discussion of bilateral trade and the Turkish-German clearing agreements is beyond the scope of this thesis, there is a need to briefly explain the notion of blocked currency. In this case, Turkish earnings resulting from exports to Germany were kept in the form of blocked Reich Marks in a clearing account in Germany. This money could only be spent on purchases within Germany, and due to the conditions under which it could be used, was valued at a lower rate than the Reich Mark. For more detail see: Cemil Koçak, *Türk-Alman İlişkileri: 1923-1939*, (Ankara: Türk tarih kurumu basımevi, 1991)

Beginning in 1939, Britain, for the first time, emerged as a destination for Turkish students and interns. During that year, Turkey had placed orders for locomotives and wagons with British foundry companies, presumably in vain of widening its supplier base. This initial contact, aided by the British government's desire to gain Turkey's sympathy during the Second World War opened the doors of British gear manufacturers and railroad companies to Turkish interns. The British Locomotive Manufacturers Association comprised of Vulcan Foundries, Beyer Peacock, and Robert Stephenson and Hawthorns informed the British Council in June 1939 that they would be happy to admit and even pay Turkish trainees.⁵³ The council in turn, contacted the British Embassy in Ankara, asking them to approach the director of the SRC, and inform him of this new possibility. Prior to this, the director had told Embassy official that it was "inevitable" that Turkish railwaymen were trained in Germany as Turkish rolling stock and railway materials were overwhelmingly German.⁵⁴

It is clear that the British government was keen to lessen Germany's influence over the Turkish Railways by encouraging the SRC to send students to work in British companies. Indeed, the Council would even consider paying for the students' travel expenses should the Turkish government refrain from doing so.⁵⁵ Similarly, in 1939, Britain's four large railroad companies declared that they would admit Turkish trainees to any of their departments, provided they paid tuition fees as did the other students.⁵⁶ As a result of these attempts, the SRC sent ten students to England in the spring of 1940 to train as gear engineers.⁵⁷

Aside from journeys to Europe in the pursuit of formal degrees and internships, 'observational tours' were also of great importance in the direct transfer of technology from

⁵³ TNA: PRO FO 371/23296, File: "Facilities for Turkish engineering students to study in United Kingdom", Correspondence between Ankara Embassy, British Council, Foreign Office and British Locomotive Manufacturers Association, 30 June 1939.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ TNA: PRO FO 371/23296, File: "Training of Turkish Railway Engineering Students in the United Kingdom", 28 March 1938.

⁵⁷ BCA 30.18.1.2 Yer no. 90.38..12

European railways. Contrary to training programs and internships that were geared to prepare people for a position or vocation, the aim in an observational trip was to examine the practices of a foreign railroad with the purpose of incorporating positive aspects into the practices of the SRC. The focuses of such inspection tours ranged from fully technical issues such as the construction of metal railway bridges, to softer, managerial matters such as methods of personnel selection and appraisal. Most observational trips throughout the period in question were undertaken to Germany, Belgium and France. However, trips were also made to Scandinavia and to the Balkan countries when specific situations arose. The participants in these journeys were always relatively high ranking SRC officials such as line chief inspectors, terminal station masters, division managers, and functional department directors. At times the sole purpose of such journeys was to examine European methods and plant. Often however, such examination tours occurred when officials were inspecting goods ordered from European factories, or attending international conferences.

It is probable that such journeys were commonplace before that date; nonetheless, the first examination tour on record took place in 1925.⁵⁸ That year, a railwayman from the SRC travelled to Germany to view the Munich transportation exhibition. In 1926, an official from the roads department was sent to examine German factories supplying railroads materials⁵⁹ Similarly, Ata Bey, the director of the Sivas-Samsun line which was under construction, took a trip to Europe to examine railroad materials in various factories. Interestingly Ata Bey was accompanied by Mr. Reiner, a German railwayman who had entered the service of the SRC that same year⁶⁰. The director of the accounting department of the Anatolian line, Hasan Sabit, also travelled to Europe in 1926 to examine systems of railroad accounting.⁶¹

⁵⁸ ‘Son tetkik seyahatimde gördüklerim’, *Demiryollar mecmuası*, No:10, Ara.1925

⁵⁹ ‘Son tetkik seyahatimde gördüklerim’, *Demiryollar mecmuası*, No: 13, Mart 1926

⁶⁰ BCA 30.18.1.1 Yer no. 19.41..1

⁶¹ BCA 30.18.1.1 Yer no. 20.49..10

The following year, Behiç Bey, the Minister of Public Works and the de-facto director of the SRC, travelled to Europe for medical purposes. While receiving treatment, Behiç Bey also managed to meet with various railway officials and examine the railroads in various European countries. In September 1927, Behiç travelled to Austria, together with two relatively junior SRC officials named Fatin and Kemal.⁶² Here, he met with high level officials of the Austrian State Railways, and examine the latest safety equipments in use in the country. From Vienna, the group travelled on to Stockholm to examine the locomotives and wagons being constructed for the new Turkish railway lines under the contract with the Swedish NOHAP group. The Turkish party then proceeded to travel to Norway and Denmark upon the invitations of the governments of these countries. Behiç Bey met with officials from the railways in each country, as well as bureaucrats from their ministries of transport. Moreover, these visits received attention in the local press, and banquets were held for the Turkish group in each major city en-route.

From Denmark, Behiç Bey passed on the Germany, where he received treatment in Berlin. However, he also made contact with officials of the German State Railways. Behiç met Dr. Dorpmüller, director of German railroads and conducted meetings with department directors. While in Germany, Behiç Bey focused on the retirement procedures for German railway workers, and also visited the Krupp railroad materials factory. Next, Behiç Bey travelled to Belgium upon the request of this government, to meet the prime-minister, director of railways, and minister of state.

The five countries Behiç Bey visited were all major suppliers of railways materials to Turkey. A Swedish-Danish partnership, the NOHAP group, had recently received the contract for the Samsun-Sivas line and Belgium and Germany were the two major producers of railroad materials in continental Europe. Through cordially accepting Behiç, the

⁶² ‘Nafia Vekili muhteremi Behiç Bey Efendi’nin Avrupa Seyahati’, *Demiryollar mecmuası*, No:33, (Kas.1927)

governments, railroads, and industrialists of these countries were acknowledging both the SRC, and the new Turkish government as trading partners. Though not being instrumental in the direct transfer of technology, such trips at the highest level were important as they fostered relationships between the SRC and European railways. These relationships could later be used to facilitate more specifically focused observational trips, with the aim of transferring specific technologies.

Figure 11: Behiç Bey (fourth from right, light coloured sporting suit) and company together with NOHAP officials. (Note the writing on the factory wall: Nydvist & Holm A.B.)



Source: ‘Nafia Vekili muhteremi Behiç Bey Efendi’nin Avrupa Seyahati’, *Demiryollar mecmuası*, No: 33, (Kas.1927)

Throughout the late 1920s, a number of observational tours took place to the above mentioned countries. For instance, in 1927, Hüseyin Rıza Bey was sent to Germany to examine the “railroaders’ quarters” with a view of planning a similar neighbourhood for railroad personnel in Turkey.⁶³ The next year, Hüseyin Yakup, inspector on the Samsun-Sivas

⁶³ BCA 30.18.1.1 Yer no. 23.7..6

line, and Tarık, the chief of warehouses travelled to Belgium, France, Germany, and Switzerland to examine various aspects of the railroads in these countries. As he was an engineer, Hüseyin Yakup mostly focused on structures such as bridges and railway buildings during this journey.⁶⁴ Nuri, an SRC inspector, also travelled to Europe in 1928 to examine a new system of automated sleeper injections.⁶⁵ In 1929, Mehmet Salih, master of the Konya station, undertook an extensive examination of the Belgian State Railways. Mehmet Salih observed the way in which work was delegated among personnel at stations and on the lines, and also gained insight into the system of pay, promotions and holidays on the railways. Most specifically, he spent a significant amount of time at the Schaarbeek Railway Station, a large terminus in Brussels. Here he worked together with the station master, examining how his counterpart went about day to day tasks. He focused especially in the use of new safety equipments, and on the use of a new dispatching telephone to perform daily inspections of every section of the station.⁶⁶

The mutual significance of these visits was that the Turkish railroaders in question set out with the aim of gaining an understanding of a specific aspect of railroading technology, with a view of improving the methods being used on the Turkish railroads. They observed European methods, met European railroaders, and then, as far as possible applied what they had learned to the Turkish context.

Beginning in 1930, it appears that examination tours were mostly arranged around the inspection of materials ordered from European factories. In 1930, Izzet Bey from the construction department travelled to Germany and Austria to inspect orders and to oversee the plans for a new station building.⁶⁷ Similarly in 1935, Hıfzı and Nazım, engineers from the

⁶⁴ Hüseyin Yakup later penned a series of articles pertaining to his technical observations in these countries. Hüseyin Yakup, 'Avrupa'da tetkik seyahati notlarımdan', *Demiryollar mecmuası*, No:37 (Mart 1928), No:41 (Temmuz 1928), No:48 (Şubat 1929), No:59 (Ocak 1930).

⁶⁵ BCA 30.18.1.1 Yer no. 29.33..12

⁶⁶ Mehmet Salih, 'Belçika Demiryollarında Gördüklerim', *Demiryolları Dergisi*, No:57 Kasım 1929

⁶⁷ BCA 30.18.1.2 Yer no. 13.58..9

technical branch of the construction department travelled to Germany and Belgium to examine purchases.⁶⁸ In 1937, Razi Soyer took a tour of Belgium, France and Germany, inspecting ordered materials and also examining the practices on the railways in these countries.⁶⁹ Similarly Suat Kansu travelled to Belgium and Germany in the late 1930s.⁷⁰ Fitting with the general policy of the country, and indeed with that of the SRC, the first examination trip to England occurred in 1940. Sedat Etker, the director of the gear department and Rüşhan Akıncı, director of trade and revenues travelled to England to inspect the locomotives and wagons that were being constructed there for the SRC.⁷¹ In 1942, Cemal Serter, the general director of the SRC, together with Osman Çıkıgil, the director of the 9th Division travelled to Germany together to inspect new German war locomotives.⁷²

At times, Turkish participants in international railroading conferences also undertook examinations of the railroads of host countries. For instance, Mukbil Sezginer, director of the third division attended the Balkan Railroading Conferences in Bulgaria and Romania in 1942. While visiting these countries, Sezginer also examined the systems of retirement and pensions on the Bulgarian and Romanian railways, as well as the official institutions of workers solidarity. His focus on these areas was natural as Sezginer had previously worked as the director of the SRC's personnel department.⁷³

The series of international railroading conferences attended by SRC officials throughout the period in question also facilitated grounds for the transfer of technology. By attending these conferences, senior officials of the SRC became integrated into the

⁶⁸ BCA 30.18.1.2. Yer no. 53.30..14

⁶⁹ BCA 30.18.1.2 Yer no. 18.103..16

⁷⁰ Suat Kansu, 'Avrupa Notları', *Demiryolları Dergisi*, No:189 (Kas.1940), No:192 (Şub. 1941), No:194 (Nis.1941), No 201-2 (Kas-Ara. 1941), No: 209-211 (Tem.-Eyl 1942).

⁷¹ BCA 30.18.1.2 Yer no. 89.129..12

⁷² Latif Osman Çıkıgil, 'Bir Seyahatten Notlar: Alman Harp Lokomotifleri ve Vagonları', *Demiryolları Dergisi*, No:215-17 (Ocak-Mart 1943)

⁷³ Mukbil Sezginer, 'Bulgar Demiryollarında Sigorta ve Karşılıklı Yardımlaşma', *Demiryolları Dergisi*, No: 210-220, (Nis.- Haz. 1942)

community of European Railroaders, and the SRC became recognised as a major national railway. Delegates from the SRC chiefly attended conferences held by the Association of International Railroads, conferences pertaining to the working of the Simplon-Orient Express which terminated at Sirkeci, and conferences concerning the Balkan railroads. The below table 9 provides a concise list of the various conferences attended by SRC officials, the year in which these conferences occurred, and in which country they were held.

Table 9: Conferences attended by SRC officials

Name	Year	Country	Reference BCA	Details
Muhtar Bey	1926	Austria	30.18.1.1 - 20.59..4	Sent to Baden-Baden to attend a conference on international railway schedules etc.
Kemalettin Bey	1929	Russia	30.18.1.2 - 3.21..2	Conference about Caucasian lines
Akif Bey (Construction Dept)	1930	Spain	30.18.1.2 - 10.25..16	International Railways Conference
Fuat Zincirkıran (Deputy Director)	1937	Italy	30.18.1.2 - 79.88..13	
Naki Köstem (Director of tariffs)	1938	Bulgaria and Romania	30.18.1.2 - 83.39..20	
Ferit Demirci (deputy director of movement)	1938	Bulgaria and Romania	30.18.1.2 - 83.39..20	Conferences in Bucharest and Sofia determining rates etc for through passage especially in the Balkans.
Naki Köstem (director of tariffs)	1938	Hungary	30.18.1.2 - 82.6..5	a conference at Budapest to determine through rates for goods passing to international Railroads.
Cemal Devrimel (director of trade and revenues)	1939	France	30.18.1.2 - 95.115..15	
Cemal Devrimel	1939	Norway	30.18.1.2 - 88.82..9	Conference in Oslo
Şefik Etensel (director of movement)	1939	France	30.18.1.2 - 95.115..15	
Şaban Dağa (engineer gear dept)	1939	Norway	30.18.1.2 - 88.82..9	Conference in Oslo
Fahri Kölüksüz	1940	Switzerland	30.18.1.2 - 90.13..16	Conference about Toros and Simplon expresses
Şefik Etensel	1940	Switzerland	30.18.1.2 - 90.13..16	Conference about Toros and Simplon expresses
Mukbil Sezginer (director of the third division)	1942	Bulgaria-Romania	Demiryollar Dergisi, 1942, 2.çey, No: 210-220	also examines the lines and the social security systems

5) An overview of technology transfer in the SRC

While the above focus on specific cases, types of visits, and mechanisms is necessary to better answer the question, “How were Turks able to run and develop a railway network after the declaration of republican rule?”, there is danger in focusing too much on the specific. Below, I provide a general overview of technology transfer in the SRC, and then define some of its characteristic properties.

The first mechanism of technology transfer, that is the employment of foreigners in the service of SRC, functioned at two levels distinct levels. Foreigners entering the corporation’s workforce fulfilled roles that Turks were not trained for, or roles for which sufficient numbers of Turks were not available. The employment of foreigner experts in construction work, and in the technical branch of the roads department was widespread throughout the period. Foreign craftsmen were also employed, especially in the repair workshops, with the aim of using new machinery and training local personnel. The employment of foreigners in managerial roles was relatively uncommon, save for the materials and procurement departments which drew on foreign experts’ familiarity with European manufactures. All in all, these employees filled a gap in the labour force that could not be filled locally.

Foreign experts undertaking advisory roles played an altogether different role in the SRC. These experts were specifically selected among senior railway executives, or functional experts. Mostly, they were summoned to provide expertise on a particular area such as organisational structure, rates and tariffs, and factory design. Their employment coincided with major changes in the SRC and its strategies. Indeed, the advisors in the four cases I focused upon were all employed in critical periods. Meissner was re-summoned to provide technical advice when the Turkish government took over the railroads in a definitive manner. The German committee of 1928 were employed following the unification of the various

national railroading bodies. Bell was consulted in 1932, as the SRC instigated a change in its strategy to ward off the effects of the depression. Finally, Jarvis and Soden were invited to Sivas as the SRC expanded its repair and production facilities under war conditions. Throughout the period 1923-45, foreign advisors were used to refine the practices and strategies of the SRC, and to implement new methods and technologies when needed.

Similarly, the second mechanism facilitating technology transfer functioned at three levels. By attending international conferences, the most senior SRC officials became part of a world-wide network of railroaders. In similar vein, the SRC became a recognised railway operator. Through examination tours conducted for a very wide variety of purposes, mid to high level SRC employees were able to familiarise themselves with specific railroading technologies, and with the culture of work on European railways. Moreover, they often met with their European counterparts during such trips, and observed how they went about their jobs. Such trips were crucial as they provided the knowledge necessary to implement technical and managerial change within the SRC. In an effort to raise personnel who were familiar with the latest methods in railroading the SRC, and other governmental bodies sent students and junior railwaymen to Europe to attend University courses and take internships.

Together, the employment of foreigners, and the various journeys Turks made to Europe aimed to develop the SRC's, and therefore the Turks' ability to run and develop railroads. These two mechanisms were important insofar as the accumulation of knowledge and technology which had begun with the inauguration of the Hicaz line, and developed through the work of the various bodies of technical education was supplemented and refined by international technology transfer.

Attempts at technology transfer in the SRC had two overarching characteristics. Although unrelated, both of these characteristics become apparent only when one looks at the efforts as a whole. First, the channels used to transfer technology into Turkey were largely shaped by the contemporary diplomatic, political and economic environment. Second, the attempt at transferring tangible technologies, both hard and soft, was coupled by a desire to transfer the intangible knowledge surrounding the working culture of European railways and factories.

Germany and the Ottoman Empire had enjoyed a close relationship beginning in the Hamidian Era. The recently unified Germany's rapid industrial growth and military strength was cause for admiration among Turks. Moreover, German financial groups provided new sources of finance, easing the Ottoman administration's position vis-à-vis the other great powers. Military advisors in the Ottoman army were overwhelmingly German, helping solidify Germany's position as an ally among young officers. Indeed, when the two countries finally joined forces during World War I, the Ottoman army experienced a further inflow of German commanding officers and advisors. Given this close relationship, it is natural that the majority of foreign experts working in Turkey in the 1920s, and 1930s were Germans or nationals of German speaking states. However, Germany's centrality in the attempts to transfer technology was not limited to being a provider of railroad experts. Nor was this centrality solely a result of a historical relationship.

As the SRC had inherited the rolling stock and materials of the CFOA, most of its machines and systems were of Germany design. Naturally, Germany emerged as the main supplier of railway materials to Republican Turkey. Coupled with the historical relationship, this economic connection created a close bond between Germany and the SRC. Such economic connections were vital in attempts at transferring technology. Indeed, almost all examination tours throughout the period in question were conducted either to Germany or to

other material supplying nations. In the mid 1930s, when Turkish-German bilateral trade reached its peak, the relationship grew even closer. For instance, the internships undertaken by Turkish railwaymen in German factories was most likely made possible by both the aforementioned accumulation of a Turkish trade surplus in German accounts, and the bargaining power this gave the Turkish government.

As Turkey's trade with Germany shrunk following the outbreak of the Second World War, and as British-Turkish relations improved during the same period, Britain emerged as a new partner in technology transfer. This is not to say that Germany lost all of its importance, however, it was rivalled for the first time, under war-time conditions. The internships undertaken by Turkish students in Britain, and the employment of British experts in Turkey were related both to contemporary diplomatic efforts, and to the newfound economic relationships between the countries. In the early 1940s, the SRC had placed a significant order for locomotives and wagons with British manufacturers. All in all, the role of a country in providing training, technology, and to a lesser extent, experts, was determined by the contemporary economic and diplomatic situation. Close diplomatic relations, together with strong economic connections were determinants of the sources of knowledge and technology for the SRC.

Turning to the second overarching characteristic, it is clear that SRC officials at the time, desired to transfer the intangible aspects of railroading knowledge as well as the more concrete tangible technologies. This stemmed from the desire to cultivate a culture of work similar to that of European railways. An interest in the intangible knowledge pertaining to the railway business existed, especially among Turks travelling to Europe. Chiefly, they focused on the relationship between managers and subordinates, and on the culture of taking full responsibility for one's actions. This is most clearly displayed in short articles detailing their impressions of the railways they visited. Besides the tangible technologies and procedures in

the railroads, stations and factories, SRC officials observed the attitudes and work culture of the railwaymen in the countries they visited.

For instance, in 1926, upon his return from Europe, one Turkish railwayman wrote that the one thing that differentiated the work practices of European railways from those in Turkey was the European emphasis on saving and thrift. The author recalled an incident in which he had broken his pencil while taking notes during a conversation with a high-level European railway official. To his surprise, the official was unable to offer him a replacement, as he himself only had two pencils which were both reduced to comical sizes due to sharpening. This seemingly trivial episode had awed the author, who believed the notion of thrift exemplified in this story was lacking on the Turkish railways.

Similarly, while writing of his examination of the Belgian railroads in the late 1930s, Suat Kansu touched on a number of the issues he studied in detail. He wrote about the latest 'bloc' systems which operated railway switches through magnetic waves. He also wrote about the systems through which the continuous maintenance of locomotives was conducted, and how railroad personnel were rewarded and reprimanded for their performance and behaviours. Turning to intangible working culture of the railroads on the other hand, Kansu recalled a conversation with the station master at Liege. He noted that the 'old wolf' had told him that 'a manager owes his success to the hard-work and capabilities of his subordinates'. Hard work from a subordinate could only be guaranteed if the manager facilitated and encouraged it. Overt aggression and criticism on the part of the manager would only result in the lower performance of subordinates. What is noteworthy is not the Belgian railwayman's commentary, but the fact that Kansu found it important enough to retell in his travel notes. To Kansu, this was an intangible part of European railroading culture that differed from, but was superior to practices in the SRC.

In his 1932 report, Bell had mentioned that the subordinate in the Turkish railway was afraid of his direct superior. Similarly, the superior often hindered the professional development of his subordinate with a fear of being replaced. In a 1941 speech opening the accounting course at Haydarpaşa Abdülkadir Gözen, the deputy director of the accounting department had stated that the system of accounting currently in use was detrimental to the SRC. However, the thing that truly damaged the SRC was the attitude among workers and accountants more so than the conventions. Gözen noted that each employee acted as though protecting himself from some future investigation, taking minimum responsibility and initiative whenever possible. He noted that a culture similar to that which he had observed in Europe was needed. Everyone was to assume full responsibility without the fear of making mistakes, as these were only natural.

Indeed, it appears that certain persons within the SRC were aware of the organisations shortcoming, and turned to Europe in search of a better practice. It is beyond the scope of this study to show whether such managerial problems were eventually overcome in the SRC, nonetheless it is clear that the SRC's interest in knowledge transfer went beyond a desire to study machinery and practices. The trips to Europe and the commissioning of foreign advisors also aimed to create a work culture befitting a modern corporation, rather than an arm of the government bureaucracy.

CONCLUSION

The changes in the way railroads were built and managed in Turkey in the early twentieth century, by and large, mirrored the changes in the country's political economy. By the mid 1930s, the internationally financed, profit oriented private railway companies of the Ottoman Empire had given way to the State Railway Corporation of the Turkish Republic, which controlled all railroads in the country. Under the new regime, the length of railway track and the total number of train journeys rapidly increased, whereas the burden created by the railways on the government budget decreased.

The three salient characteristics of railroads in the Ottoman period were reversed in the republican era. First, the concessionary system under which one entrepreneurial group brought together the international finance, labour and management required to construct and run railways was abolished. Various branches of the state assumed the roles previously delegated to the concessionaries. Railways were financed domestically, contracts were awarded to the lowest bidder, foreign or local, and the management of railroads was handled by the SRC. Second, the railroads ceased to be items of international political interest in the republican era. Third and finally, the dominance of foreigners and non-Muslims in the running of railroads gave way to the employment of a Turkish workforce, supported by foreign specialists employed on fixed-term contracts.

These changes were the results of two interrelated processes: the Turkification of railroads in the early 1920s, and the two waves of nationalisation during first fifteen years of the republic. Following the Turkification of railroads, which was almost complete by 1923, even foreign owned lines were operated by Turkish personnel on a day to day basis. As each line was nationalised, the strategic and long-term management of the railways was also

handed over to Turkish railroaders. As of the mid 1930s, the vast majority of Turkish railroads were run by the State Railway Corporation.

The goal of this thesis had been to show how Turkish railroaders and the Turkish state developed the necessary skills and structures required to carry out the above described transition, and manage the entirety of railways in the country. Bluntly put, the chief question was “Given the dominance of foreigners in the Ottoman period, how were Turks able to run and expand the railways in the Republic period?” I have argued that such a transition was made possible by three interrelated mechanisms which were already in play beginning in the late Ottoman period. The development of technical railroading education, the transfer of technology from more developed nations, and the creation of a modern administrative body to manage the railroads were instrumental in the creation of Turkish railroading.

The foundations of the SRC were formed when the Anatolian railroad was taken over by Turkish forces. At first, this organisation was largely based on that of the old CFOA Company, and staffed by Turks raised in the Hicaz Railway or at the Railroading Schools functioning during the war. Faced with the tasks of running the railroads in an economic manner, the SRC soon developed into a modern business, following and applying developments in international railroad management. Indeed, it became the country’s first modern corporation in the late 1920s and 1930s, as it implemented measures to rationalise its work processes, and put in place a corporate welfare system for employees. First and foremost, the administrators of the SRC created an organisational chart that split the corporation into geographical divisions and functional departments. The lines of authority between these departments and divisions were delineated and a managerial hierarchy was created at the local, and the national levels. This hierarchy was further clarified in the mid 1930s through the law regulating pay, promotions, punishment and rewards within the SRC.

Attempts to rationalise the working of the railways were concentrated mainly in the most technical areas: gear, materials, and rates. Throughout the period in question the SRC standardised the locomotives and wagons it used, and minimised the total number of different machine types in service. This was coupled by attempts to improve the machine repair facilities first in Eskişehir, and then in Sivas. Similarly, the system used to procure, store, and distribute railroading materials and spare parts was radically changed when the SRC was created. A uniform and detailed system of materials classification was put in place, and all supply shops were organised under the control of a centralised materials department. Turning to the most important non-mechanical aspect of technical railroad management, the SRC attempted to reform its pricing system in the early 1930. In general, prices were significantly reduced, and a more detailed system promoting the carriage of agricultural products was introduced after 1932.

All the above outlined changes were, in some way, aided by the transfer of technology. The re-design of the machine plants for instance, copied European work flow practices. In the case of the Sivas factory, a German engineer aided with the entire design of the plant. Similarly, the new system of materials classification implemented in 1928 was based on that used in European railroads. The rate system, determining the price of each journey was devised after a number of foreign experts were invited to the country and consulted on the issue. Indeed, Charles Bell spent almost a year in Turkey studying the railroads in order to advise the best possible design for the rates system.

From its onset, the SRC provided its workers with a number of social benefits and aimed to create a paternalistic work culture on the railroads. In a manner unprecedented in Turkey at the time, workers were provided with full access to health care and medicine, after 1935 this also included dental treatment. A savings fund was created in 1926, in order to provide a savings mechanism for workers, and aid them in retirement. This basic mechanism

was developed into a fully fledged pension fund in 1934, and all personnel were given the right to retire on a regular pension after fulfilling their terms of service. The SRC also provided education to the children of workers, and encouraged workers' participation in sporting activities under the auspices of Demirspor clubs. These welfare measures comprised part of the paternalistic employment culture that was created in the corporation. Upon entering the railroading schools, workers were encouraged to think of the SRC as family which they had joined.

In its heyday, the Turkish Administration of the Anatolian Railways relied on the Turkish railroading personnel who had been raised on foreign owned Ottoman railroads, on the Hicaz line, in the railroading battalions, and at the war-time railroading schools in Izmir and Yeşilköy. However, the growing SRC required an increasing number of engineers, railroaders and labourers throughout the period 1923-1945. These personnel were raised in various institutions of technical education that aimed to systematically prepare specialist workers for different levels. I identify three broad categories of technical institutions aimed at training railroad personnel: the university-level technical school, the various schools and courses instructing station and train workers, and the labourers' courses raising staff to work in repair factories.

The latter two types of institutions functioned under the direct control of the SRC. Simply put, personnel working on trains and in stations and factories were trained in house. The training of engineers took place at the Istanbul Engineering School, over which the SRC had no control, but was bound to organically. The SRC and the Engineering Schools were tied closely as they were both connected directly to the Ministry of Public Works. Moreover, in the early 20th century, railroading, along with waterworks and general construction was the most significant branch of engineering in Turkey.

The Istanbul Engineering School was the single source for qualified Turkish engineers employed in the SRC. Attendance at the school significantly increased during the republican period; however, due to the six-year curriculum, it was only in the 1930s that this had a significant effect on the number of employable engineers. To compensate for the lack of trained engineers, foreigners were frequently employed on railroad construction in the 1920s. Such shortages of personnel however, were limited to trained engineers. The SRC succeeded in training adequate numbers of movement workers and train personnel at its various courses throughout the period 1923-1945. At first, all training was centred in Istanbul, at the Haydarpaşa Railroading School. This institution raised an average of two cohorts a year, educating station and train workers. During the 1930s, technical education proliferated, and various courses aimed at raising train drivers, section chiefs, and other technical workers were set up mostly in Eskişehir.

The 1940s saw the systemisation of technical railroading education, as two important changes occurred. First, the vocational railroading high school at Ankara combining the traditional high-school curriculum with the training offered at the railroading school was opened in 1942. This was significant insofar as it presented a structured approach to training railroad workers at an early age, and made possible the streaming of students into different branches according to their talents and the SRC's needs. Second, a central office co-ordinating and planning education within the SRC was established in 1942. This is indicative that the corporation aimed to establish congruence between its various courses, and systematise technical training.

Throughout the period concerning this study, foreign railroading experts were employed at the SRC, both as personnel in the absence of sufficient numbers of qualified Turkish experts, and as advisors in designing various aspects of the corporation's work. The

distinction between these two groups is important, as the roles they played in the transfer of technology to the SRC were quite different. The foreigner joining the SRC as an employee brought with him a certain degree of knowledge and experience pertaining to railroading, which he, to differing degrees, shared with the Turkish personnel he worked with. The foreign expert hired as an advisor on the other hand, helped rationalise the SRC and aided in decisions relating to the long term strategies to be followed by the organisation.

Foreigners joining the workforce of the SRC were mostly German, or citizens of the Austro-Hungarian Empire's successor states. They worked mainly in railroad construction, in repairs, and in the technical branch of the roads department. These workers fulfilled roles for which qualified Turks were unavailable, or roles for which the demand outstripped the number of available local employees. Such roles ranged from manual tasks such as operating oxygen welding machines, to relatively high level jobs such as undertaking technical decisions as to how roads should be constructed and repaired.

The Foreign experts hired to advise the SRC on various issues were generally prominent railwaymen. Meissner had supervised the construction of the ambitious Hicaz Railway project, the German Committee of 1928 were all directors in the German State Railways, and Charles Bell was a well known railroad manager in the American south. These men were instrumental in the above outlined rationalisation of the SRC, as they helped SRC officials refine the structure and processes of the new organisation. The German Committee of 1928, for instance, helped design the newly consolidated SRC's organisational structure. Charles Bell advised on a tariff system that would create a profit, sustain the organisation in the long term, and also stimulate the development of the country. The work of these men was also important insofar as it provided candid insight into to shortcomings of Turkish railroading. For instance Bell, in his report, noted that the subordinate in the SRC was afraid of his superior, and that the superior feared that the subordinate would some day surpass him.

Similarly, Jarvis and Soden showed that in 1942, the factory system had not yet been fully understood and implemented in the Sivas Repair Factory, despite the modern design of the plant.

This thesis will have been successful insofar as it has convinced the reader of three main arguments. Firstly, I have tried to show that the SRC's ability to run and develop railways using a Turkish workforce in the post World War I era was not something that occurred coincidentally or can be taken for granted. It was the result of a systematic approach that focused on the technical training of personnel, on the transfer of technology, and on the creation of modern managerial hierarchies. Among these three processes, technical training and technology transfer had their roots in the late Ottoman period. Indeed, the personnel trained in the Ottoman era created the foundation of what would later become the SRC. It is important to note that these three processes were not isolated mechanisms, they were very much intertwined.

Secondly, I have argued that the SRC was Turkey's first big business. This was due to its sheer size, the way in which it operated over a wide geography and to the fact that it had to finance its expenditure through revenues. Moreover, by creating an elaborate managerial hierarchy, and by implementing the latest methods in modern management, I argue that the SRC became Turkey's first modern corporation. The fact that the corporation was owned and operated by the government does not take away from this argument, as the Turkish economy in the pre World War Two period was dominated by the state.

Third and finally, I have tried to show that the SRC's external relationships, that is, its relationships with foreign countries and railroads, were shaped both by historical trajectory, and by the country's contemporary diplomatic standing. Initially, Germany was the sole provider of railroading technology for the corporation. This was a natural result of the

close relationship between Germany and Ottoman Empire that developed prior to, and during World War One. Moreover, as the Anatolian Railroad was a German dominated project it was natural that German machinery and techniques were already in use in the Turkish railroads. This close relationship was reinforced during the 1920s and 1930s, as SRC officials based many aspects of their own corporation on the German State Railways, and favoured German materials. The close trading relationship between the two countries in the mid 1930s further reinforced the connection between the SRC and the GSR. In the early 1940s, for the first time, British materials and methods presented a challenge to German dominance in Turkish railroading. The SRC turned to Britain as a provider of machinery, and sent engineering students to study in British factories. This shift, no doubt, was related to the relatively close relationship that developed between Turkey and Britain during the Second World War.

In this thesis, I have attempted to further existing knowledge on certain aspects of the SRC's working in the early Republican period. I have tried to focus on the birth of Turkish railroading, and on how the technical and managerial challenges were handled in this period. The subject of railroad history in the Republican period and the institutional history of the SRC remain, by and large, understudied topics. Hopefully, this thesis will point to prospective avenues of research and provide more detailed insight for future works. The financial history of the Turkish railroads for instance, and the history of procurement in the SRC, if written would shed light on immensely important topics. Through an increase in such narrowly focused works that remain connected to a larger theme, it will become possible to create a more accurate picture of the general history of railroads in Turkey. This of course, will help better understand the economic history of the early Turkish republic and its key institutions.

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APPENDIX 1: LIST OF FOREIGN EXPERTS IN TURKEY

name	nationality	first year of service	details	archival reference (Fond- Place number)
Meissner	German	1924	Advisor to technical committee, Lecturer at Engineering School	30.18.1.2.- 61.3..7, 30.18.1.2 - 31.64..16
Rayzrik	unknown	1924	Samsun-Sivas depot manager	30.11.1.0 - 9.33..18
Fox	unknown	1924	kütahya-tavşanlı planning (map) engineer	30.18.1.1 - 11.51..15
Furuh	unknown	1925	Engineer on Samsun-Sivas	30.11.1.0 - 14.25..8
Weidner	German	1925	Engineer on Samsun-Sivas	30.11.1.0 - 15.29..2
Frangle	Austrian	1925	Engineer on Ankara-Sivas	30.11.1.0 - 14.26..6
Legal	German	1925	Engineer on Samsun-Sivas	30.11.1.0 - 14.25..17
Vidman	unknown	1925	Engineer on Samsun-Sivas	30.11.1.0 - 14.25..8
Şahber	Swedish	1925	Engineer on Samsun-Sivas	30.11.1.0 - 14.26..6
Haydarof	Russian	1925	Engineer on Ankara-Sivas	30.11.1.0 - 15.29..2
Reiner	German	1926	Member of the technical committee	30.11.1.0 - 23.14..20
Maurer	German	1926	Engineer on Samsun-Sivas	30.11.1.0 - 23.11..17
Johnson	German	1926	Engineer on Samsun-Sivas	30.11.1.0. - 23.11..17
Schneider	German	1926	Engineer on Samsun-Sivas	30.11.1.0 - 28.37..10
Arnold	German	1926	Ankara-Sivas workshop engineer	30.11.1.0 - 23.15..14
Loslo Bros.	Hungarian	1926	Engineers on railroad construction	30.11.1.0 - 25.21..5
Dickmann	German	1926	advisor to the technical committee	'Şimendifer Mektebi Yedinci Devre', <i>Demiryolları Mecmuası</i> , Nis. 1926, No:14
Moro	Italian	1928	Chief of the bridges department for the Anatolian-Baghdad admin.	30.18.1.1 - 29.33..14
Nemelius	German	1928	Member of the German consulting delegation	'Demiryollarımızda Alman Tetkik Heyeti', <i>Demiryolları Mecmuası</i> , Haz.1928, No:40
Dordutt	German	1928	Member of German consulting delagation	'Demiryollarımızda Alman Tetkik Heyeti', <i>Demiryolları Mecmuası</i> , Haz.1928, No:40
Zommermeir	German	1928	Member of the German consulting delagation	'Demiryollarımızda Alman Tetkik Heyeti', <i>Demiryolları Mecmuası</i> , Haz.1928, No:40
Schleichten	German	1929	Specialist of procurement and reception at H.Paşa shop	30.18.1.2 - 12.50..9
group of 10 foreign workers	unknown	1929	Work on Eastern Railways to advise on preventative	30.18.1.1 - 29.33..14

name	nationality	first year of service	details	archival reference (Fond- Place number)
			measures against accidents	
Firiç	Austrian	1930	Engineer, fevzipaşa-diyarbakır	30.18.1.2 - 9.14..11
Deduval	American	1931	Construction inspector on Ulukışla line	30.18.1.2 - 24.79..2
Robert Kann	Russian	1931	Financial expert of a French group coming to examine and advise on the sivas-erzincan line	30.18.1.2 - 22.57..7
	German	1931	Specialist in oxygen welding to work and teach workers at Eskişehir	30.18.1.2 - 19.22..8
Tscheichcheck	Austrian	1932	Member of technical committee	30.18.1.2 - 26.13..5
Kopec	unknown	1932	Engineer-construction	30.18.1.2 - 35.23..16
Schrafl	Swiss	1932	General director of Swiss RR'ds, agreed to inspect Turkish lines for a couple of months	30.18.1.2 - 26.20..3
Bell	American	1933	Prepared reports chiefly on the tariffs	30.18.1.2 - 39.67..8
Hruschka	Austrian	1934	Electrical engineer worked on the section of the filyos-ereğli line to be electrified	30.18.1.2 - 42.2..2
Dr. Kann	German	1934	Engineer-construction	30.18.1.2 - 46.42..13
Müller	German	1934	Oxygen welding specialist to work and teach workers at eskişehir for 6 months	30.18.1.2 - 48.70..6
Sioul	French	1934	An ex director of the Izmir Kasaba, recalled to manage the gear service of said line	30.18.1.2 - 49.75..6
David	Austrian	1935	afyon-antalya construction engineer	30.18.1.2 - 51.9..14
Gyula	Hungarian	1935	Engineer Filyos-Ereğli	30.18.1.2 - 60.97..13
	German	1935	Examined and advised on the accounting and statistics practices of the DDYUI	30.18.1.2 - 63.21..16
	German	1935	Examined and advised on the workshops and wagon plant	30.18.1.2 - 63.21..16
Şihetelm	Austrian	1935	Afyon-antalya construction engineer	30.18.1.2 - 51.9..14
Beziç	Austrian	1935	Afyon-Antalya line construction engineer	30.18.1.2 - 51.9..14
8 workers	German	1936	Team covering for workers sent to Europe, teaching workers for Sivas plant	30.18.1.2 - 63.30..15
Mitrea	Swiss	1936	Engineer for construction	30.18.1.2 - 64.39..16
	German	1936	Team covering for workers sent to Europe, teaching workers for Sivas plant	30.18.1.2 - 63.30..15
Czreke	Hungarian	1937	Engineer construction	30.18.1.2 - 91.57..15
Dr. Fidler	German	1937	Filyos-Ereğli engineer	30.18.1.2 - 79.89..3

name	nationality	first year of service	details	archival reference (Fond- Place number)
Heutschke	German	1937	Applications	30.18.1.2 - 78.73..9
	Swedish	1937	Specialist from factory called to fix turn bench bought in 1927	30.18.1.2 - 77.69..3
Herrwertts	German	1937	Furnace expert at the DDY Cer factory at eskişehir	30.18.1.2 - 74.32..4
Scherzer	German	1937	Sivas-Erzurum engineer	30.18.1.2 - 79.89
Ganchev	Bulgarian	1938	Engineer for concrete bridges on Sivas-Erzurum line	30.10.0.0 - .99.640.15
Micheal	Swiss	1938	Designed the gazino for the Ankara Gar	30.18.1.2 - 83.40..1
Fekete	unknown	1938	Engineer	30.18.1.2 - 84.64..12
Corts	German	1938	Ex-gear manager for German RR'ds. Controlled purchased parts in Europe	30.18.1.2 - 84.82..9
Ronar	Hungarian	1938	Member of technical committee	30.18.1.2 - 84.83..17
Bitter	Swiss	1938	Member of technical committee	30.18.1.2 - 84.89..8
Sakre	unknown	1938	Construction d.bakır-cizre	30.10.0.0.0 - 99.640..12
Gerstner	German	1938	German RRds loco plant manager brought in to develop and design Sivas plant and re-design eskişehir	30.18.1.2 - 85.100..15
Biron	Hungarian	1938	Engineer	30.18.1.2 - 82.3..16
Petusic	Greek	1938	-	30.18.1.2 - 91.57..13
DeVares	French	1938	Engineer	30.18.1.2 - 91.59..2
Hüg	Swiss	1939	Brought to giv conferances on railroad economics etc.	30.18.1.2 - 86.21..1
Perret	Swiss	1939	Erzurum-Sarıkamış engineer	30.18.1.2 - 88.94..9
Adam	Polish	1940	Engineer-construction	30.18.1.2 - 91.70..14
Soden	English	1942	Re-assembling locos at Sivas	PRO/ F.O 371/ 33347
Borot	Hungarian	1942	engineer- DDY fen heyeti and statistics	30.18.1.2 - 98.32..13
Jarvis	English	1942	Re-assembling locos at Sivas	PRO/ F.O 371/33347
Bernhard	Hungarian	1942	decorator for station buildings etc.	30.18.1.2 - 98.41..15
Brod	German	1943	Engineer	30.18.1.2 - 101.20..1
Rabinoviç	Romanian	1943	Engineer	30.18.1.2 - 101.32..13