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Integrating the Danube into Modern Networks of Infrastructure: The Ottoman Contribution

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Abstract:
For the Ottoman Empire, the Danube served not only as a border, but also as a means of communication and transport. This function was determined by the river's prevailing natural conditions. Because of the geopolitical, economic, and technological developments of the eighteenth and nineteenth century, global connections came to substitute older connections with Eastern and Central Europe. This article examines the Ottoman role in this transformation of the Danube between 1830 and 1878. It focuses on infrastructure projects such as the regulation of the Iron Gate and those in the Danube Delta, and construction efforts in the Danube Province during the last decades of Ottoman rule around the Danube.
Keywords: Danube, river transport, Ottoman Empire

1. Introduction

Hayrullah Efendi (1818–1866), an Ottoman doctor, official, and intellectual of the Tanzimat period, was also the author of the first Ottoman tourist guide. His *Travel Book* (*Yolculuk Kitabı*), which he wrote in

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1864 but for unknown reasons was not published, is an account of the author's journeys to Europe.[1] In contrast to earlier such accounts, which had been written exclusively by Ottoman ambassadors, Hayrullah adds practical information about the best travel routes, ticket prices, necessary luggage, places to eat, and places to stay, just as any present-day guidebook would. While a large part of the book focuses on the author's extended stay in Paris, it begins with Hayrullah's first trip to Europe, which led him to Vienna. Leaving Istanbul on a Black Sea steamer, he changed to a train in Köstence (Constanţa) and reached the Danube at Boğazköy (Cernavodă). From there he took the steamer upriver and passed Ottoman cities such as Silistre (Silistra), Rusçuk (Ruse), and Vidin before landing on the Walachian side in Turnu Severin to change boat and pass through Austrian customs in Orşova. From there he continued his journey up the Danube via Semlin (Zemun) and Buda to reach his destination.

In the nineteenth century, as with other European rivers, such as the Rhine and Rhone, the Danube was turned into a modern waterway for trade and travel. This became possible thanks to the technical development of steam shipping and the large-scale regulation works undertaken on these rivers. Typically, such regulations and the subsequent reorganization of traffic involved several international actors. Therefore, scholars identified this as the beginnings of modern international cooperation not only among states and politicians, but also among communities of experts. Similarly, turning the Danube into a modern waterway involved state actors such as the European Powers and the riparian states, and also nascent international institutions such as the European Danube Commission, as well as private actors such as transport enterprises and engineers. While previous research has stressed this international perspective,[2] this article focuses on the Ottoman role in planning and constructing the new infrastructures, which was an important aspect of the general geopolitical transformation of the region. More precisely, it will examine the Ottoman position on the regulation works at the Iron Gate in the 1830s, and the various regulations in the delta in the 1860s, and will finally turn to the Danube Province in which the

[1] Hayrullah Efendi, *Avrupa Seyahatnamesi*, transl. Belkıs Altuniş-Gürsoy (Ankara: T.C. Kültür Bakanlığı, 2002); Ömer Faruk Akün, "Hayrullah Efendi," *Türkiye Diyanet Vakfı İslâm Ansiklopedisi* 17, 67–75.

[2] Starting with Edward Krehbiel, "The European Commission of the Danube: An Experiment in International Administration," *Political Science Quarterly* 33 (1918) to Luminita Gatejel, "Imperial Cooperation at the Margins of Europe: The European Commission of the Danube, 1856–65," *European Review of History/ Revue Européenne d'histoire* 24, no. 5 (2017): 781–800.

Ottomans created a new institutional framework for a more systematic modernization of infrastructures.

In this article, the Lower Danube region serves as an example of a space of interaction, exchange, and mobility in the context of Transottoman connections with Eastern Europe.[3] In particular, it seeks to demonstrate the transformative role of new technologies and the modernization of transport infrastructures on the river and in the region during the second half of the nineteenth century. I argue that during this time Transottoman connections were integrated in and, in the long run, superseded by global connections. This is a process that we can observe by looking at the history of infrastructure, the actors involved in its planning and use, and these actors' interests.

2. The Danube: From Transottoman space to international mobility space

From a geopolitical point of view, the Danube played an important role for the Ottoman state from the beginning of its conquest of the Balkans. We do not have to adopt the rhetoric of a famous German Orientalist who called the river the Ottoman "stream of destiny"[4] in acknowledging this role. In the fourteenth and fifteenth centuries, the river served as the northern border that protected the flank of Ottoman conquests in Southeast Europe. This gradually changed when Walachia on the northern bank became a more or less stable Ottoman vassal from the early fifteenth century and the empire directly occupied the Danube Delta and the region north of it, the Bucak. After the conquest of Hungary in the first half of the sixteenth century, the Ottomans directly controlled an even larger part of the river.

Two important land routes connected the Ottoman capital with the Danube and the lands north and east of it. These were centrally maintained connections that had an important military function but also were used by merchants and others for transregional trade and travel.[5] To the west, this

[3] Stefan Rohdewald, Stephan Conermann, and Albrecht Fuess, eds., *Transottomanica – Osteuropäisch-osmanisch-persische Mobilitätsdynamiken* (Göttingen: V&R unipress); Florian Riedler and Stefan Rohdewald, "Migration and Mobility in a Transottoman Context," *Radovi* 51, no. 1 (2019): 37–55.

[4] Franz Babinger, "Die Donau als Schicksalsstrom des Osmanenreiches," *Südosteuropa-Jahrbuch* 5 (1961): 15–25.

[5] Yusuf Halaçoğlu, *Osmanlılarda Ulaşım ve Haberleşme (Menziller)* (Istanbul: İlgi Kültür Sanat Yayıncılık, 2014).

was the Belgrade road, which formed the spine of a region called the Middle Corridor (*orta kol*) in Ottoman administrative parlance, a region where the power of the center was particularly strong.[6] In Belgrade, travelers could cross the Danube by ferry for the road to Temeşvar (Timişoara), from where there were connections to Transylvania. Alternatively, from Belgrade the road continued along the right bank of the river, and headed in a northwesterly direction to reach Budin (Buda) via Ösek (Osijek).[7]

The road connection from Istanbul to the mouth of the Danube and beyond established the Right Corridor (*sağ kol*). It ran parallel to the Black Sea coast, but moved inland, and crossed the Danube at Tulçı (Tulcea), the main city of the Dobruja region, or alternatively a little to the west at İsakça (Isaccea), the nearby fortress at which the river was so shallow that it could be forded at certain periods. Beyond the river, the route went via Akkerman (Bilhorod) at the mouth of the Dniester to its ultimate destination Özi (Očakiv), an important fortress at the mouth of the Dnieper. An alternative route began at Tulçı, which connected the empire to its northern neighbors, such as Walachia, Moldavia and Poland–Lithuania, and led via Iaşi and Hotin to Lviv. In the sixteenth and seventeenth centuries, Oriental textiles, weapons and other luxury goods were traded along this route to Poland, in which they played an important role in the self-representation of the Polish nobility.[8]

As a waterway, the Danube was not only a border and an obstacle for people and goods on their way to the north, but also a connection in its own right. Traditionally, the Ottomans used it to ship Walachian grain via the Lower Danube to Istanbul and, until the first half of the sixteenth century, this part of the river was also integrated into the trade route that brought Oriental goods, such as spices, silk, and cotton cloth via

[6] Florian Riedler, "'Orta Kol' als osmanischer Mobilitätsraum: Eine transregionale Perspektive auf die Geschichte Südosteuropas," in *Jenseits etablierter Meta-Geographien: Der Nahe Osten und Nordafrika in transregionaler Perspektive*, ed. Steffen Wippel and Andrea Fischer-Tahir (Baden Baden: Nomos, 2018), 131–149.
[7] Olga Zirojević, "Das türkische Straßennetz (Land und Wasserstraßen) auf dem Gebiet der heutigen Vojvodina und Slawoniens," *Acta Historica Academiae Scientiarum Hungaricae* 33, no. 2/4, (1987): 393–403.
[8] Dariusz Kołodziejczyk, "Polish-Ottoman Trade Routes in the Times of Martin Gruneweg," in *Martin Gruneweg (1562–nach 1615): Ein europäischer Lebensweg*, ed. Almut Bues (Wiesbaden: Harrassowitz, 2009), 167–174.

Transylvania to Central Europe. Especially after the conquest of Hungary, provisions for the garrisons were frequently shipped up the Danube.[9]

However, the Ottoman political and military domination of the river from Upper Hungary to the river's mouth, as well as its importance for transport, cannot hide the fact that in the Ottoman period too, the river's function as a pathway for trade and travel always remained precarious. Before its regulation, which began in the nineteenth century, it was very difficult to use the full length of the river because of the hydrological and geological conditions.[10] The Danube Delta as well as the Iron Gate, one of a series of cataracts that mark the border between the Middle and the Lower Danube, were difficult to navigate and impassable during certain seasons when the water level was too low. In winter the river frequently froze, and the accumulating ice made passage impossible for ships. This is the reason why until the nineteenth century all bridges across the Danube were temporary pontoon bridges that were seasonally disassembled. Because of these factors that restricted traffic and transport on the river, roads that ran along the river or crossed it were just as important for ensuring mobility of people and goods.

These natural conditions still proved an obstacle to trade and transport, when the geopolitical and economic conditions began to change from the eighteenth century. To the west, the Habsburgs conquered Hungary and the river between Belgrade and Orşova was established as the border between the two empires. In the economic treaty of 1718, the Austrians acquired the right of free navigation on the Danube as far as Rusçuk; for the rest of the journey down the Danube and on the Black Sea they had to hire Ottoman ships. But although general trade between the Ottoman Balkans and Central Europe was increasing, most goods were still transported along the above-described land routes. For Ottoman exports to Central Europe, the river was even less attractive, as the upstream journey was difficult.[11] Only toward the end of the century did Habsburg merchants conduct a series of commercial expeditions that used the Danube as a route to establish a link to the Crimea and the northern Black Sea coast. However, because the state's support of such expeditions

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[9] Halil Inalcik, *An Economic and Social History of the Ottoman Empire*, vol. 1, *1300–1600* (Cambridge: Cambridge University Press, 1994), 295–311.
[10] W.G. East, "The Danube Route-Way in History," *Economica* 37 (1932): 321–345.
[11] Numan Elibol and Abdullah Mesud Küçükkalay, "Implementation of the Commercial Treaty of Passarowitz and the Austrian Merchants, 1720–1750," in *The Peace of Passarowitz, 1718*, ed. Charles W. Ingrao, Nikola Samardžić, and Jovan Pesalj (West Lafayette: Purdue University Press, 2011), 159–178.

soon ceased, they did not transform the Danube into a permanent trade route in contrast to the maritime route from Trieste, which became very successful.[12]

The Black Sea became an attractive goal for trade expeditions from the Habsburg Empire, and also from France, after Russia had conquered the Crimea and the northern Black Sea coast between 1774 and 1792. The geopolitical and economic position of the Black Sea changed, alongside that of the Lower Danube. From the northern Black Sea coast, Russian expansion continued toward the Danube, which became a zone of contact and conflict between the Ottoman and the Russian Empires. The northern branch of the Danube Delta became the border between the two empires after the war of 1806–12 when Bessarabia together with the Bucak were conquered by Russia. Subsequently, Russia gained control over the entire delta in the Treaty of Adrianople after the war of 1828–29.

Together with this territorial expansion, Russia gained the right to trade on the Black Sea. After 1774, the Ottomans had to tolerate the free navigation of Russian merchant ships – a privilege that was soon extended to other European states. This stimulated grain exports from the Russian Black Sea provinces through its main port Odessa to Western Europe and particularly to Britain. These exports reached significant quantities during the Napoleonic Wars and continued to grow in the postwar period. They were completed by Greek merchants, originally Ottoman subjects, whose trading and shipping companies rested on wide-reaching family networks, and who transformed the Black Sea from a Transottoman space to a space of global connections.

The Danube's importance as a route for trade grew, when, in the 1829 Treaty of Adrianople, Walachia and Moldavia gained freedom of trade, while still remaining vassals of the Ottoman Empire. The same treaty opened the Danube for ships of all nations. Grain from Walachia and Moldavia was exported through the river ports of Galaţi and Brăila, located to the west of the delta. Under normal conditions, these ports could be reached by seagoing ships that enter the delta from the Black Sea. However, because of continual silting this became increasingly difficult during the first half of the nineteenth century.

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[12] Hans Halm, *Habsburgischer Osthandel im 18. Jahrhundert: Donauhandel und -schiffahrt 1781–1787* (Munich: Isar, 1954); Manfred Sauer, "Österreich und die Sulina-Frage (1829–1854)," *Mitteilungen des Österreichischen Staatsarchivs* 40 (1987): 199–206.

Austrian economic interests created a similar entanglement of river regulation and politics on the western limits of the Lower Danube. Here, the introduction of a new technology to the river, steam shipping, was decisive. In 1829, with the founding of the Donau-Dampfschiffahrts-Gesellschaft (DDSG) in Vienna, waterborne traffic became more reliable and profitable. First, the DDSG served the inner-Austrian route from Vienna to Semlin, the border city of the Austrian Empire near Belgrade, but by 1834 it was able to extend its service to Galaţi and ultimately to Istanbul. The precondition for this connection becoming quicker was regulation works at the Danube cataracts.

The following section will examine the role of the Ottoman state and its politicians in regulating the Danube, triggered by the growing trade opportunities. First, we will consider the regulation of the Danube cataracts and especially of the Iron Gate initiated by Austria, which resulted in the destruction of some of the underwater rocks from 1833 onward. In a second step, we will turn to the mouth of the Danube at which a canal was planned but not realized, although the European Commission of the Danube was successful in clearing the delta's sandbanks.

3. Regulation works at the Iron Gate

For the DDSG steamers, just as for all the other ships that had traveled on the Danube previously, the Danube gorges with the river's series of cataracts located approximately halfway between Belgrade and Vidin posed a serious obstacle. Of these, the last of the cataracts between Orşova and Turnu Severin, commonly called Iron Gate or Demirkapı Girdabı by the Ottomans, was considered the most dangerous. This was because here the river valley became wider, and the water level fell to such a low level that underwater rocks reached close to the surface and prevented the passage of ships altogether when the water level was low.

In the seventeenth and eighteenth centuries, the Ottomans named an official called *girdap ağası* whose role was to supervise the cataracts and help ships to pass through them safely. They were partly unloaded, their cargo was transferred to special boats with a flat bottom and a shallow draft, or transported by land, and local pilots steered the unloaded ships and the boats with their cargoes through the difficult passages. In addition, land crews tried to keep the ships away from the rocks with ropes. When going upriver these crews, which were recruited from local Christians,

towed the ships against the stream. For this service, the passing ships had to pay a fee, but were insured in case of an accident.[13]

The idea of easing this difficult passage through the cataracts was discussed in Austria immediately after the introduction of steamers to the river. Not only the steam-ship company but also the government – many politicians and members of the court were also shareholders – saw the potential of the Danube as a transregional route for trade and traffic. Chancellor Metternich was interested in promoting Austrian trade with Southeast Europe, and through him the plan to make the Danube more viable received support from the highest echelons of government.[14]

In 1830, Istvan Széchenyi, a Hungarian nobleman and politician, prepared an expedition to explore the possibilities of exporting Hungarian grain to Southern Europe via the Danube. Initially, he was skeptical and stated that "for us, the Danube flows in the wrong direction, and at its mouth it does not belong to us, but to others." His expedition with a ship built for this purpose in Buda was a private initiative, but coordinated with the government. According to Széchenyi's diary, the Iron Gate posed no problem for the ship; however, during the rest of the journey he was sick with malaria from which he was only able to recover after reaching Istanbul. On his way home, he preferred to take the land route, which took him 20 days from Istanbul to Belgrade.[15]

Széchenyi was a conservative reformer who wanted to stimulate Hungary's trade and economy, but also the country's transport infrastructure, by modernizing feudal laws and institutions. Many of his projects were based around the Danube, e.g., the construction of the first permanent bridge between Buda and Pest and the construction of a shipyard in Buda. Consequently, he also advocated the idea of regulating the Danube cataracts either by blowing up the rocks in the river or by bypassing them by building a canal inside the bed of the Danube, which would have enough draft all year round. Additionally, a road running along its northern shore all along the canyon was planned. In 1833, he was nominated president of the Danube Commission and, in this capacity, mostly addressed the project's political tasks such as liaising with the

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[13] M. Emre Kılıçaslan, "XVIII. Yüzyılda Tuna Demirkapısı ve Girdaplar İdaresi," *Karadeniz Araştırmaları* 25 (2010): 59–76.
[14] Miroslav Šedivý, "From Hostility to Cooperation? Austria, Russia and the Danubian Principalities, 1829–40," *The Slavonic and East European Review* 89, no. 4 (2011): 646–650.
[15] Andreas Oplatka, *Graf Stephan Széchenyi: Der Mann, der Ungarn schuf* (Vienna: Zsolnay, 2004): 190–198.

different bodies of the Austrian government and the local foreign authorities of Walachia, Serbia, and the Ottoman Empire. The Hungarian civil engineer Pál Vásárhelyi planned and executed the actual regulation works. On an extended trip through Europe, both sought the advice of other experts and thus linked the project up with the nascent community of hydraulic engineers. Among others, they met with the Russian diplomat Pëtr Mejendorf who was undertaking a very similar fact-finding mission to Széchenyi's, aimed at the regulation of the Dnieper rapids.[16] This shows that the region's geopolitical and economic restructuring went hand-in-hand and was supported by an attempt to open new routes for modern transport infrastructures.

While the regulation on this part of the Danube was an Austrian initiative, it involved a host of other international actors, because of the location of the cataracts. In a pioneering article Luminita Gatejel has pointed to the conflicts at the different administrative levels and between political entities, e.g., on the Austrian side between the central government and that of Hungary.[17] The same was true for the Ottoman side where the two dependent countries, Serbia and Walachia – the latter still under Russian occupation at that time – and the Ottoman central government had divergent positions regarding the regulation. In 1833, when the engineers realized that they could not survey the river properly from the Austrian shore of the Danube alone, and therefore wanted to cross over to the Ottoman side, they were stopped by the Ottoman authorities. While the local commander of the Ottoman fortress on the Danube island Ada Kale opposite Orşova was open to the Austrian project, the central government was hesitant. Still, the Austrian engineers were able to carry out some of the works on the Ottoman side. They even blasted some of the rocks in the riverbed, probably with the tacit agreement of the local pasha.[18] But to resume their work in full, they had to wait a full year until the Porte (i.e., the Ottoman central government) gave its permission. The frustration ran high, especially with the Austrian ambassador in Istanbul. He reported to Vienna that the Ottoman side had told him that removing the rocks from the Danube was against God's will. It is particularly odd that he ascribed this view to Pertev Efendi, the Ottoman minister of the interior and early representative and sponsor of the reform movement. In

[16] Luminita Gatejel, "Overcoming the Iron Gates: Austrian Transport and River Regulation on the Lower Danube, 1830s–1840s," *Central European History* 49, no. 2 (2016): 172–174.
[17] Gatejel, "Iron Gates," 168–172.
[18] The Pasha of Vidin's report to Istanbul would give valuable hints as to his view of the situation. Unfortunately, I have not been able to see the respective document in the Ottoman Archive, Istanbul, HAT 1200/47107 dated AH 1249 (=1833/1834).

hindsight, it is hard to tell who was fooling whom with this story, if it were not an outright invention of the Austrian ambassador. Other reports seem more reasonable, which state that the Ottoman government did not subscribe to the Austrian argumentation that the works would be economically beneficial for all, but rather saw the matter from a military point of view, and feared that a warship could sail down the river just as easily as an Austrian passenger ship once all obstacles were removed. However, when the Austrians asked the Russians for support in the matter of the Iron Gate, at the very end of 1834 the Ottomans gave their consent to continue the works.[19]

For the Ottoman government, this cautious cooperation paid off in several respects. It would be seen as doing Russia a favor, its principal ally against Mehmed Ali, the ruler of Egypt who threatened the Ottoman position in Syria. At the same time, as it turned out, also after the regulation, the Iron Gate remained a formidable obstacle. Vásárhelyi was able to blow a small passage through the cataracts, through which the Austrian steamers could pass. But this was possible only when the water level was high enough. Like Hayrullah Efendi, who traveled up the Danube to Vienna in the 1860s, passengers usually had to change at Orşova from one steamer that operated on the Upper Danube, to the other on the Lower Danube. Under these conditions, not only were special boats used, but the new road on the left bank of the Danube also proved very important for the transport of passengers and goods from one ship to the other.[20] In the decades following the first regulation of 1834, there were several plans to make the Iron Gate passable for big steamers too; but only in the 1890s this was finally achieved by blowing up the last rocks and building a dam in the riverbed, which separated a bypass channel.[21]

The regulation of the Iron Gate has been retold here in detail, because it happened at a time when Ottoman statesmen began to adopt a modern understanding of infrastructure and because it opened the door to a string of projects in this field. In the 1830s, the sultan's policy of asserting his own role and that of the central state against political rivals such as provincial power holders as well as the Janissaries, as representatives of the traditional military, had finally been successful. The Ottoman civil bureaucracy emerged as the leading group to shape the empire's future

[19] Šedivý, "Hostility," 648–650.
[20] Hayrullah, *Seyahatname*, 18.
[21] G. Luther, *Die Regulierung der Katarakte in der unteren Donau (Eisernes Thor)* (Braunschweig: Meyer, 1893).

political structure. Together with a new understanding of political authority, and the practical functioning of government, this group also promoted new economic policies in which the modernization of the country's infrastructure played an important role. In his writings, one of the leading politicians from the civil bureaucracy, Mehmed Sadık Rifat Pasha (1807–1858), advocated state investment in roads so as to give the population the opportunity for economic development. As an Ottoman ambassador to Vienna from 1837 to 1839, he was influenced by cameralist ideas about economic development, which were similar to those held by Széchenyi. In the 1840s, as president of the Supreme Council (Meclis-i Vala), a new institution in the central administration, as an official in the Ministry of Public Works (Nafia Nezareti), and as member of the Reform Council (Meclis-i Tanzimat), Sadık Rifat decided on and oversaw many infrastructure projects. These mostly concerned the empire's main road connections, to which railroads were added only in the 1850s. Another newly created institution, the Ministry of Trade and Public Works, was also responsible for the regulation of rivers. In the 1856 reform decree, the sultan even declared the construction of roads and canals a state goal.[22]

To sum up, from the 1830s to the end of the century, alongside changing understandings of political authority and legitimacy, infrastructural development became an important state goal. As a result of the Ottoman politicians' adoption of a modern understanding of infrastructure and infrastructural governance, the Ottoman Empire was increasingly involved in international infrastructure projects as the next section will demonstrate.

4. Regulation of the Danube Delta

The idea of regulating the mouth of the Danube arose at approximately the same time as the regulation of the cataracts, but initial steps were taken later because here the political situation was even more complicated. The 1829 Treaty of Adrianople had given Russia the entire Danube Delta including the Sulina (Sünne) river branch, the only one through which seagoing ships could pass relatively easily. Almost immediately, Austria and Britain, the two main trading nations on the Danube, began to blame the Russian authorities for having taken

[22] Ali Akyıldız, "Sâdık Rifat Paşa," *Türkiye Diyanet Vakfı İslâm Ansiklopedisi* 35, 400–401; Florian Riedler, "Crossroads Edirne: Building Modern Infrastructures on Ancient Routes," in *The Heritage of Edirne in Ottoman and Turkish Times: Continuities, Disruptions and Reconnections*, ed. Birgit Krawietz and Florian Riedler (Berlin: DeGruyter, 2020), 438–446.

advantage of the situation by hindering the free passage of merchant ships, which the treaty guaranteed. According to these allegations, the Russian authorities took illegal fees, implemented quarantine in an excessive manner and, most importantly, neglected the river channel's maintenance. The situation was negatively compared with the period before, when the Ottoman authorities had dredged the channel regularly. Despite the Russians' pragmatic attitude in allowing a dredging ship to operate, the situation did not change fundamentally until the Crimean War.[23]

The diplomats and merchants who objected to the Russian possession of the delta also looked for other solutions. One involved cooperation with the Ottoman Empire to a much higher degree than had been present with the cautious works at the Iron Gate: this was the project of building a canal from the Danube to the Black Sea through the Dobruja region, which bypassed the delta in the south. Apparently, by the 1830s merchants in Hungary had discussed such a solution. In 1837, the British Foreign Office sent a fact-finding mission to the region, and also the Ottoman government, which was negotiating with the DDSG about the possibility of building such a canal, sent a group of officers from the Prussian military mission in Istanbul to Dobruja. Most of the contemporary reports, except for one by an Austrian military engineer, warned of the high costs the building of a canal would incur. Thus, the negotiations ended without any conclusive results, perhaps also because Russian diplomats in Istanbul were working to stop the canal project.[24] Instead, starting from 1840, the DDSG transported luggage and freight by road from Boğazköy (Cernavodă) on the Danube to the Black Sea harbor Köstence (Constanţa), in order to bypass the delta at times when low water prevented shipping.[25]

The canal plan was back on the agenda when political tensions between the Ottoman Empire and Russia mounted at the beginning of the 1850s. On this occasion it was also supported by Romanian reformers and intellectuals, such as Ion Ionescu (1818–1891) and Ion Ghica (1816–1897), who were residing in Istanbul after the failed 1848 revolution.[26] Together

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[23] Sauer, "Sulina-Frage," 185–196.

[24] Constantin Ardeleanu, *International Trade and Diplomacy at the Lower Danube: The Sulina Question and the Economic Premises of the Crimean War (1829–1853)* (Braila: Editura Istros, 2014), 185–190.

[25] *Vereinigte Ofener-Pester Zeitung* (8 March 1840): 190.

[26] Mihail P. Guboğlu, "Boğazköy-Köstence Arasında İlk Demiryolu İnşası (1855-1860)," in *Çağını Yakalayan Osmanlı! Osmanlı Devleti'nde Modern Haberleşme ve Ulaştırma Teknikleri*, ed. Ekmeleddin İhsanoğlu and Mustafa Kaçar (Istanbul: İslam Tarih Sanat ve Kültür Araştırma Merkezi, 1995), 221–223.

with other options such as different railway schemes, the Ottoman council of ministers discussed the canal once again, as did a commission in the Ministry of Trade. The various councils and ministries – particularly the Supreme Council (Meclis-i Vala) and the Council of Reforms (Meclis-i Tanzimat), which had been founded in the 1840s and 1850s, offered the institutional framework to discuss and take decisions on the modernization of infrastructure.[27]

In his article, Erdoğan Keleş presents in detail the negotiations of these institutions with foreign engineers and investors, with both sides now reproducing the discourse of economic development. Especially British engineers, some of whom came to the country during the Crimean War, were submitting such projects. The legal instrument needed to realize them was a concession, which gave a company the right to build and run a certain infrastructure. Such concessions were often awarded for a long period, e.g., for 99 years, after which the infrastructures would fall to the Ottoman state. Construction costs were usually shared between the company side and the Ottoman side; the latter often also granted land, provided labor, or both. The company usually retained profits, and in some concessions, the Ottoman state even guaranteed a certain annual profit in case of losses.

In the case of the Danube–Black Sea canal, the Ottoman administration was presented with no less than three project proposals between 1853 and 1855, some of which also included a railway line.[28] Finally, in 1856, after complicated negotiations, a company founded by a group of English, French, and Austrian investors won the concession to build the Abdülmecid Canal (Mecdiye Cedveli), named after the sultan. The canal was advertised as benefiting mainly the Ottoman lands along the Danube and rescuing them from the Russian economic stranglehold at the mouth of the Danube. Also, the fact that Sadık Rifat Pasha – one of the company's founders on the Ottoman side – was to receive a total of three percent of the company's annual profits may explain why this group was given the concession.[29]

However, as with many other infrastructure projects, the Abdülmecid Canal was never built, despite a company having been founded, a

[27] Erdoğan Keleş, "Sultan Abdülmecid Döneminde (1839–1861) Tuna-Karadeniz Arasında Kanal Açma Teşebbüsü," *Çanakkale Araştırmaları Türk Yıllığı* 16, no. 25 (2018): 174–175.
[28] Keleş, "Kanal," 177–191.
[29] Ibid., 193.

concession issued, and the Ottoman government having begun the expropriation of the land along the planned course of the canal. The reason for this was that a little while after the canal concession had been granted, the British investors in particular wanted to change it into a railway concession. They had to renegotiate and were successful in obtaining a concession for a railway linking the Danube to the Black Sea along the same route and the construction of a new harbor at Köstence. The railway concession's stipulations were more favorable to the Ottoman side. The railway company immediately started construction and was able to open the line, which Hayrullah used on his way to Vienna two and a half years later in October 1860, as the first railway in Ottoman Europe. For John Trevor Barkley, the leading engineer of the project, it was a successful start to his career. Together with his three brothers, he built or planned a number of other railways in the Danube region such as the Rusçuk–Varna line and the Giurgiu–Bucharest line.[30]

The history of the planning of the canal and railway is indicative of the entwined nature of transport infrastructures. Water and land transport cannot be assessed in isolation, but for travelers and goods both are combined on larger routes.

The failing canal project was not only substituted by the railway line, but also by the improvement of shipping in the Danube Delta, which made it redundant. The Russian defeat in the Crimean War (1853–1856) offered the opportunity for an experiment that combined infrastructure development with the river's internationalization, following the example of the Rhine after the Congress of Vienna. While the right to free shipping on the river was maintained, the Russians had to cede the delta to the Ottoman Empire. Moreover, the seven states involved in the war (Britain, France, the Ottoman Empire, Piedmont, Prussia and Russia) together formed the European Commission of the Danube (ECD), which was charged with implementing measures to ensure passage through the delta. Originally envisaged for just two years, the commission was continued because the regulation proved complicated. While the chief engineer proposed turning the southernmost branch of the Danube into the main shipping canal, provisional works – which had begun at the middle Sulina branch – ultimately proved successful. It was possible to raise the water level with two dams that were completed at the beginning of the 1860s

[30] J.H. Jensen and Gerhard Rosegger, "British Railway Builders along the Lower Danube, 1856–1869," *The Slavonic and East European Review* 46, no. 106 (1968): 105–128; Keleş, "Kanal," 198–200; also cf. Boriana Antonova-Goleva's article in this issue.

leading into the sea, and so even large ships could pass the sandbanks at the mouth of the river most of the time. By 1817, an Ottoman fortress engineer had proposed a very similar solution, but his plan was never implemented.[31] Until the First World War, the ECD continued overseeing traffic and infrastructure development in the delta. It was one of the first international expert commissions that became an example for similar forms of cooperation among experts.[32]

Ottoman participation in the commission was characterized by a fundamental dilemma. On the one hand, the Ottoman state wanted to assert its territorial rights over the delta that it had just won back from Russia. Therefore, it insisted that the Ottoman delegate, Ömer Fevzi Pasha, a general who had spent some time in Vienna for his education, acted as president of the commission. For the same reason, it was also keen to see the commission come to an end after two years and its tasks be taken on by a commission of the riparian states, which existed in parallel. On the other hand, the commission offered an arena in which the Ottoman state could participate in the "European Concert," to which it had been formally admitted by the Paris Peace Treaty at the end of the Crimean War. Moreover, Ottoman officials had a good understanding of the economic advantages that the regulation works in the delta would give to their country, especially as concerns the export of grain from the Danubian lowland. Therefore, the Ottomans continued to work in the ECD, offered a loan so that it could start the works and provided material support in the form of building material.[33]

Furthermore, the abovementioned commission of the riparian states (Württemberg, Bavaria, Austria, the Ottoman Empire with two additional delegates for Serbia and Walachia), offered another arena of international cooperation. In 1871, Austria and the Ottoman Empire, as the principal members of this commission, collaborated on a new plan for the regulation of the Iron Gate. However, this regulation was never implemented, because the Ottoman Empire ceased to be a riparian state after 1878.[34]

Even Hayrullah Efendi's tourist guide broached these issues of international prestige with its readers: "Because most of the places the

[31] İlhan Ekinci, "Tuna Komisyonu ve Tuna'da Ticaret (1856–1883)" (PhD diss., Samsun, Ondokuz Mayıs Üniversitesi, 1998): 19–20.
[32] Gatejel, "Imperial Cooperation."
[33] Ekinci, "Tuna Komisyonu," 120–155.
[34] Ibid., 176–179.

Danube crosses from its source to its mouth belong to the Ottoman Empire, the presidency of the commission founded by the states along its shores should have belonged to the Ottoman state [...] In fact, I am very interested in the question of how to profit from the Danube (and therefore I have thought a lot about it)."[35] It is possible that Hayrullah, who started his career in the Ottoman Imperial Medical School and later became its director before being employed in other government councils, even had firsthand professional experience of this question.

In the above examples concerning the regulation of the Danube Delta, the Ottoman Empire mostly played the role of a cooperation partner either with international investors or the European Powers. However, in the Lower Danube region it also experimented with a new approach to developing its own territory in order to reinvent itself as a modern infrastructure state. This approach was spearheaded in the Danube Province, which was founded in 1864.

5. The Ottoman Danube Province

The Danube Province (Tuna vilayeti) in many respects grew out of the logic of the Tanzimat, i.e., the reform program that the Ottoman administration had proclaimed in 1839. The new province was an instrument of centralization, because it united several smaller provinces under one governor who answered to the authority of Ottoman central government. At the same time, the councils that were created on its various administrative levels opened a way for better representation of the local population, which was mostly Christian. Thus, these councils can also be seen as an Ottoman-government instrument in fighting nationalism in the Balkans.[36]

Besides this administrative logic, the new provincial administration – tested on the Danube and later exported to other parts of the empire – was also to implement the economic goals of the Tanzimat. While in the 1840s

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[35] Hayrullah, *Seyahatname*, 16–17: "İşbu Tuna nehirinin menba'ından munsabbına kadar dolaştığı yerlerin a'zam-ı kıt'ası memâlik-i devlet-i Osmaniyye dâhilinde olmakla, nehrin idaresine Tuna etrafında bulunan devletler taraflarından bir komisyon teşkil olunmuş olsa riyaseti devlet-i Osmaniyye'nin hükmünde olmak lâzım gelir iken, [...]. Zira Tuna'dan istifade etmek maddesi benim ziyadesiyle heves eyeldiğim bir madde(dir) (olduğundan bu bâbda pek ziyade sarf-ı efkâr onlunmuştur.)"

[36] Roderic H. Davison, *Reform in the Ottoman Empire, 1856–1876* (Princeton: Princeton University Press, 1963): 142–159; İlber Ortaylı, *Tanzimattan Cumhuriyete Yerel Yönetim Geleneği* (Istanbul: Hil, 1985): 56–61.

infrastructure projects were mostly restricted to modernizing important road connections from ports to the hinterland, in the 1860s the Ottoman administration tried to spread and deepen these measures. In 1861, Midhat Pasha, an official in the central administration, was appointed as governor of the province of Niş (Niš) at the border to Serbia. He started a modernization program of the road network and the transport system there by founding a coach company, which linked the border city to Sofia and Filibe (Plovdiv). Under Midhat's governorship, urban infrastructures were also overhauled and he tried to strengthen the local economy by founding vocational schools for orphans (*Islahane*) and a local fund (*memleket sandığı*) that gave credit to farmers at moderate rates of interest.[37]

To develop this new approach to provincial administration, in 1864 the Danube Province was formed by combining the smaller provinces of Niş, Sofia, Vidin, and Silistre and appointing Midhat as its governor. Thus, the province comprised the whole Ottoman shore of the Danube from the delta to the Iron Gate at the Serbian–Ottoman border and the lowland as far as the Balkan mountain range. The only part of the new province not linked to the Lower Danube was Niš, and consequently it was separated a few years later in a territorial reform.

As governor of this exceptionally large province, Midhat continued the program he had earlier pursued. Apparently more than 3,000 kilometers of new roads and around 1,400 bridges over smaller rivers were built during his three and a half years in office. A coach company ensured a connection between the province's capital Rusçuk (Ruse) and the inland cities in which new streets, markets, prisons, barracks, and other official buildings were constructed. In 1866, a railway line that connected the provincial capital with Varna on the Black Sea was opened, which had been planned and built by the engineers who had also built the Boğazköy–Köstence line. Apparently, Midhat also planned other lines, e.g., one from Plevna (Pleven) to Niğbolu (Nikopol), which included a new Danube port to be called Sultaniye. However, this project was not pursued further under Midhat's successors.[38]

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[37] Nejat Göyünç, "Midhat Paşa'nın Niş Valiliği Hakkında Notlar ve Belgeler," *Tarih Enstitüsü Dergisi* 12 (1982): 279–316.

[38] Milen V. Petrov, "Tanzimat for the Countryside: Midhat Paşa and the Vilayet of Danube, 1864–1868" (PhD diss., Princeton, 2006), 111–133; Felix Kanitz, *Donau-Bulgarien und der Balkan: Historisch-Geographisch-Ethnographische Reisestudien aus den Jahren 1860–1879*, sec. ed. (Leipzig: Benger, 1882), 2:67.

While the railroad construction was still organized through the model of a concession owned by a foreign company, the provincial government could plan and build its roads by relying entirely on its own resources. Local peasants were obliged by law to do the heavy earthmoving labor. The first Ottoman provincial newspaper, the bilingual *Tuna/Dunav*, published in Rusçuk by the provincial government, publicly justified this measure with the argument that peasants would profit most from better roads.[39] For the planning and supervision of the works, the Danube Province employed its own engineers. In addition to Ottoman engineers, it could also rely on a group of Polish engineers who had gained asylum in the Ottoman Empire after the failed revolution of 1863.[40] As with Hungarian political refugees after the failed revolution of 1848, it was the political neutrality of the Ottoman Empire that made it a convenient place of exile. At the same time, it demanded skilled workers and had a long tradition of integrating foreign experts.

Because the province stretched all along the Danube from Vidin to the delta, the river as a waterway also played a role in Midhat's development plans. Before, only the Ottoman Navy had attempted to operate ships on the Danube, but their draft proved too large to effectively run when the water level was low. Therefore, as with the coach company, a steamboat company, the İdare-i Nehriye, was established by the Danube Province administration. In addition, for a few years a private Ottoman company owned by two Bulgarians also operated with one ship on the river. In parallel, the wharf of the provincial capital Rusçuk as well as the ports of the other cities on the river were modernized. By the 1870s up to seven smaller steamboats had been purchased from England and Austria and were used for military as well as civilian purposes. They were never serious competition for the DDSG service, but they made the Ottoman administration more independent. Most importantly these boats served between Rusçuk and the Romanian side at Giurgiu. In this way, they established a missing link for the Orient Express from Paris to Istanbul, which ran via Vienna, Pest, and Bucharest to Giurgiu, from where passengers used the Rusçuk–Varna railroad, before continuing by steamer to Istanbul.[41]

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[39] Petrov, "Tanzimat", 134-139.

[40] These were the engineers Karol Brzozowski, Gavronijski, and Menejko, cf. Ortaylı, *Yerel Yönetim*, 57 and Kanitz, *Donau-Bulgarien*, passim. A certain Zagorski Efendi was the acting president of the commission of public works (*nafia komisyonu*) of the province; cf. *Salname-i Vilayet-i Tuna* 1 (1285): 25.

[41] Ekinci, "Tuna Komisyonu," 75–93.

In the Russian–Ottoman war of 1877–1878 the Ottomans lost the Danube Province and the river became the border between the newly independent states of Serbia, Romania, and Bulgaria. Only Ada Kale was forgotten in this territorial reorganization, and it remained an Ottoman enclave until the end of the empire in 1923. Most of the ships of the Ottoman Danube fleet had been sunk by their captains to prevent them from falling into Russian hands. After the war, only a few could be recovered and began to serve in Izmir.[42]

6. Conclusion

For the Ottomans, the Danube served as a border, but also as a means of communication and transport, although these functions were restricted by the river's prevailing natural conditions. Especially the Lower Danube was a connecting region between the Ottoman Empire and its northern neighbors such as the tributary states of Transylvania, Walachia, and Moldavia as well as Poland–Lithuania and Russia. Because of the geopolitical, economic, and technological developments of the eighteenth and nineteenth century, these older Transottoman connections with Central and Eastern Europe were increasingly substituted by global ones. Typically, for Hayrullah the Danube was a path to Central Europe as the gate to the West. After 1878, the Danube even lost this function, when in 1888 the direct rail link from Istanbul via Belgrade to Vienna was completed.

The infrastructures that were planned and constructed in the Danube region to connect it with the wider world were heavily dependent on European capital and know-how. But, as a state bordering the river, the Ottoman Empire had to be involved in the planning and construction. In the Danube Province it developed a framework and a testing ground for an independent infrastructure policy. Because the other states and political entities in the region were in a similar condition, we can witness numerous instances of cooperation and exchange of knowledge and personnel in the field of infrastructure development. These continued the older forms of Transottoman exchanges, which were now integrated in larger, global circuits.

On a larger level, the Danube played an important role in the formation of an ideology of infrastructure and its implementation in the form of modern infrastructural governance. As much as it provides

[42] Ibid., 92–93.

practical information for travelers, Hayrullah Efendi's *Travel Book* also offers a good example of this ideology.[43] In general, it celebrates European achievements in culture, education, and wealth, and illustrates the overall goal of the Tanzimat. In practical terms, traveling to Europe means studying the development model for the Ottoman Empire. In his conclusion, Hayrullah also offers his readers a method for how to deal with the obvious discrepancies between progress abroad and backwardness at home. Anger and frustration are understandable, says the author, but not a productive way forward. Instead, Hayrullah reminds his readers that even in Europe the achievements of that time stand at the end of a long process, and he stresses what had already been achieved during the process of Ottoman reform. First, he enumerates the promises of the Tanzimat, the freedom of possession, life, and honor. But, as if sensing the emptiness of these slogans he continues to give more material proof of progress in the Ottoman Empire:

> Did they not start three years ago to build railways in your country, the Ottoman Empire, like in Europe, where they simplified traveling and the transport of goods? And did they not also for ten years extend telegraph lines in all parts of the empire, which ten years ago amazed you by conveying news from the whole world in an instant. And similarly, did they not also found new factories and steam companies, which are the result of security and trade, in your fatherland, the Turkish land?[44]

This list of achievements demonstrates the central position that real material progress in the field of transport infrastructure and the economy had acquired. And, as Hayrullah's own travels show, the Danube was an important area in which such progress became manifest.

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[43] Caspar Hillebrand, "Narrative Strategien der Autor-Leser-Identifikation in Vor- und Nachwort von Hayrullah Efendis Europareisebericht (1863/64)," in *'Wenn einer eine Reise tut, hat er was zu erzählen': Präfiguration – Konfiguration – Refiguration in muslimischen Reiseberichten*, ed. Bekim Agai and Stephan Conermann (Berlin: EB-Verlag, 2013), 119–150.
[44] Hayrullah, *Seyahatname*, 190–191.

Bibliography

Akün, Ömer Faruk. "Hayrullah Efendi." *Türkiye Diyanet Vakfı İslâm Ansiklopedisi,* vol. 17, 67-75.

Akyıldız, Ali, "Sâdık Rifat Paşa." *Türkiye Diyanet Vakfı İslâm Ansiklopedisi*, vol. 35, 400-401.

Ardeleanu, Constantin. *International Trade and Diplomacy at the Lower Danube: The Sulina Question and the Economic Premises of the Crimean War (1829–1853)*. Braila: Editura Istros, 2014.

Babinger, Franz. "Die Donau als Schicksalsstrom des Osmanenreiches." *Südosteuropa-Jahrbuch* 5 (1961): 15–25.

Davison, Roderic H., *Reform in the Ottoman Empire, 1856–1876.* Princeton: Princeton University Press, 1963.

East, W.G. "The Danube Route-Way in History." *Economica* 37 (1932): 321–345.

Ekinci, İlhan. "Tuna Komisyonu ve Tuna'da Ticaret (1856–1883)." PhD diss., Samsun, Ondokuz Mayıs Üniversitesi, 1998.

Elibol, Numan and Abdullah Mesud Küçükkalay. "Implementation of the Commercial Treaty of Passarowitz and the Austrian Merchants, 1720–1750." In *The Peace of Passarowitz, 1718*, edited by Charles W. Ingrao, Nikola Samardžić, and Jovan Pesalj, 159–178. West Lafayette: Purdue University Press, 2011.

Gatejel, Luminita. "Imperial Cooperation at the Margins of Europe: The European Commission of the Danube, 1856–65." *European Review of History/Revue Européenne d'histoire* 24, no. 5 (2017): 781–800.

Gatejel, Luminita. "Overcoming the Iron Gates: Austrian Transport and River Regulation on the Lower Danube, 1830s–1840s," *Central European History* 49, no. 2 (2016): 162–180.

Göyünç, Nejat. "Midhat Paşa'nın Niş Valiliği Hakkında Notlar ve Belgeler." *Tarih Enstitüsü Dergisi* 12 (1982): 279–316.

Guboğlu Mihail P. "Boğazköy—Köstence Arasında İlk Demiryolu İnşası (1855—1860)." In *Çağını Yakalayan Osmanlı! Osmanlı Devleti'nde Modern Haberleşme ve Ulaştırma Teknikleri*, edited by Ekmeleddin İhsanoğlu and Mustafa Kaçar, 217–247. Istanbul: İslam Tarih Sanat ve Kültür Araştırma Merkezi, 1995.

Halaçoğlu, Yusuf. *Osmanlılarda Ulaşım ve Haberleşme (Menziller).* Istanbul: İlgi Kültür Sanat Yayıncılık, 2014.

Halm, Hans. *Habsburgischer Osthandel im 18. Jahrhundert: Donauhandel und -schiffahrt 1781–1787.* Munich: Isar, 1954.

Hayrullah Efendi. *Avrupa Seyahatnamesi*, translated by Belkıs Altuniş-Gürsoy. Ankara: T.C. Kültür Bakanlığı, 2002.

Hillebrand, Caspar. "Narrative Strategien der Autor-Leser-Identifikation in Vor- und Nachwort von Hayrullah Efendis Europareisebericht (1863/64)." In *'Wenn einer eine Reise tut, hat er was zu erzählen': Präfiguration – Konfiguration – Refiguration in muslimischen Reiseberichten*, edited by Bekim Agai and Stephan Conermann, 119–150. Berlin: EB-Verlag, 2013

Inalcik, Halil. *An Economic and Social History of the Ottoman Empire*, vol. 1, *1300–1600.* Cambride: Cambridge University Press, 1994.

Jensen, J.H., and Gerhard Rosegger. "British Railway Builders along the Lower Danube, 1856–1869." *The Slavonic and East European Review* 46, no. 106 (1968): 105–128.

Kanitz, Felix. *Donau-Bulgarien und der Balkan: Historisch-Geographisch-Ethnographische Reisestudien aus den Jahren 1860–1879*, sec. ed. Leipzig: Benger, 1882.

Keleş, Erdoğan. "Sultan Abdülmecid Döneminde (1839-1861) Tuna-Karadeniz Arasında Kanal Açma Teşebbüsü." *Çanakkale Araştırmaları Türk Yıllığı* 16, no. 25 (2018): 167–207.

Kılıçaslan, M. Emre. "XVIII. Yüzyılda Tuna Demirkapısı ve Girdaplar İdaresi." *Karadeniz Araştırmaları* 25 (2010): 59–76.

Kołodziejczyk, Dariusz. "Polish-Ottoman Trade Routes in the Times of Martin Gruneweg." In *Martin Gruneweg (1562–nach 1615): Ein*

europäischer Lebensweg, edited by Almut Bues, 167–174. Wiesbaden: Harrassowitz, 2009.

Krehbiel, Edward. "The European Commission of the Danube: An Experiment in International Administration." *Political Science Quarterly* 33 (1918): 38–55.

Luther, G. *Die Regulierung der Katarakte in der unteren Donau (Eisernes Thor).* Braunschweig: Meyer, 1893.

Oplatka, Andreas. *Graf Stephan Széchenyi: Der Mann, der Ungarn schuf.* Vienna: Zsolnay, 2004.

Ortaylı, İlber. *Tanzimattan Cumhuriyete Yerel Yönetim Geleneği.* Istanbul: Hil, 1985.

Petrov, Milen V. "Tanzimat for the Countryside: Midhat Paşa and the Vilayet of Danube, 1864-1868." PhD diss., Princeton, 2006.

Riedler, Florian and Stefan Rohdewald. "Migration and Mobility in a Transottoman Context." *Radovi* 51, no. 1 (2019): 37–55.

Riedler, Florian. "'Orta Kol' als osmanischer Mobilitätsraum: Eine transregionale Perspektive auf die Geschichte Südosteuropas," In *Jenseits etablierter Meta-Geographien: Der Nahe Osten und Nordafrika in transregionaler Perspektive*, edited by Steffen Wippel and Andrea Fischer-Tahir, 131–149. Baden Baden: Nomos, 2018.

Riedler, Florian. "Crossroads Edirne: Building Modern Infrastructures on Ancient Routes." In *The Heritage of Edirne in Ottoman and Turkish Times: Continuities, Disruptions and Reconnections*, edited by Birgit Krawietz and Florian Riedler, 435–468. Berlin: DeGruyter, 2020.

Rohdewald, Stefan, Stephan Conermann, and Albrecht Fuess, eds. *Transottomanica – Osteuropäisch-osmanisch-persische Mobilitätsdynamiken.* Göttingen: V&R unipress.

Sauer, Manfred. "Österreich und die Sulina-Frage (1829–1854)." *Mitteilungen des Österreichischen Staatsarchivs* 40 (1987): 185–236 and 41 (1988/89): 72–155.

Šedivý, Miroslav. "From Hostility to Cooperation? Austria, Russia and the Danubian Principalities, 1829–40." *The Slavonic and East European Review* 89, no. 4 (2011): 630–661.

Zirojević, Olga. "Das türkische Straßennetz (Land und Wasserstraßen) auf dem Gebiet der heutigen Vojvodina und Slawoniens." *Acta Historica Academiae Scientiarum Hungaricae* 33, no. 2/4, (1987): 393–403.