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Transport Technologies and Infrastructure: 1800 until World War I

Translated by Paul Vickers

1 Introduction

Transport routes, economic processes, infrastructural development, and migrations are all interrelated and mutually dependent. This is evident in the Black Sea region, where these phenomena have had an impact since Greek colonization during classical antiquity, while the East European lowlands have always been a transit zone for Asian peoples of the steppe. It is also a space where other mechanisms of transport geography have come into play.

In the course of the long nineteenth century, the Black Sea region was shaped most significantly by two events. By 1793, wars with the Ottoman Empire had brought the entire northern Black Sea coast under Russian rule. From 1801, the Russian Empire also expanded into the southern Caucasus. Parts of the eastern Black Sea coast, together with an important port, were incorporated into Russia. The construction of Russian port cities during this period meant that the Tsarist empire had the upper hand in the development of the region, with the Ottoman Empire playing an increasingly secondary role as a maritime power. The development of infrastructure for sea travel and for long-distance overland routes that connected Russian seaports with the vast hinterland meant that Black Sea shipping was increasingly connected with other oceans.

The second watershed moment was the Crimean War (1853–56), which put a temporary stop to these developments. For fifteen years following the end of the war, the Black Sea was declared neutral, with no military naval forces allowed to enter it. The Russian-Ottoman wars (1806–9, 1828–29, and 1877–78) could not put an end to Russian dominance, however. It was only with World War I that a completely new constellation emerged in the region. However, these wars and domestic factors in Russia, such as the abolition of serfdom (1861), the construction of railways (1869–1916), and the discovery of oil reserves in the Caucasus (from the 1860s on), did lead to a shift in vectors that either brought about stagnation in particular economic sites or allowed others to flourish—or even necessitated the establishment of new sites. These factors had a direct impact on transport routes and the related infrastructure, while state-sponsored transport policies also impacted on trade flows.

The Russian conquest of the northern Black Sea region led to significant migration processes, beginning in the late eighteenth century. Muslim peoples who found themselves under Russian rule left for the Ottoman Empire, with Christians from the Ottoman Empire moving to the Black Sea coast of Russia as part of a targeted settlement program. Greeks, Armenians, Bulgars, and Gagauzes settled not only in rural colonies

but also in new coastal towns.¹ The trading settlement of Nakhichevan at the mouth of the River Don was founded in 1785 for Armenians. From 1817, German colonists came to the area north of the Black Sea and to the Caucasus, where they gained a foothold in towns and prospered until the outbreak of World War I. The population exchanges that began in 1774 together with migrations that continued into the 1870s subsequently determined the demographic and economic development of both the Russian and Ottoman coastal areas. Despite Russia's defeat in the Crimean War, the Russian policy of economic expansion intensified up until World War I precisely because the state recognized the need to catch up and thus took a leading role in the process.² The Ottoman Empire was less successful in this respect following the Tanzimat reforms that began in 1839. This resulted in European powers exerting growing influence not only on trade and the economy, but also on domestic policy. British fears of further Russian expansion into South Asia following the Treaty of Adrianople (Edirne) in 1829, together with Britain's growing economic interests in the Black Sea region and in the Caucasus, meant that from the 1820s on, numerous Western visitors travelled through the area and reported on it (Laurence Oliphant, Charles William Shirley Brooks, Karl Koch, Frédéric Dubois de Montpéreux, Moritz Wagner, Xavier and Adèle Hommaire de Hell).³ Particularly insightful were the nautical and economic data gathered by the Dutch vice-consul Edouard Taitbout de Marigny, who had visited the Black Sea area from 1813 and provided detailed information on trade.⁴

1 Detlef Brandes, *Von den Zaren adoptiert: Die deutschen Kolonisten und die Balkansiedler in Neurussland und Bessarabien 1751–1914* (Munich: Oldenbourg, 1993). On the settlement of Kuban and Caucasus, see Arthur Tsutsiev, *Atlas of the Ethno-Political History of the Caucasus* (New Haven: Yale University Press, 2014), map 15 1763–1913: 150 Years of Russian Colonization, and map 17 1763–1918: 155 Years of Non-Russian Colonization.

2 Victoria Konstantinova, "Urbanization and Modernization of the Northern Black Sea Region in the Mid-19th–Beginning of the 20th Century: The Role of the Port-Cities", in *Port-Cities of the Northern Shore of the Black Sea: Institutional, Economic and Social Development, 18th–Early 20th Centuries*, ed. Evrydiki Sifneos, Valentyna Shandra, and Oksana Yurkova (Rethymno: Centre of Maritime History, Institute for Mediterranean Studies, 2021), 55–83.

3 Florian Riedler, "Around the Black Sea in Forty-Five Days: Transottoman Space, Time, and Infrastructure," in *Transottoman Matters: Objects Moving through Time, Space, and Meaning*, ed. Arkadiusz Blaszczyk, Robert Born, and Florian Riedler (Göttingen: V&R unipress, 2022), 27–60.

4 Edouard Taitbout de Marigny, *Portulan de la mer noire et de la mer d'Azov ou description des côtes de ces deux mers à l'usage des navigateurs* (Odesa: Imprimerie de la ville, 1830); Edouard Taitbout de Marigny, *Plan des golfes, baies, portes et rades de la mer noire et de la mer d'Azov* (Odesa: Alexandre Braun, 1830); Edouard Taitbout de Marigny, *Three Voyages in the Black Sea to the Coast of Circassia, Including Descriptions of the Ports, and the Importance of their Trade* (London: John Murray, 1837).

Russia Gains the Upper Hand in Trade and Transport

Russian efforts to catch up with Western Europe in economic and social terms, together with the weaknesses of the Ottoman Empire, resulted in the Black Sea becoming—particularly in the wake of the Crimean War—an integrated, transcontinental, and international economic area. After the World War I, however, this was no longer the case.

It was not only transport-related economic relations that suffered in the Crimean War. Just as the Russian fleet triggered the intervention of the Ottoman Empire's Western European allies with a devastating attack on Sinop in 1853 that destroyed the Ottoman fleet, flourishing Russian port cities were in turn attacked in 1854, resulting in the destruction of part of their infrastructure. The allied fleet attacked Kerch, Novorossiisk, Redut-Kale, Berdiansk, Mariupol, Taganrog, and Eisk in May 1854. In Kerch, as in Taganrog and Eisk, there were landing operations that led to the destruction of urban infrastructure.⁵ Taganrog even preceded Odesa in acquiring trade and shipping infrastructure, which was further expanded in 1802 with the establishment of a city prefecture and a central customs office in 1805. The city therefore attracted seafarers and traders, in particular Greeks.⁶ To aid its development, Odesa was awarded freeport (*porto-franco*) status for incoming goods. It was thus in a privileged position compared to other new Russian ports on the Black Sea and the Sea of Azov. Odesa also had the best quarantine facilities in the Black Sea region. Very early on, the city also developed into one of the most important Russian stock exchanges and financial centers, outstripping all other Black Sea cities.⁷

Inland cities that were protected from maritime attacks could profit from their neighbors' suffering as trade shifted towards overland routes and away from the coast. This was particularly evident in the case of the sister cities of Rostov and Nakhichevan-on-Don. In 1845, Rostov was no longer obliged to retain its status as a fortified city.⁸ And thanks to its river port it subsequently developed into a significant transshipment point whose north-south axis proved additionally beneficial to the twin cities with the construction of the Vladikavkaz Railway in 1871. This new transport route ideally complemented the older west-east/north direction of the river axis. This develop-

5 Orlando Figes, *Crimea: The Last Crusade* (London: Allan Lane/Penguin Books, 2010), 344–45.

6 Nikolai F. Gulianitskii, ed., *Russkoe gradostroitel'noe iskusstvo: Peterburg i drugie novye rossiiskie goroda XVIII–pervoi poloviny XIX vekov* (Moscow: Stroiizdat, 1995), 322–23, 330–32, 334.

7 Alfred J. Rieber, *Merchants and Entrepreneurs in Imperial Russia* (Chapel Hill: University of North Carolina Press, 1982), 67.

8 In contrast to Ottoman ports, some of the Russian ports had been founded as fortresses (Taganrog, Kherson, Sevastopol, and Rostov-on-Don). During the nineteenth century, Sevastopol and Kerch became naval fortresses and reduced their economic functions, while Taganrog and Kherson were stripped of their role as fortresses.

ment sealed the economic decline of the neighboring port of Taganrog, which from 1870 on had a railway connection to Kharkov (today: Kharkiv) via the Donbas. The development of the coastal railroad connection from Taganrog to Rostov actually had a negative impact on the city prefecture. The investigation of and legal proceedings against Greek traders for customs fraud in the early 1880s (the so-called “Taganrog Customs scandal”) were another factor in the city’s decline, though not its cause.⁹ For the first time since the ports were established in the early nineteenth century, the harbors and urban infrastructure of both Odesa and Taganrog underwent significant modernization starting in the 1860s, which is reflected in the cities’ architecture.¹⁰ In Taganrog, new branches of industry, including heavy industry, set up business in the city between 1858 and 1896. From 1895 on, newly-discovered iron ore deposits were shipped via Mariupol or taken by rail to the Donbas.¹¹ This led to further changes in trade and transport flows towards the end of the nineteenth century. Alongside Taganrog, other ports also experienced a third phase of construction to expand or improve infrastructure in the period before World War I (see fig. 27).¹²

A problem encountered early on with shipping in the Sea of Azov was the shallow depth of this inland sea. It was only during the high waters of spring that it became navigable for larger ships. While loading freight from flat-bottomed boats onto ocean-going ships several kilometers out to sea from the ports of Taganrog, Berdiansk, Mariupol, or Eisk, was not a significant hindrance before the Crimean War, in the decades after this conflict several factors changed. Along the coast, the seabed lies at just two meters in some places, which was a nautical problem for larger ships. In antiquity and the early nineteenth century, when sailboats plied the Sea of Azov, the shallowness of the Maeotis did not pose difficulties (see fig. 28).

The silting up of the safe anchorage points at Taganrog, Berdiansk, and Mariupol, the rise of steamships with larger draughts in the second half of the nineteenth century, and unfavorable winds, meant that trade ships, as well as business and industry, oriented towards the more efficient Black Sea ports of Odesa and, increasingly, Nikolaev (today: Mykolaiv) and Sevastopol, where grain exports rose from the 1860s,

9 Evridyki Sifneos and Gelina Harlaftis, “Taganrog: Greek Entrepreneurship in the Russian Frontier of International Trade,” in *Between Grain and Oil from the Azov to the Caucasus: The Port-Cities of the Eastern Coast of the Black Sea, Late 18th–Early 20th Century*, ed. Gelina Harlaftis, Victoria Konstantinova, Igor Lyman, Anna Sydorenko, and Eka Tchikoidze (Rethymno: Centre for Maritime History, 2020), 191–233.

10 Frederick W. Skinner, “Odessa and the Problem of Urban Modernization,” in *The City in Late Imperial Russia*, ed. Michael F. Hamm (Bloomington: Indiana University Press, 1986), 209–48.

11 John P. McKay, *Pioneers for Profit: Foreign Entrepreneurship and Russian Industrialization 1885–1913* (Chicago: The University of Chicago Press, 1970), 130–31.

12 Particularly successful was Nikolaev in this respect. See Larysa Levchenko, “The Economic History of the Nikolayev International Commercial Sea Port, Late 18th–Early 20th Century,” in *Port-Cities of the Northern Shore of the Black Sea: Institutional, Economic and Social Development, 18th–Early 20th Centuries*, ed. Evridiki Sifneos, Valentyna Shandra, and Oksana Yurkova (Rethymno: Centre of Maritime History, Institute for Mediterranean Studies, 2021), 151–99.



Fig. 27: Water depths in the Azov Sea in the Soviet Sea Atlas (1950).



Fig. 28: Sailboats in Taganrog around 1840.

while Kherson experienced further stagnation.¹³ There were proposals in the 1870s to turn Kerch into the main port of the Sea of Azov, with cabotage vessels depositing freight to and from the Azov ports. This, however, would have resulted in the ports along the coast of the Sea of Azov becoming superfluous. Traders and shipowners operating at ports on the northern coast, especially in Taganrog, opposed the plans because the ports were already equipped with the infrastructure necessary to provide storage or transshipment. From 1880, several projects were initiated to improve the port of Taganrog. However, laborious decision-making processes at the central state level, as well as the 1905 Revolution, hindered genuine improvements to most ports before World War I. Only Kherson experienced an economic upturn around the turn of the twentieth century thanks to developing its port.¹⁴ In the case of Kerch, Russia's increasing investment in naval forces meant that the port realigned its functions, moving away from trade, while Evpatoriia and Feodosiia profited from this development. In the wake of the Crimean War, Kerch was developed into a maritime fortress and naval depot.¹⁵ Its port, which officially opened in 1822, had served two functions until that point: as a transit station for goods coming from and going to the Azov ports, and as a transshipment point for material necessary for the war in the Caucasus, such as building materials and weapons being transported to Redut-Kale and Poti, as well as for salt from the Crimean salt lakes.¹⁶

The various plans—and their actual realization in Taganrog in the form of a sea canal that was dug in the early 1890s—could do little to prevent the decline of the Taganrog port, just as locating heavy industry in the city failed to stop the rot (Southern Russia's largest boiler plant was based there).¹⁷ The neighboring city of Rostov, howev-

13 Details on this in Vladimir A. Zolotov, *Khlebnyi eksport Rossii cherez porty Chernogo i Azovskogo morei v 60–90 gody XIX v* (Rostov-on-Don: Izdatelstvo Rostovskogo universiteta, 1966), 193–202. On trade and economy in the Russian Black Sea and Sea of Azov, including statistical material, see Elena Druzhinina, *Severnoe Prichernomore v 1775–1800 gg.* (Moscow: AN SSSR, 1959); Elena Druzhinina, *Iuzhnaia Ukraina v 1800–1825 gg.* (Moscow: Nauka, 1970); Elena Druzhinina, *Iuzhnaia Ukraina v period krizisa feodalizma 1825–1860 gg.* (Moscow: Nauka, 1981); Ludmila Thomas, *Streben nach Weltmachtpositionen: Russlands Handelsflotte 1856–1914* (Berlin: Akademie Verlag, 1995), 37. Taganrog remained the main port on the Sea of Azov, with more than half of all ships calling at it, followed by Berdiansk and Mariupol: *Bolshaia Entsiklopediia Brokgauz-Efron* (St. Petersburg: Brokgauz-Efron, 1890), 1:234–35. Victoria Konstantinova and Igor Lyman, “Kherson, the City of ‘the Glorious Past’,” in Sifneos, Shandra and Yurkova, *Port-Cities of the Northern Shore of the Black Sea*, 126–50.

14 *Bolshaia Entsiklopediia Brokgauz-Efron* (St. Petersburg: Brokgauz-Efron, 1903), 37:175–78.

15 Liubomir G. Beskovny, *The Russian Army and Fleet in the Nineteenth Century: Handbook of Armaments, Personnel and Policy*, trans. Gordon E. Smith (Gulf Breeze: Academic International Press, 1996), 262, 266, 268, 284.

16 Anna Sydorenko, “Controlling the Straits: The Development of the Port of Kerch,” in Harlaftis et al., *Between Grain and Oil*, 105–37. Until World War I, its balance of trade remained low. The city's connection to the Russian railway network in 1900 brought no improvement to the port infrastructure.

17 The foundation of the *Taganrogske Metallurgicheskoe obshchestvo* fostered the improvement of the port, though the company did not prosper: Valerii I. Bovykin, ed., *Inostrannoe predprinimatelstvo i zagranichnye investitsii v Rossii* (Moscow: ROSSPEN, 1997), 214–28.

er, was less reliant on overseas connections and became one of the most important transport hubs in Southern Russia.

Following the foundation of the port of Eisk in 1848, the northern area of the Kuban region flourished briefly in the wake of the Crimean War, while the southern Kuban region was only integrated into Russia in 1864 following the conquest and deportation of the Circassians.¹⁸ For other ports, export conditions changed from the 1860s. Berdiansk thus overtook the stagnating Eisk in grain exports, while it was only in the 1880s with the vast expansion of coalmining in the Donbas that Mariupol acquired a serviceable port, including a three-meter-deep sea canal.¹⁹ Equally, the fact that Novorossiisk was connected to the Vladikavkaz Railway from 1887 on, coupled with Rostov's economic upturn, meant that the small export-oriented port of Eisk, which served the vast hinterland of the northern Kuban steppe, shifted its economic focus.²⁰ A branch line from the city to the Vladikavkaz Railway could do little to avert the decline of port. It was only in the 1930s that further changes in the city brought a degree of growth, although this hardly had an impact on (sea) transport or the development of necessary infrastructure.

Although it was protected by Cossacks operating a loose line of defense, the southern Kuban region was not safe from attacks by mountain peoples. The capital city of Ekaterinodar (today: Krasnodar) thus remained an insignificant regional town for quite some time. It was only around the turn of the twentieth century that it became a transregional transport hub.²¹ This was a fate shared by other cities in Southern Russia, whose industrial development was restricted until the 1860s owing to the persistence of serfdom or, in the case of the Cossack regions on the Don and Kuban Rivers, by the special constitutions pertaining there that hindered economic activities by non-Cossacks (Russian: *inogorodnye*) in the cities.²² In the second half of the nineteenth century, the same trends became evident in the broader neighborhood of the Russian Black Sea provinces, with new large cities emerging in Kharkov, Ekaterinoslav (today: Dnipro), and Rostov-on-Don. In the late nineteenth century, financial investments brought large-scale industrialization to the region, the railways having laid

18 Tatiana Plokhotniuk, *Rossiiskie nemtsy na Severnom Kavkaze* (Moscow: Obshchestvennaia Akademiia Nauk Rossiiskikh nemtsev, 2001), 16–23.

19 Zolotov, *Khlebnyi eksport*, 201–4 and Rieber, *Merchants*, 235–41.

20 Eisk underwent an economic boom in the third quarter of the nineteenth century, though it remained much less multi-ethnic than other ports. At times it had foreign consulates, but Greek merchants left the city when its economy started to decline. Its primary export goods were wheat and wool. Liubov V. Kupriianova, *Goroda Severnogo Kavkaza vo vtoroi polovine XIX veka: K probleme razvitiia kapitalizma vshir* (Moscow: Nauka, 1981), 46–51, 68–71. Kupriianova's study contains lots of statistical material, e.g., on exports and demography.

21 Andrii Reshetko, *Städtische Selbstverwaltung im Wandel – Ekaterinodar 1870 bis 1914* (Frankfurt am Main: PL Academic Research, 2016).

22 In Russia's Southern and Caucasian provinces, serfdom was abolished only in the late 1860s. Walter Richmond, *The Northwest Caucasus: Past, Present, Future* (London: Routledge, 2008), 84–100. On the belated development of Northern Caucasus see Kupriianova, *Goroda*, 30–183.

the groundwork for this trend.²³ In Russia's provinces on the Black Sea and Sea of Azov, railways led to the emergence of the following important transshipment centers: Rostov from 1861–69, Odesa in 1865, Taganrog in 1869, Bessarabia/western Kherson Province from 1867–73, Poti-Tbilisi in 1872 (extension to Baku in 1875), Nikolaev in 1873, Sevastopol (Simferopol) in 1875, Mariupol in 1882, Batumi in 1883, and Novorossiisk in 1887. In 1875, the railway between Rostov and Vladikavkaz was completed, leading to a reorientation of transport flows in the Caucasus.²⁴

Russia benefitted from the installation of the telegraph much sooner than the coastal regions under Ottoman rule, even though both the Russian Black Sea provinces and Anatolia had been connected to the network since the 1850s.²⁵ The reason for this difference was the progress that Russia had made in the field of transport infrastructure since the 1820s as part of connecting the Black Sea provinces to the postal network.²⁶ Russia's territories in the Caucasus also had a functioning transport system as early as the 1830s. The east coast of the Sea of Azov (up to the River Kuban) and the Caucasus were covered by a network of postal routes, some of which remained quite sparse, that were a product of the Caucasus War.²⁷ From the 1860s on, telegraph lines were installed along the postal routes in the Caucasus, while the Anatolian vilayets Trabzon, Kastamonu, Erzurum, and Kars hardly had any functioning long-distance connections.²⁸ With the construction of railways well underway by 1876 in Southern Russia and the Caucasus, the Tsarist empire pulled further ahead before the war of 1877–78. Because telegraph lines ran alongside railway routes, two modern means of

23 Oleksandr Romantsov, "Transportation Networks of the Northern Black Sea Coast in Relation to the Black Sea Trade in the 1700s–1800s," in Sifneos, Shandra, and Yurkova, *Port-Cities of the Northern Shore of the Black Sea*, 109–25.

24 Frithjof Benjamin Schenk, *Russlands Fahrt in die Moderne: Mobilität und sozialer Raum im Eisenbahnzeitalter* (Stuttgart: Steiner, 2014).

25 Roderic H. Davison, "The Advent of the Electric Telegraph in the Ottoman Empire," in *Essays in Ottoman and Turkish History, 1774–1923: The Impact of the West* (London: Saqi Books, 1990), 142.

In 1869, there were 103 telegraph offices in Anatolia. Russia's first attempt to introduce the telegraph in the Caucasus failed during the 1850s: Reinhard Nachtigal, *Verkehrswege in Kaukasien: Ein Integrationsproblem des Zarenreiches 1780–1870* (Wiesbaden: Reichert, 2016), 254–55. During the mid-1850s the northern Black Sea coast received the telegraph. Cf. Wilfried Feldenkirchen, "Die Firma Siemens im Russischen Reich vor 1914," in "... das einzige Land in Europa, das eine große Zukunft vor sich hat": *Deutsche Unternehmen und Unternehmer im Russischen Reich im 19. und frühen 20. Jahrhundert*, ed. Dittmar Dahmann and Boris Ananich (Essen: Klartext, 1998), 174–78. Charles King, *The Black Sea: A History* (Oxford: Oxford University Press, 2004), 172, attributes Ottoman backwardness to feudal institutions in Anatolia. The optical telegraph was installed on Russia's Black Sea coast earlier.

26 "Generalnaia Pochtovaia Karta Evropy, vnov ispravlena i popolnena s pokazaniem noveishago razdeleniia Germanskago soiuzia i prochikh gosudarstv i so vklucheniem dorozhnoi karty vsei Rossii, 1821," Gosudarstvennyi istoricheskii muzei, accessed May 24, 2024, <http://nav.shm.ru/exhibits/489/>.

27 Nachtigal, *Verkehrswege*, 250–54.

28 A. Shvanin Kl. Khud. Kurakin, "Karta Kavkazskogo Kraia v masshtabe 1/1 680 000 dolia, izdana Kavkazskim otdelom Imperatorskago Geograficheskago Obshchestva 1868 (sostavlena i litogr. v voen. top. Otdl. Kavk. Voen. Okruga)," Wikimedia, accessed May 24, 2024, https://upload.wikimedia.org/wikipedia/commons/6/6e/Карта_Кавказского_края_1868r.jpg.

communication were combined in an optimal manner, while Northern and Eastern Anatolia remained without railroads for another half century.

From the mid-1860s on, the semi-state-owned shipping company ROPiT (Russian Society for Steamshipping and Trade) even developed a shipping and overseas postal service in ports throughout the Levant, which overlapped and indeed supplemented French and Austro-Hungarian postal services (Lloyd Austriaco). It was possible to send and receive shipments through Russian postal agencies at all Russian ports, as well as in Trabzon.²⁹ The Caucasus was connected via an overland route with the Russian consular post in Tabriz, which went hand in hand with the diversion of trade on the route Trabzon–Erzurum–Tabriz to the Russian side via Yerevan–Julfa–Tabriz.³⁰

The consequences of a century-long modernization process for several of the important transshipment centers in the Black Sea region, as well as for major urban centers in the hinterland, have been researched extensively. This is the case for Odesa,³¹ Kharkov, Ekaterinoslav,³² Taganrog,³³ Trabzon,³⁴ Mariupol,³⁵ Berdiansk,³⁶ Kerch,³⁷ Batumi,³⁸ and the twin cities of Rostov and Nakhichevan-on-Don.³⁹

29 V. Mogilnyi, "Iz istorii pochty ROPiT," *Rossia i khristianskii vostok*, accessed May 24, 2024, <https://ros-vos.net/history/ropit/1/7/>; Nikolai Ivanovich Sokolov, "The Transmission of Mails on Steamers in Russia," *The Journal of the Rossica Society of Russian Philately* 68 (1965): 48–52.

30 Simon D. Tchilinghirian, "The Consular Post Office of Tabriz (Persia)," *The Journal of the British Society of Russian Philately* 10 (1952): 265–67; Peter T. Ashford, "Mail Traversing the Russo-Persian Border in the Late 19th Century," *The Journal of the British Society of Russian Philately* 10 (1952): 301–4; cf. Charles Issawi, "The Tabriz-Trabzon Trade, 1830–1900: Rise and Decline of a Route," *International Journal of Middle East Studies* 1 (1970): 18–27.

31 Patricia Herlihy, *Odesa: A History 1794–1914* (Cambridge, Mass.: Harvard University Press, 1986); Evrydiki Sifneos, *Imperial Odesa: Peoples, Spaces, Identities* (Leiden: Brill, 2018). See also some of her articles, and studies of other authors quoted in Sifneos, 13–17 and 271–72.

32 Rainer Lindner, *Unternehmer und Stadt in der Ukraine, 1860–1914: Industrialisierung und soziale Kommunikation im südlichen Zarenreich* (Konstanz: UVK Verlags-Gesellschaft, 2006), 61–75, 107–74, 309–431 on Kharkov and Ekaterinoslav. These booming economic and commercial centres had been linked by rail to ports on the Black Sea and Sea of Azov since the 1870s.

33 Evrydiki Sifneos and Gelina Harlaftis, "Entrepreneurship at the Russian Frontier of International Trade: The Greek Merchant Community/Paroikia of Taganrog in the Sea of Azov, 1780–1830," in *Merchant Colonies in the Early Modern Period*, ed. Victor N. Zakharov, Gelina Harlaftis, and Olga Ktsiardi-Hering (London: Pickering & Chatto, 2012), 157–79; Sifneos and Harlaftis, "Taganrog"; Reinhard Nachtigal, "Taganrog als historischer Ort: Russlands 'Perle des Südens' und ihre Bedeutung für Westeuropa," *Forum für osteuropäische Ideen- und Zeitgeschichte* 92 (2005): 117–55.

34 A. Üner Turgay, "Trabzon," *Review of the Fernand Braudel Center* 16, no. 4, Port-Cities of the Eastern Mediterranean 1800–1914 (1993): 435–65.

35 Svitlana Novikova and Vira Volonyts, "Ethnic Factor in the Economic Development of Mariupol (Late 18th–Early 20th Century)," in Harlaftis et al., *Between Grain and Oil*, 259–98.

36 Igor Lyman and Victoria Konstantinova, "The Great Plans for Developing Berdyansk," in Harlaftis et al., *Between Grain and Oil*, 299–328.

37 Anna Sydorenko "Controlling the Straits: The Development of the Port of Kerch," in Harlaftis et al., *Between Grain and Oil*, 105–38.

38 Eka Tchoidze, "Oil and Soil: The Role of Batoum's Economic Development in Shaping of Geopolitical Significance of the Caucasus," in Harlaftis et al., *Between Grain and Oil*, 461–520.

3 The Ottoman Empire Tries to Catch Up while Russia Modernizes Its Transport Technology

Compared to Russia, which was catching up quickly, the relative backwardness of the Ottoman Empire was particularly evident, especially where land-based transport infrastructure was concerned. Railway construction began in the 1870s in the plains of Southern Russia and then in the Caucasus. This meant that by the end of the century, all of the Empire's most important ports on the Black Sea and the Sea of Azov were connected to the hinterland. Railways were also responsible for the creation of some new long-distance (trading) routes. There was nothing comparable in the Pontic Mountain region of Ottoman Anatolia until the 1930s, meaning that the area relied largely on tiring, poor-quality country routes. The Baghdad Railway, whose route through Western and Southern Anatolia—including a branch line to Ankara—had been completed by the time of World War I, had little noticeable impact on either the economy or infrastructure of the Black Sea region. The roads of Anatolia—with the occasional exception of the route between Trabzon and Erzurum—were not part of an integrated transport network in the Black Sea region, despite their east-west orientation.⁴⁰

In contrast to the Anatolian ports, their Russian counterparts often enjoyed the benefit of river access that enabled the transportation of, first and foremost, grain as a bulk commodity from deep in the hinterland: the Dnister to Odesa (established 1794, around 50 km north of the Dnister Liman), the Southern Buh to Nikolaev (established 1789), the Dniro to Ekaterinoslav and on to Kherson (established 1784), the Don to Taganrog (1775) and on to Azov (1775–84) and Rostov-on-Don (established 1778–1834). However, these favorable locations also meant that occasionally connections to the railway network were delayed. Until World War I, waterways remained the primary route for the transportation of bulk commodities in the Russian interior.⁴¹ To a much more significant extent, the location of the river ports Brăila (Ottoman/Turkish: İbrail) and Galați (Ottoman/Turkish: Kalas) on the lower reaches of the Danube had ensured that they were closely integrated into the transport routes of the Black Sea region. This also applied to the secondary Danube ports of Ruse (Ottoman/Turkish:

39 Sarkis Kazarov, "Nakhichevan-on-Don: Armenian Merchants and Their Role in the Commercial Development of the Azov – Black Sea Region," in Harlaftis et al., *Between Grain and Oil*, 399–428; Natalya Samarina, "Rostov-on-Don in the Second Half of the 19th–Early 20th Century: Dynamics and Specificities of the Socio-economic Development," in Harlaftis et al., *Between Grain and Oil*, 369–98; Marianna Abdullayeva, "The Rural Population of Don's Hinterland as a Factor of the Economic Life of Rostov, End of the 19th Century," in Harlaftis et al., *Between Grain and Oil*, 329–68.

40 Donald Quataert, "Part IV: The Age of Reforms," in *An Economic and Social History of the Ottoman Empire, 1300–1914*, ed. Halil İnalcık and Donald Quataert (Cambridge: Cambridge University Press, 1994), 804–21. The author concedes that the Trabzon–Tabriz route was in poor condition, even during the time when trade flourished (Quataert, 817–20).

41 William L. Blackwell, *The Beginnings of Russian Industrialization 1800–1860* (Princeton, NJ: Princeton University Press, 1968), 262–323.

Rusçuk), Silistra (Ottoman/Turkish: Silistre), and Izmail. In 1829, the International Danube Commission was established, which over the next decades focused on improving shipping, first and foremost on the lower reaches of the river.⁴² 1830 saw the founding of the Austrian First Danube Steamship Company (*Erste Donau-Dampfschiffahrts-Gesellschaft*). By opening up Danube shipping, both institutions contributed significantly to the expansion of transport infrastructure that helped connect the western Black Sea region and Central Europe.

Railway construction had been delayed in Russia before the Crimean War owing to its “democratizing” effect. Afterwards, however, a building boom emerged, meaning that railroads reached many ports in the 1870s. Other Russian ports that were not located on navigable rivers flowing into the Black Sea were either connected to a far-reaching, fertile steppe hinterland (Berdiansk, Mariupol, and Eisk), or could use older infrastructure and trade routes (Evpatoriia, Feodosiia, Kerch, Redut-Kale/Poti, and Batumi), or were less dependent upon efficient connections to the hinterland—this applied in particular to the Anatolian ports of Sinop, Samsun, Giresun, and Rize.

The ports of Sevastopol (founded 1783, serving primarily as a military port from 1803 to 1883) and Novorossiisk (city founded in 1866, construction of the port in 1888, connection to the railway in 1887) enjoyed particularly favorable geographic and nautical conditions.⁴³ The rise of Novorossiisk in the 1890s was influenced primarily, however, by the discovery of marl deposits, a raw material used in cement production and an important export product. Oil reached the port from the wells near Grozny, with 362 steamships, 241 of them British, taking exports in 1892.⁴⁴ Novorossiisk’s increasing importance and its railway connection meant that neighboring ports and cities experienced economic stagnation around the turn of the twentieth century. Infrastructure thus remained rudimentary in Eisk, Akhtari, Temriuk, Taman,⁴⁵ Kerch, Tuapse, and Sukhumi. The mountainous coast of the Caucasus continued, of course, to pose a technical challenge to developing transport routes. This was already evident in the 1880s with the construction of the Annenkov Road from Gelendzhik near Novorossiisk to Sukhumi and on to Kutaisi, with the situation repeating itself in World War I with efforts to develop a Black Sea railway from Tuapse to Kutaisi.⁴⁶

With the discovery of manganese ore in the southern Caucasus and its exploitation by the Siemens brothers from the 1870s on, manganese became the chief good exported

42 Luminita Gatejel, “Building a Better Passage to the Sea: Engineering and River Management at the Mouth of the Danube, 1829–61,” *Technology and Culture* 59, no. 4 (2018): 925–53.

43 Olga Popova, “Novorossiysk: The Formation and Development of the City,” in Harlaftis et al., *Between Grain and Oil*, 429–60.

44 “Novorossiisk,” in *Bolshaia Entsiklopediia Brokgauz-Efron* (St. Petersburg: Brokgauz-Efron, 1897), 21:292. See also “Novorossiisk,” in *Bolshaia Entsiklopediia: Slovar obshchedostupnykh svedenii* (St. Petersburg: Prosveshchenie, 1904), 14:137–38 for 1900.

45 Plokhotniuk, *Rossiiskie nemtsy*, 39, is one of few authors who named the secondary ports on the eastern coast of Azov and Anapa as ports for exporting cereals.

46 Nachtigal, *Verkehrswegen*, 206–8, 247. Until the twentieth century, the Western Caucasus remained economically insignificant as a Black Sea hinterland, with the exception of Novorossiisk.

from Poti, which was connected to Tbilisi by railroad from 1872.⁴⁷ It was in 1860 that Poti took over from the less favorable harbor of Redut-Kale, where transshipment of goods had been conducted since the early nineteenth century.⁴⁸ Still, Poti was hardly an ideal port, in contrast to Batumi, which was under Ottoman control but relatively insignificant in light of the competition it faced from Trabzon and its position on the peripheries of the Ottoman Empire. This changed, however, with the annexation of the Ajarian port following the Russian-Ottoman War of 1878. Batumi thus took over some of Poti's functions and with the transportation of oil from Baku, as well as manganese ore, it became Russia's most important port in the Caucasus. In 1883, a branch line from the Poti-Tbilisi mainline already reached the new port, which in the twentieth century became Georgia's most significant Black Sea port. Into the inter-war period, oil, petroleum products, and manganese were in effect the sole products exported from Transcaucasia.⁴⁹ The pipeline from the Caspian to the Black Sea, opened in 1906, was the longest in the world at the time and together with the railways intensified the infrastructural integration of the two regions.⁵⁰

With the exception of Istanbul, the Ottoman Empire could not boast of any similar scale of development. The Danube ports of Galați and Brăila were lost to newly independent Romania in 1878, together with the city of Constanța (Ottoman/Turkish: Kös-tence), which had been connected to the Danube by rail since 1860. The Bulgarian city of Varna followed some time later.⁵¹ On the Anatolian coast, Sinop was supplanted by the more efficient Samsun.⁵² Zonguldak served as a port for the exportation of hard coal that had been extracted locally. Consequently, its importance grew during World War I as it supplied Istanbul and the Ottoman navy with fuel for transportation and heating. The Eastern Anatolian port of Trabzon acquired special status following the Russian conquest of the Caucasus in the first three decades of the nineteenth century. At times it served as a significant transit hub for long-distance trade along parts of

47 Heinz Lemke, "Deutsche Unternehmen in der kaukasischen Manganindustrie 1900–1914," in Dahlmann and Ananich, *Deutsche Unternehmen*, 147–66. Poti's export also contained bulk freight like corn and liquorice: *Bolshaia Entsiklopediia Brokgauz-Efron* (St. Petersburg: Brokgauz-Efron, 1898), 24 A:734.

48 Nachtigal, *Verkehrswege*, 216–18. Poti was favored because of its location on the River Rioni. There were plans to make it navigable, but such they were never realized. Only half of the route to Kutaisi was navigable.

49 Donald Rayfield, *Edge of Empires: A History of Georgia* (London: Reaktion, 2012), 279.

50 John P. McKay, "Baku Oil and Transcaucasian Pipelines, 1883–1891: A Study in Tsarist Economic Policy," *Slavic Review* 43, no. 4 (1984): 614–15; see also Stefan Rohdewald, "Petroleum: Commodity, Products and Infrastructures as Transottoman Mobilities around 1900," in *Transottoman Matters: Objects Moving through Time, Space, and Meaning*, ed. Arkadiusz Blaszczyk, Robert Born, and Florian Riedler (Göttingen: V&R unipress, 2022), 99–118.

51 King, *Black Sea*, 205–6.

52 According to *Bolshaia Entsiklopediia Brokgauz-Efron* (St. Petersburg: Brokgauz-Efron, 1900), 30:48–49, Sinop did not recover after the Crimean War.

the old Silk Road (the Trabzon–Erzurum–Tabriz Route).⁵³ It experienced its first boom as a transit station in the wake of the transfer of trade privileges from the Ottoman Empire to European powers with the Treaty of Küçük Kaynarca. British merchants were among the first to make their mark, with European traders and companies coming to dominate business with the Orient, while Greek shipowners prevailed in the Black Sea.⁵⁴

Owing to its peripheral position, Trabzon suffered much less in the subsequent Russian-Ottoman wars than other Anatolian ports. During the Crimean War, it benefited from the fact that the allied Crimean armies were supplied to a significant extent by the city's hinterland. In some respects, the socio-economic development of Trabzon in the nineteenth century resembled that of Taganrog, with both cities experiencing parallel demographic development for a significant period.⁵⁵ With the opening of the Suez Canal and the subsequent diversion of traffic from Europe to India, as well as the opening of the railways in the Caucasus in the 1870s, Trabzon's star faded,⁵⁶ although the British (who had had a consulate there since 1805) continued to dominate imports and exports. Following the 1829 Treaty of Adrianople, the Russian tax authorities decided to impose high tariffs on goods imported into and transiting the Russian Caucasus in order to stimulate trade and production with Russia and within the Caucasus. The 1838 trade agreement between the United Kingdom and the Ottoman Empire favored trade not only with Britain and thus also contributed to the rise of Trabzon. Transit goods were diverted onto the old trade route between Trabzon and Erzurum,⁵⁷ with the section from Erzurum to Tabriz moved to Ottoman territory from the left bank of the Aras (via Yerevan) to the south of the Ararat mountain range. This agreement, together with Russia's failed tax and administration experiments in the annexed territories of the South Caucasus, as well as the pacification of the mountain peoples of the Caucasus that continued until 1864, were all factors contributing to Trabzon's exceptional significance. This was also evident in the number of European consulates

53 King, *Black Sea*, 175, emphasizes that this ancient route was not important in early modern times (i.e. during Ottoman rule over the Black Sea). From the 1820s it was revived by European merchant sailors, which brought with it British diplomatic pressure on the Ottoman Empire to introduce *porto-franco* in its ports: Figes, *Crimea*, 46–48.

54 Quataert, "Age of Reforms," 762–65, 774–75, 798–804, names the key year 1826. There has been much research on the role of Greek merchant traders, although it does not focus on the Black Sea region; see, for example, Nikolas Pissis, "Investments in the Greek Merchant Marine (1783–1821)," in *Merchants in the Ottoman Empire*, ed. Suraiya Faruqi and Gilles Veinstein (Paris: Peeters, 2008), 151–64 ("intermediary function in Ottoman domestic and transit trade", Pissis, 151–52).

55 Turgay, "Trabzon."

56 In 1894, transit transport was still performed by 458 incoming steamers (particularly British, Ottoman, French, and Austrian). Passenger transport existed to Istanbul, to the lower Danube and to Mediterranean ports. *Bolshaia Entsiklopediia Brokgauz-Efron* (St. Petersburg: Brokgauz-Efron, 1901), 38 A:726–27.

57 According to Rayfield, *Edge*, 277–78, in the 1820s traffic already circumvented Russian Georgia via Trabzon.

that were established in the city.⁵⁸ From 1870, though, the extent of transit traffic through the city declined.⁵⁹ However, secondary Anatolian ports, such as Samsun, Giresun, and Rize, which were reliant on production and consumption in their hinterlands increased in significance in economic terms and as transport hubs.⁶⁰ In the 1870s, several coinciding factors had a telling impact on the transport geography of the Black Sea region: the Suez Canal, railway construction in the Caucasus, and the growth of steamships in marine transport.

The connections of the Anatolian ports to the hinterland remained so poor into the twentieth century that they served primarily as transit ports for internal Ottoman Black Sea shipping (cabotage). Railways reached Zonguldak and Samsun during World War II, although trade and the economy of Northern Anatolia, including shipping, remained modest and were largely shaped by regional and domestic economic connections into the 1950s.

The beginnings of modern transport infrastructure in the Russian-Turkish borderlands in the Southern Caucasus can be traced back to the years preceding World War I. On the Russian side, a railway line was constructed from Aleksandropol (today: Gyumri, Armenia) to the Ottoman border via the fortress of Kars (annexed in 1878). By 1913 the line had been extended for military use to the border town of Sarıkamış and with the Russian conquest of Erzurum in 1916, it was extended to the city the following year. This railroad only acquired economic significance in 1939, when it was connected to the Anatolian railway, reaching Sivas via Erzincan.⁶¹ The railway that was constructed in the Russian part of Armenia to the Persian border at Julfa and extended to Tabriz during World War I served a different function. It was constructed for economic reasons in 1908 in order to divert trade with Persia and India through Russian territory.⁶² From 1907 to 1917, the whole of North Persia was part of the Russian sphere of interest and influence. Russia gained the upper hand over the Ottoman Empire in the Caucasus in terms of transport infrastructure, even if the wartime period hindered transport flows and trade.

58 The unfortunate Russian custom regulations were withdrawn before the Crimean War. Nachtigal, *Verkehrswege*, passim. During the war, Trabzon became a transit port for goods from Persia to Russia via Poti. Blackwell, *Beginnings*, 84–85, mentions trading over the Black Sea between the enemies during the Russo-Ottoman War of 1808–9.

59 Bedross Der Matossian, “The Pontic Armenian Countries in the Nineteenth Century,” in *Armenian Pontus: The Trebizond-Black Sea Communities*, ed. Richard G. Hovannisian (Costa Mesa, Cal.: Mazda Publ., 2009), 217–44; Turgay, “Trabzon,” 450–62.

60 Turgay, “Trabzon,” 452–53, dates the beginning of Samsun’s rise to the 1840s. After it had been linked by the railway to Sivas, it continued to expand. Today it is the main Black Sea port of Anatolia. Quataert, “Age of Reforms,” 817–20.

61 *Stielers Handatlas*, 10th ed. (Gotha: Perthes, 1938), map 63 Kleinasien (1931), with a gap between Sivas and Erzurum. See also “List of Railway Lines in Turkey,” Wikipedia, accessed May 24, 2024, https://en.wikipedia.org/wiki/List_of_railway_lines_in_Turkey.

62 Tsutsiev, *Atlas*, map 21: Administrative Division before the Collapse of the Empire.

The Russian railways in the northern and eastern Black Sea region and around the Sea of Azov laid the foundations in the late nineteenth century for an extensive overland transport network, which with time gave the Tsarist empire significant advantages.⁶³ Its real impact emerged after World War I, with difficult long-distance overland routes and occasionally shipping routes (Trabzon and the south coast of the Caspian Sea) prevailing before then.

4 The Transnationality of an Integrated Commercial Space

The vectors of transport infrastructure and flows were to be found in factors related to infrastructure development (road construction, railway lines, new industrial and business locations, administrative decisions, etc.). The Crimean War (1853–56) was of huge significance in this respect as it not only disrupted promising developments but also opened up new opportunities. In the decades preceding the Crimean War, trade shipping was international and focused on a few flourishing Russian ports. Since the 1790s, Taganrog had been not only the main port on the Sea of Azov, attracting goods from the Don Cossack region and from the Voronezh Province, but also Russia's most important port in the entire Black Sea region—until it was overtaken by Odesa. Evidence of its importance can still be traced in the cityscape today, with the special administration by a city prefecture engendering an international emporium. Greeks settled in the city early on and soon came to form its economic and social elite. Like the Armenians, who were involved in overland and long-distance trade, the Greek community had access to an extensive family-linked commercial network that was based in port and trade cities. It was primarily thanks to the Greeks and Western European entrepreneurs that in the 1870s the Black Sea became part of a larger international and transcontinental transport and economic space that also included the Anatolian coast. During the reign of Tsar Alexander I (1801–25), Odesa had already come to rival the more established port of Taganrog, while Kherson, Nikolaev, and Mariupol remained of secondary importance. Although the port of Berdiansk, established in 1830, flourished briefly, it never achieved the internationality, reach, or capacity of the abovementioned ports.⁶⁴

63 Eyüp Özveren, "The Black Sea World as a Unit of Analysis," in *Politics of the Black Sea: Dynamics of Cooperation and Conflict*, ed. Tunç Aybak (London: Tauris, 2001), 78: "a multi-centred, market-oriented economic orientation in the Black Sea" during the nineteenth century. He depicts Russia and the Ottoman Empire as equally-matched rivals, with Russian having the slight edge.

64 Lyman and Konstantinova, "The Great Plans." Berdiansk largely lacked Greek and foreign merchants, though some seafaring European states had consulates there. It was not until 1898 that the town connected to the railway network.

The intertwined family and trading networks of the Black Sea Greek community have been researched extensively, not only in relation to the Black Sea port cities,⁶⁵ but also in the context of the Ottoman-Russian borderland cities in the period before Russia's southern expansion.⁶⁶

British grain exporters used several ports in the broader region: Taganrog, Odesa, Rostov, and Trabzon.⁶⁷ Until large-scale coal extraction began in the Donbas, on the return journey the ships imported high-quality British coal, which was useful in the expansion of heavy industry locally.⁶⁸ Because the Donbas coal was still generally more expensive than imported British coal around the turn of the twentieth century, this system remained in place for some time after that. It resulted in an imbalance in the goods traded at different Russian ports, with cheap bulk produce and consumer, sometimes luxury, goods directed to various locations.

The Crimean War ended with the Treaty of Paris of 1856 and ensured that the Black Sea was declared neutral, meaning that warships were removed from its waters. Russia's reformers quickly realized that with its existing navy lost, a new one needed to be created—one focused on trade, of course. The dual-purpose ships could be converted into military vessels later on, which was all the more feasible as they were modern steamships. By the end of the ban on forming a military navy, the state had established three companies for shipbuilding and sea transport based in the Black Sea, the Sea of Azov, and the lower reaches of the Danube.⁶⁹ These companies presented themselves as private enterprises, although they were in fact funded by the state and the marine officers were members of the military navy. The companies initiated the modernization and expansion of port infrastructure and railway lines in the hinterland. Initially the ships were largely used for cabotage, but with the completion of the Suez Canal, South and East Asia appeared on the horizon. Grain exports to Western Europe prevailed, while imports from Western Europe were processed primarily at Russia's Baltic Sea ports.⁷⁰ Many of these nominally merchant ships were later transferred to the Naval Ministry, while all three companies were loss making. They could hardly compete with the Danube Steamship Company (DDSG), the ships of the Austrian Lloyd, or the

65 See the contributions of the Black Sea History Working Papers in Harlaftis et al., *Between Grain and Oil*.

66 Iannis Carras, "Connecting Migration and Identities: Godparenthood, Surety and Greeks in the Russian Empire (18th–Early 19th Centuries)," in *Across the Danube: Southeastern Europeans and their Travelling Identities (17th–19th Centuries)*, ed. Olga Ktsiardi-Hering and Maria Stassinopoulou (Leiden: Brill, 2017), 65–109.

67 Sifneos, *Imperial Odessa*, 112–14, stresses British commercial presence in Odesa, but Britons remained dominant in Trabzon and Taganrog too.

68 Manfred Rasch, "Unternehmungen des Thyssen-Konzerns im zarischen Russland," in Dahlmann and Ananich, *Deutsche Unternehmen*, 231.

69 Thomas, *Streben*.

70 Thomas, 43. According to Ihor Lyman and Viktoriia Konstantinova, *Nimetski konsuly v pivnichnomu Pryazovii/German Consuls in the Northern Azov Region* (Dnipro: Lira, 2018), machinery was imported to the Sea of Azov from Germany, Belgium, and Britain.

German Levant Line without Russian government subsidies.⁷¹ Their inefficient operations were exacerbated by the inadequate regulation of Russian tariffs and fees, as well as the power struggles between the various ministries involved (Trade/Business, Finance, and Naval). The companies thus received official approval for their role as an ersatz navy and for their economic inefficiency, while World War I did nothing to compensate for the Russian navy's missing tonnage.⁷²

In the twenty years before World War I, Southern Russia reached a stage of development that meant it could justifiably be described as an integrated large region in terms of its economy and transport infrastructure. An exception to this was the period from 1905 to 1907 in Georgia, a part of the Caucasus Viceroyalty, where the first Russian Revolution stopped production and transport for an exceptionally long time. The more favorable developments applied to the area stretching from the entire northern half of the Black Sea, from Bulgaria to Batumi via Crimea. The Anatolian ports, meanwhile, lagged far behind in terms of transport infrastructure, while Northern Anatolia was economically fragmented. Ottoman shipping was connected through internal routes to some Russian ports, as well as a few Romanian and Bulgarian ones, across the Black Sea. By contrast, Southern Russian cities that were not directly linked to grain exports and the Black Sea region, such as Ekaterinoslav, Stavropol, Ekaterinodar, and Baku, nevertheless experienced a boom that was evident across the late Tsarist empire. This also had an impact on the transport geography of the broader maritime region.

The failed harvest of 1891 in the Volga regions, with the ensuing slump and decrease in exports, led to significant changes related to grain, Russia's most important export good, by the end of the nineteenth century. At the same time, some export routes were redirected as Britain, in particular, imported increasing amounts of grain from the United States, which in the final decades of the nineteenth century emerged as Russia's most significant competitor. Military and civil (social and ethnic) conflicts, including the pogroms against Armenians in Eastern Anatolia in the mid-1890s,⁷³ regularly disrupted transport routes and the economy. Some locations never fully recovered. The Balkan Wars of 1912/13 had an impact on export-oriented Russian ports, as the Black Sea straits were closed to shipping. This was again the case in 1914. The period of World War I meant that the Black Sea region was no longer an integrated economic area, which had been the case during the ages of imperialism and nationalism, regardless of state borders. The late-nineteenth century Tsarist empire carried out the forced industrialization of Southern Russia by drawing increasingly on foreign capital and know-how, but during World War I it limited the property rights and freedoms not only of enemy aliens but also of Russian subjects who had previously migrated to Russia from what were now enemy states: Germans, Austrians, Hungarians, Bulgari-

⁷¹ Thomas, *Streben*, 44–47.

⁷² Thomas, 85–125, 134–35, 218–19.

⁷³ Barbara J. Merguerian, "Reform, Revolution, and Repression: The Trebizond Armenians in the 1890s," in Hovannisian, *Armenian Pontus*, 249.

ans, and Turks. This led to legal uncertainty. Grain and other goods from Southern Russia were confiscated for the Russian army.

The Black Sea became a warzone, with the closure of the straits enforced by the Central Powers until 1918. Despite its numerical advantage, the Russian Fleet could not achieve its most important objective. The Russian Empire had viewed the straits as a strategic goal as early as the reign of Catherine II, and during World War I this was again the case, with negotiations ensuing with the Western Entente powers. Indeed, Entente troops unsuccessfully sought to force them open again in 1915. The Black Sea witnessed maritime raids on the Russian coast by the two Ottoman-German cruisers, the *Goeben* and the *Breslau*. Russian ships, meanwhile, attacked Istanbul and the Anatolian Black Sea coast, including the ports of Trabzon and Giresun in 1915, resulting in disruption to the coal supply from Zonguldak, which was important to the military effort.⁷⁴ Russia was able to put its advantage in terms of transport infrastructure to use against the enemy, as it had access to overland connections between its ports, as well as to extensive routes reaching into the hinterland. Russia was thus in a much stronger strategic position than during the Crimean War. The Anatolian ports, meanwhile, were connected only by sea, while the harbors—with the exception of Istanbul—offered large naval vessels insufficient protection from Russian attacks. Nikolaev, Khereson, Sevastopol and the ports on the Sea of Azov, meanwhile, were protected from Ottoman aggression by their topography (deep harbor bays, and being located by river estuaries and on internal seas).

In October 1917, fighting ended. After German and Austro-Hungarian troops occupied the north coasts of the Black Sea and the Sea of Azov, civilian shipping was resumed. The Central Powers, suffering a shortage of raw materials, forced through the reactivation of economic relations in the Peace Treaties of Brest-Litovsk with Ukraine, which declared itself independent in January 1918, and with the Russian Soviet Republic (February and March 1918). The Central Powers, however, expected too much from an economic region that had been exhausted by three years of war, even if the Ukrainian railway network was serving the Central Powers' needs. In June 1918, German troops were transported via the Black Sea and the port of Poti to Georgia, while Ottoman troops occupied Batumi, as well as parts of Armenia and Azerbaijan. Following the Central Powers' surrender, the British and French navies took control of sea transport from November 1918 on while the Russian Civil War continued. The two powers were responsible for the evacuation of tens of thousands of White Army soldiers and sympathizers from the coast of the Caucasus and Crimea in 1920, while the Southern Caucasus fell into chaos as the resistance to the Bolshevik advances lasted until 1923. Turkey was engaged in fighting in Eastern Anatolia as part of efforts to ensure the revision of the state borders that were set out in the Treaty of Sèvres. It secured the restoration of the old border with Russia, including the Kars territory, in the Treaty

74 Vladimir A. Zolotarev and Ivan A. Kozlov, *Rossiiskii voennyi flot na Chernom more i v Vostochnom Sredizemnomore* (Moscow: Nauka, 1988), 118–53.

of Lausanne in 1923. Nevertheless, transport in the Black Sea region in the 1920s largely took place on overland routes and never returned to the levels witnessed in the early nineteenth century.⁷⁵ In the interwar period, Soviet Ukraine, and the Don and Kuban regions, saw a boost in the development of infrastructure as a result of further industrialization, although the “dekulakization” and collectivization that was imposed there from 1929 on led to a collapse in grain production and the starvation of the local rural population.

Given the small number of Ottoman and the handful of Bulgarian and Romanian ports on the Black Sea, Russia acquired several important geostrategic advantages in the course of the nineteenth century. Most of its ports were relatively well-connected in transport terms to an extensive hinterland where production took place. On the other hand, as far as the Russian-controlled Caucasus was concerned, it has been demonstrated here that inadequate transport routes hindered trade and transformation, with exceptions evident where old connections remained in place. The fact that technological progress reached Russia’s southern provinces several decades before the same technologies were introduced by the Ottoman Empire gave Russia further advantages. During World War I, however, Russia squandered its advantage and could only restore it after the Second World War. At the same time, the promising peaceful developments in the Black Sea region, which used exchange and trade to bring prosperity, came to an end.

75 On the economic and political decline after World War I, see Sifneos, *Imperial Odessa*, 206–37.

