

OTTOMAN AND EGYPTIAN QUARANTINES AND EUROPEAN DEBATES ON PLAGUE IN THE 1830s–1840s*

In 1842 a medical expedition left Odessa, the Russian empire's southern gateway to the Black Sea, heading for the Middle East. The expedition was seeking to ascertain where in the Middle East plague was 'born'. They visited dozens of eastern Mediterranean ports stretching from Istanbul in the north, via the coastlines of Anatolia, Lebanon, Palestine and Egypt, to Alexandria in the south. Four years later, another Russian expedition followed, set to inspect the Ottoman and Egyptian plague quarantines. The Russian doctors were joining hundreds of British, French, Austrian and other colleagues who had similarly gone to the Middle East to collect new data on epidemic contagion. A deadly but long-forgotten European foe, plague had recently resurfaced in the Ottoman empire and Egypt, and was the world's number one public-health concern.

In the 1830s, the Mediterranean region was in disarray. Hundreds of thousands of Christian, Muslim and Jewish denizens of Mediterranean port cities lay dead, desiccated by cholera, a mysterious, unknown disease from the east. Shortly thereafter, bubonic plague swept across Lower Egypt and the Syrian interior. In Cairo, seventy-five thousand people perished from the disease.¹ To combat these epidemics the governments in Cairo and Istanbul instituted their first permanent quarantines, which, it was hoped, by restricting freedom of movement across land and sea, would recast the Middle East as not only a source but also a terminus of

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¹ LaVerne Kuhnke, *Lives at Risk: Public Health in Nineteenth-Century Egypt* (Berkeley, 1990), 85.

the contagion. The history of Ottoman and Egyptian quarantines intricately ties into the evolution of European imperialism in the Middle East, the proliferation of global capitalism, and the rise of international co-operation against epidemics.

This article explores international sanitary reforms and debates over plague in the Middle East in the early and mid nineteenth century. The formal adoption of quarantines in the Ottoman empire and Egypt in the 1830s began the integration of eastern Mediterranean ports and the Middle East interior into the shared western Mediterranean and Black Sea quarantine regime. I argue that, while the cholera pandemic, which reached the Mediterranean region and Europe in 1831, drove the standardization of quarantines, it was the regional epidemic of 'Egyptian plague' in the mid 1830s that prompted a transnational debate about the efficacy of quarantines.

The standardization of quarantines is associated with the second half of the nineteenth century, when most of the International Sanitary Conferences were convened (ten in 1851–97, with four more in 1903–38).² It was during this period that global (but primarily European) powers took steps to coordinate joint action against epidemic disease. Cholera, which originated in Bengal, was then the world's pressing epidemiological concern. The opening in 1869 of the Suez Canal, and the increasingly crowded Muslim pilgrimage to the Ottoman Hijaz, positioned the Middle East as a conduit of epidemic disease to be cordoned off to protect transatlantic societies from 'Asiatic cholera'.³ In contrast, this article demonstrates that, by the 1830s and 1840s, the Middle East was already at the centre of global discussions about epidemic disease and contagiousness, propelling the internationalization of public-health reforms.

² See Francisco Javier Martínez, 'International or French? The Early International Sanitary Conferences and France's Struggle for Hegemony in the Mid-Nineteenth Century Mediterranean', *French History*, xxx, 1 (2016); Nermin Ersoy, Yuksel Gungor and Aslihan Akpınar, 'International Sanitary Conferences from the Ottoman Perspective (1851–1938)', *Hygiea Internationalis*, x, 1 (2011); Valeska Huber, 'The Unification of the Globe by Disease? The International Sanitary Conferences on Cholera, 1851–1894', *Historical Journal*, xlix, 2 (2006).

³ See Valeska Huber, *Channelling Mobilities: Migration and Globalisation in the Suez Canal Region and Beyond, 1869–1914* (Cambridge, 2013); Michael Christopher Low, *Imperial Mecca: Ottoman Arabia and the Indian Ocean Hajj* (New York, 2020), ch. 3.

I trace the story of eastern Mediterranean quarantines into the 1840s by following two Russian medical expeditions from Odessa which were tasked with gathering scientific data to shore up Russia's own quarantine defences and its diplomatic arguments in favour of strict quarantines in the Middle East. This article further argues that, by the 1840s, quarantine reforms in the eastern Mediterranean were at odds with the commercial interests of European nations, especially Britain, France and Austria, and thus became a contentious diplomatic issue.

Quarantines and foreign scientific expeditions in the Middle East offer a new angle on the Eastern Question, which, like other 'questions' at the time, involved a set of European assumptions and solutions for the late Ottoman empire.⁴ Following the Serbian uprisings of 1804–13 and 1815, and the Greek war of independence in 1821–9, the Europeans watched closely the showdown between the Ottoman empire and Mehmet Ali of Egypt, culminating in the so-called Oriental Crisis of 1840. Mehmet Ali, an Ottoman pasha, or governor, of Egypt since 1805, proclaimed himself khedive, or viceroy, and occupied Ottoman Palestine and Syria in 1831–2. However, in 1840 an alliance led by the British forced him to renounce Egypt's imperial ambitions and to return the Levant to the Ottomans in exchange for guaranteeing his family's hereditary rule over Egypt.⁵ This political crisis underscored the military and economic weaknesses of the Ottoman empire, whom a Russian emperor would call 'the sick man' only a decade later.⁶ In the 1830s and 1840s, however, everyone was afraid of getting sick — from deadly epidemics — and the European governments focused on shoring up the anti-epidemic infrastructure in the Middle East. At the same time, these governments were weighing the danger to public health of a potential epidemic against permanent disruption to travel and trade. This article demonstrates that the Eastern Question, which is typically viewed as the European states' geopolitical competition over Ottoman possessions, had a medical

⁴ See Holly Case, *The Age of Questions* (Princeton, 2018).

⁵ On the empire of Mehmet Ali, see Khaled Fahmy, *All the Pasha's Men: Mehmed Ali, his Army and the Making of Modern Egypt* (Cambridge, 1997); Afaf Lutfi al-Sayid Marsot, *Egypt in the Reign of Muhammad Ali* (Cambridge, 1984).

⁶ Parliamentary Papers, lxxi (1854), Eastern Papers, 5, Seymour to Russell, 11 Jan. 1853, 2.

dimension.⁷ Indeed, the public-health and economic aspects of eastern Mediterranean quarantines made the Eastern Question a domestic one for many European states, including Russia.

The Russian medical expeditions reveal a world of mostly European doctors based in hospitals and lazarettos throughout the Ottoman empire and Egypt, who engaged in a vigorous debate about plague and its prevention. Outbreaks occurred in the Middle East throughout the early modern period, but, in the first half of the nineteenth century, old assumptions about the disease and its contagiousness began to be questioned.⁸ My final argument is that European adherents of contagionist and anti-contagionist medical beliefs used the outbreak of plague and the new quarantines in the eastern Mediterranean to test out their hypotheses, transforming the Middle East into a global site for medical research on epidemic disease.

The anti-plague reforms throw light on the medical origins of imperialism and internationalism. Although the impetus for the anti-epidemic reforms came from within the Middle East, the quarantines themselves were among the earliest and most explicit European impositions on the Ottoman empire and Egypt.⁹ In this period, imperial domination came in the guise of international co-operation in the form of consular quarantine boards, foreshadowing the loss of Ottoman and Egyptian power in international negotiations. Likewise, scientific missions to study plague were part of Europe's medical research and

⁷ For recent excellent works on the Eastern Question, see Davide Rodogno, *Against Massacre: Humanitarian Interventions in the Ottoman Empire, 1815–1914* (Princeton, 2012); Michael A. Reynolds, *Shattering Empires: The Clash and Collapse of the Ottoman and Russian Empires, 1908–1918* (Cambridge, 2011).

⁸ On plague in Middle Eastern history, see Nükhet Varlık, *Plague and Empire in the Early Modern Mediterranean World: The Ottoman Experience, 1347–1600* (Cambridge, 2015); Birsen Bulmuş, *Plague, Quarantines and Geopolitics in the Ottoman Empire* (Edinburgh, 2012); Alan Mikhail, *Nature and Empire in Ottoman Egypt: An Environmental History* (Cambridge, 2011), ch. 5; Alan Mikhail, 'The Nature of Plague in Late Eighteenth-Century Egypt', *Bulletin of the History of Medicine*, lxxxii, 2 (2008); Daniel Panzac, *La Peste dans l'Empire ottoman, 1700–1850* (Leuven, 1985); Michael Walters Dols, *The Black Death in the Middle East* (Princeton, 1977).

⁹ On quarantines and colonialism, see Daniel R. Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (New York, 1981); Sheldon Watts, *Epidemics and History: Disease, Power and Imperialism* (New Haven, 1997). On Ottoman support for quarantines, see Panzac, *La Peste dans l'Empire ottoman*, chs. 3, 11; Bulmuş, *Plague, Quarantines and Geopolitics in the Ottoman Empire*, ch. 5.

experimentation in the Global South.¹⁰ The European medical inspections of eastern Mediterranean quarantines certainly reveal more about Europe than about the Middle East. Nevertheless, they bring out several important points regarding transnational connections. First, the Middle East, with its robust anti-epidemic infrastructure, was central to global public health and medical history in the nineteenth century. Secondly, European medical culture was being mapped, in semi-colonial fashion, onto the Middle East during the age of Ottoman and Egyptian reforms. Thirdly, the new quarantines opened a new chapter in Ottoman–Russian interaction, drawing together more closely the histories of migration and reforms in the Middle East and eastern Europe.¹¹

I

EPIDEMICS AND QUARANTINES IN THE MEDITERRANEAN

By the nineteenth century, European states with a Mediterranean coastline could draw on a long history of quarantines as a primary defence against plague. In 1348 Venice was already passing anti-plague legislation that prescribed isolating contaminated ships and ill people, and burning down afflicted houses.¹² Over the centuries, western Mediterranean port cities developed a shared quarantine regime based on their best practices in battling plague. This regime consisted of three instruments: a bill of health issued to a vessel upon its departure from port; quarantine, or a period of detention, imposed on the ships, passengers and cargo; and a lazaretto, a building for inspection and detention. The ports used a four-tier system to designate the levels of epidemic threat: ‘foul’ for ships arriving from a port where plague was present; ‘suspect’, when the port

¹⁰ See, for example, David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (Berkeley and Los Angeles, 1993).

¹¹ On entangled Ottoman–Russian histories, see Lâle Can, *Spiritual Subjects: Central Asian Pilgrims and the Ottoman Hajj at the End of Empire* (Stanford, 2020); Will Smiley, *From Slaves to Prisoners of War: The Ottoman Empire, Russia, and International Law* (Oxford, 2018); Andrew Robarts, *Migration and Disease in the Black Sea Region: Ottoman–Russian Relations in the Late Eighteenth and Early Nineteenth Centuries*, paperback edn (London, 2018); Eileen Kane, *Russian Hajj: Empire and the Pilgrimage to Mecca* (Ithaca, 2015); James H. Meyer, *Turks across Empires: Marketing Muslim Identity in the Russian–Ottoman Borderlands, 1856–1914* (Oxford, 2014).

¹² See Ann G. Carmichael, ‘Plague Legislation in the Italian Renaissance’, *Bulletin of the History of Medicine*, lvii, 4 (1983).

of origin had had a recent outbreak; 'clean', when the last port had been plague-free for forty days; and 'free' for ports with no suspicion of the disease.¹³ The forty-day quarantine (from Italian *quaranto*, 'forty') was based on the centuries-old belief that it took that length of time for the disease to disperse after exposure to sun and fresh air.¹⁴ Land quarantines were set up on the same premiss as maritime quarantines, with a standard quarantine period of forty days for anyone travelling from suspect areas.

The last major outbreak of plague in Europe occurred in Marseille in 1720 and was blamed on an infected ship from Ottoman Syria.¹⁵ Over the following decades, plague largely faded from memory in western and central parts of Europe, and the progressive triad of the Scientific Revolution, the Enlightenment and the Industrial Revolution fostered a notion that the 'civilized' world, unlike its expanding colonial domains, was immune to epidemics. On the eastern fringes of the continent, in the Ottoman and Russian empires, plague was a recurring event. Thus, in 1771 a devastating epidemic took the lives of about fifty thousand Muscovites, over a fifth of the city's population.¹⁶ Istanbul was free of plague for only thirty-six years between 1700 and 1800, and in 1778 a third of its population of six hundred thousand fell victim to the disease.¹⁷ These epidemics confirmed Europeans' perception of 'the East' as a source of contagion.

In the nineteenth century, however, cholera shattered Europeans' sense of their own security from epidemic disease.

¹³ Daniel Panzac, *Quarantaines et lazarets: l'Europe et la peste d'Orient (XVII^e–XX^e siècles)* (Aix-en-Provence, 1986), ch. 2; Kuhnke, *Lives at Risk*, 93.

¹⁴ One of the earliest quarantines in Dubrovnik, in 1377, stipulated a thirty-day detention period, or *trentino*. Over the following decades, Venice, Genoa, Marseille and other port cities adopted similar legislation, with a forty-day detention, or *quarantino*, becoming the norm. Susan Mosher Stuard, *A State of Deference: Ragusa/Dubrovnik in the Medieval Centuries* (Philadelphia, 1992), 46–8.

¹⁵ Mark Harrison, 'Disease, Diplomacy and International Commerce: The Origins of International Sanitary Regulation in the Nineteenth Century', *Journal of Global History*, i, 2 (2006), 200.

¹⁶ John T. Alexander, *Bubonic Plague in Early Modern Russia: Public Health and Urban Disaster* (Oxford, 2003), 257–60.

¹⁷ Panzac, *La Peste dans l'Empire ottoman*, 30–5, 60, 208. Sam White argues that a complex disease environment existed in the eastern Mediterranean and cautions against assuming that the Ottoman Turkish term *taun* necessarily meant bubonic plague: 'Rethinking Disease in Ottoman History', *International Journal of Middle East Studies*, xlii, 4 (2010), 555–8.

The new railways and steamship lines — conduits and lifelines of colonial empires — enabled the global spread of this waterborne disease from the Ganges river delta. During the first cholera pandemic of 1817–24, the disease broke out of Bengal and eventually reached the outer rims of the Ottoman and Russian empires, ravaging Iraq, Syria, Egypt, Baku and Astrakhan. The second cholera pandemic of 1829–37 penetrated the core of the two empires, claiming over a hundred thousand lives in St Petersburg and Moscow alone, and a hundred and fifty thousand lives in Egypt.¹⁸ Moscow was the first European city to experience cholera, in 1830. As terrified Muscovites fled the city, they carried the disease to Poland and the German states, and from there it entered the rest of Europe and leapt across the Atlantic to the United States. In 1831 it broke out in Istanbul and Cairo before spreading across the eastern Mediterranean.¹⁹ Cholera disproportionately affected the lower classes, leading to the proliferation of conspiracy theories and mass social unrest in France, Britain, Hungary and Russia.²⁰

In addition to the dramatic entrance of cholera, plague struck again in the Black Sea and the eastern Mediterranean regions. It resurfaced during the 1828–9 Russo-Ottoman War, killing twenty-three thousand Russian soldiers and devastating the civilian population of Ukraine. In 1835–8 the Ottoman empire and Egypt experienced severe outbreaks of the disease, and Alexandria, a key trading partner of Greece, Malta and the

¹⁸ Roderick E. McGrew, *Russia and the Cholera, 1823–1832* (Madison, 1965), 98–9; Kuhnke, *Lives at Risk*, 51.

¹⁹ See Kuhnke, *Lives at Risk*, 49–57; Panzac, *La Peste dans l'Empire ottoman*, ch. 15.

²⁰ On cholera and society in Europe, see Richard J. Evans, 'Epidemics and Revolutions: Cholera in Nineteenth-Century Europe', *Past and Present*, no. 120 (Aug. 1988); Asa Briggs, 'Cholera and Society in the Nineteenth Century', *Past and Present*, no. 19 (Apr. 1961); Michael Durey, *The Return of the Plague: British Society and the Cholera, 1831–32* (Dublin, 1979); François Delaporte, *Disease and Civilization: The Cholera in Paris, 1832*, trans. Arthur Goldhammer (Cambridge, Mass., 1986); McGrew, *Russia and the Cholera*; Frank M. Snowden, *Naples in the Time of Cholera, 1884–1911* (Cambridge, 1995). On cholera and empire, see Arnold, *Colonizing the Body*; David Arnold, 'Cholera and Colonialism in British India', *Past and Present*, no. 113 (Nov. 1986); Sheldon Watts, 'From Rapid Change to Stasis: Official Responses to Cholera in British-Ruled India and Egypt, 1860 to c.1921', *Journal of World History*, xii, 2 (2001); Zeinab Abul-Magd, 'Rebellion in the Time of Cholera: Failed Empire, Unfinished Nation in Egypt, 1840–1920', *Journal of World History*, xxi, 4 (2010).

Italian states, was ravaged by it.²¹ The appearance of cholera and the return of plague galvanized global discussions about the epidemiological defences of Europe and triggered a series of reforms that transformed the public-health landscape in the eastern Mediterranean.

II

OTTOMAN AND EGYPTIAN QUARANTINES

The formal quarantine system in the eastern Mediterranean dates back to the 1830s. At the height of the cholera pandemic in 1831, Mehmet Ali commissioned the Quarantine Board, based in Alexandria.²² The board completed Egypt's first European-style lazaretto in Alexandria in 1833 and managed a network of quarantines in the Nile delta, on the Levantine coast, and on the Red Sea.²³ In 1831 the Ottoman government also set up the first permanent quarantine complex in Istanbul. Seven years later, the Ottomans established the Supreme Council of Health, which included the Quarantine Administration, overseeing fifty-nine quarantines: thirteen each on the European and Anatolian shores, sixteen inland, eight in Syria, seven on the Aegean islands and two in Libya.²⁴

The Ottoman and Egyptian quarantines came about, in part, under European pressure, and out of commercial concerns. The strict quarantines that the European governments set up at home amid the second cholera pandemic hurt their overseas trade and the efficient management of their sprawling colonial empires. These governments demanded that Istanbul and Cairo

²¹ On the plague in Egypt in 1835, see Kuhnke, *Lives at Risk*, ch. 4.

²² In its first two decades, the Quarantine Board used different names: the Consular Commission of Health (1831–5), the Consular Committee of Health (1835–9), the Magistrate of Public Health (1840–3) and the Health Administration (1843–9): *ibid.*, 206 n. 1.

²³ On Egyptian quarantine reforms, see *ibid.*, ch. 5; Khaled Fahmy, *In Quest of Justice: Islamic Law and Forensic Medicine in Modern Egypt* (Oakland, 2018), 53–62, 215–17.

²⁴ In 1840 the Quarantine Administration adopted the Quarantine Regulations, which governed the Ottoman quarantine system for decades: Başbakanlık Osmanlı Arşivi (Prime Minister's Ottoman Archives), Istanbul, HAT 524/25572–B (1839), C.SH 7/347 (22 June 1838); House of Commons, *Papers Respecting Quarantine in the Mediterranean* (London, 1860), 81–7. On Ottoman quarantine reforms, see Panzac, *La Peste dans l'Empire ottoman*, 475–92; Bulmuş, *Plague, Quarantines and Geopolitics*, ch. 6; Gülden Saryıldız, 'Karantina Meclisi'nin Kuruluşu ve Faaliyetleri' [The Establishment and Activities of the Quarantine Council], *Belleten*, lviii, 222 (1994).

should institute quarantine reforms in the eastern Mediterranean to minimize contagion on Europe's borders, so that they could eventually scrap their own quarantines.²⁵ The Ottoman and Egyptian governments likewise had an economic motive to adopt quarantines. If they wished to continue exports of, for example, Egyptian cotton to the west, they would now be expected to have European-style lazarettos issuing internationally recognized bills of health.²⁶ The Ottoman empire and Egypt therefore adopted quarantines, as practised in the western Mediterranean, as the price of admission of their ships to foreign ports on an equal footing. The eastern Mediterranean ports started to issue their own bills of health, which were accepted in foreign ports. These were 'foul', 'suspect' and 'clean': 'free' was not an option available to Egypt and the Ottoman empire, where plague was deemed to be endemic.

The Ottoman quarantines, in addition to merging into the maritime quarantine regime of the western Mediterranean, linked up with Habsburg land quarantines. From 1770 Austria began to build up a mighty quarantine line, sixteen hundred kilometres long, cutting through the Balkans. In 1785, in order to boost trade with the Ottoman empire, the emperor Joseph II reduced the quarantine period on the Austro-Ottoman border to twenty-eight days during times of plague.²⁷

To the north of the Ottoman empire lay the young quarantine network of the Russian empire. Russia had been erecting her own cordon sanitaire since the early eighteenth century, focusing on the Black Sea littoral. The tsarist authorities perceived the Muslim east to be the source of deadly contagions; thus, Catherine II blamed the outbreak of plague in Moscow of 1770–2 on the 'brutish and negligent Turks'.²⁸ After cholera devastated the empire's southern frontiers, the Russian government updated its quarantine legislation and rebuilt its

²⁵ On mid-nineteenth-century quarantines and commerce, see Mark Harrison, *Contagion: How Commerce Has Spread Disease* (New Haven, 2012); Harrison, 'Disease, Diplomacy and International Commerce'.

²⁶ Charles Maclean, *Evils of Quarantine Laws, and Non-Existence of Pestilential Contagion: Deduced from the Phaenomena of the Plague of the Levant, the Yellow Fever of Spain, and the Cholera Morbus of Asia* (London, 1824), 13.

²⁷ Gunther E. Rothenberg, 'The Austrian Sanitary Cordon and the Control of Bubonic Plague: 1710–1871', *Journal of the History of Medicine and Allied Sciences*, xxviii, 1 (1973), 21.

²⁸ Alexander, *Bubonic Plague in Early Modern Russia*, 125.

southern defences by joining all stations into one quarantine line, from Moldavia, around the whole northern coast of the Black Sea, and southward to the Caucasus and the Caspian region.²⁹ In the 1830s, Russia built a massive lazaretto in Izmail, a former Ottoman fortress on the Danube delta, to handle the increasing river trade with the Habsburgs and maritime trade with the Ottomans.³⁰

The eastern Mediterranean quarantine boards soon came under international oversight. In the early 1840s, the European powers pressured Mehmet Ali to reorganize the Quarantine Board based in Alexandria to include seven appointees from Austria, France, Britain, Greece, Prussia, Russia and Sardinia, with only two officials from Egypt.³¹ Likewise, the British used their support for the Porte during its war with Egypt to force the Ottoman government to agree to a foreign-dominated board in Istanbul.³² By the late 1840s, the Ottoman Quarantine Administration had twenty-one members, including one delegate each from the United States, Austria, France, the Netherlands, Britain, Spain, Sweden, Iran, Norway, Russia, Greece, Belgium and Sardinia, and eight Ottoman representatives.³³ By the mid 1890s, of the administration's fourteen members only two were Ottomans.³⁴

However, to view eastern Mediterranean quarantines as a purely European imposition would be misguided. Over centuries of interaction across the Mediterranean, the Ottomans and the Egyptians had developed a series of ad hoc measures against plague. As early as the seventeenth century, those arriving in Istanbul from afflicted regions were placed in a seven-day quarantine. Indeed, the nineteenth-century lazarettos were often built in *tahaffuzhane* (preservation houses), which the Ottomans

²⁹ See Robarts, *Migration and Disease in the Black Sea Region*, 155–68.

³⁰ The medical mission that took place in 1842 compared the lazaretto of Izmail, which served as a gateway to Odessa, to the newly built lazaretto in Izmir, a gateway to Istanbul. The two newly built lazarettos epitomized Russian and Ottoman commitments to the emerging Mediterranean–Black Sea anti-epidemic regime. See Aleksandr A. Umanets, 'Izmail'skii tsentral'nyi karantin' [The Central Quarantine in Izmail], *Zhurnal Ministerstva vnutrennikh del*, vi (1844).

³¹ Kuhnke, *Lives at Risk*, 96–7. See also D. G. E. Mino, *Memoria sul rinascimento e stato attiale della medicina in Egitto* (Livorno, 1838).

³² Bulmuş, *Plague, Quarantines and Geopolitics in the Ottoman Empire*, 108–12.

³³ Ersoy, Gungor and Akpınar, 'International Sanitary Conferences from the Ottoman Perspective', 54.

³⁴ Mesut Ayar, *Osmanlı Devletinde Kolera: İstanbul Örneği (1892–1895)* [Cholera in the Ottoman State: The Case of Istanbul] (Istanbul, 2007), 387–8.

had long maintained on their busiest borders. Even prior to the 1830s, temporary cordons sanitaires criss-crossed the Ottoman world, isolating 'healthy' provinces from 'sick' ones.³⁵ The novelty of the nineteenth-century quarantines lay in their permanence, basis in legislation, and uniform application across the region.

The new quarantines were products of a rapid transformation of the Ottoman and Egyptian medical systems. In the 1820s, both countries embarked on a quest to upgrade their medical infrastructure, including building the first Western-style medical schools and hospitals, regulating pharmacies, and organizing mass smallpox vaccination campaigns. In Egypt, new medical institutions accompanied the creation of a 'modern' army, with the building of the two military hospitals of Abu-Za'bal in Cairo and Mahmudiyya in Alexandria.³⁶ The former, after its relocation to Qasr al-'Ayni, served as a medical school, training generations of Egyptian doctors and midwives.³⁷ The Ottomans founded the Imperial Medical School, the first of its kind in the empire, in 1827 and the Imperial School of Surgery in 1832, both in Istanbul. The Egyptian and Ottoman medical schools initially used French as the language of instruction before shifting to, respectively, Arabic and Ottoman Turkish.

Public-health innovations and quarantines found ideological support among many local reformers, who countered the critique of quarantines from some religious quarters. For example, Hamdan Bin El-Merhum Osman Hoca, an Algerian notable in Ottoman service, justified the establishment of quarantines as a way to protect Ottoman subjects and to safeguard Ottoman sovereignty in the wake of European demands for reform.³⁸ Indeed, by the late 1840s, the Ottomans were advocating strong quarantines down the Euphrates as far as

³⁵ See Robarts, *Migration and Disease in the Black Sea Region*, ch. 5.

³⁶ Fahmy, *All the Pasha's Men*, 11–12, 212.

³⁷ On Egyptian medical reforms, see Kuhnke, *Lives at Risk*, ch. 3; Amira El-Azhary Sonbol, *The Creation of a Medical Profession in Egypt, 1800–1922* (Syracuse, 1991); Khaled Fahmy, 'Women, Medicine and Power in Nineteenth-Century Egypt', in Lila Abu-Lughod (ed.), *Remaking Women: Feminism and Modernity in the Middle East* (Princeton, 1998).

³⁸ See Bulmuş, *Plague, Quarantines and Geopolitics in the Ottoman Empire*, 11, ch. 5. On local opposition to quarantines, see Nuran Yıldırım, 'Osmanlı Coğrafyasında Karantina Uygulamalarına İsyanlar: "Karantina İstemezük!"' [The Opposition to the Practices of Quarantine in Ottoman Geography: We Do Not Want Quarantine!], *Toplumsal Tarih*, cl (2006).

the Persian Gulf in order to shore up public health and social order in Ottoman Iraq, blaming Qajar and British Indian subjects for outbreaks of cholera.³⁹

The quarantines served the political agendas of the sultan and the pasha. The quarantine boards taxed all vessels obliged to undergo quarantine, which was an additional source of income for their two cash-strapped countries. The military confrontation between Istanbul and Cairo also turned quarantines into an economic tool. For example, in 1834 the Egyptian government established the Sanitary Committee of Syria, and subsequently built a lazaretto in Beirut second only to that in Alexandria in Mehmet Ali's growing empire. During the Egyptian occupation of Syria, Beirut's commercial importance rose sharply because its lazaretto was the mandated destination for all vessels coming to trade on the Levantine coast, at the expense of Ottoman ports in southern Anatolia. The Beirut quarantine helped to reorientate Beirut's commercial networks from the Ottoman empire to Egypt and Europe, which elevated the city's position in global commerce. These trade patterns persisted after Syria returned under Ottoman rule.⁴⁰ After the Ottomans restored their nominal sovereignty over Egypt in 1840, the Porte used its own quarantines to humiliate the defeated pasha. When Mehmet Ali travelled to Istanbul by sea, his ship docked in Izmir and was assigned 'suspect' status because it was from plague-prone Egypt. The pasha, who had dared to rebel against the Ottoman dynasty, spent eight days in quarantine in the port of Izmir.⁴¹

The adoption of quarantines by the Ottoman empire and Egypt resulted in the creation of a unified extra-European quarantine regime stretching from the Atlantic coast through the Mediterranean to the Black Sea. Anti-plague regulations, which had been codified in Venice, Marseille and Malta, were now translated and adapted as far as Tunis, Damietta, Beirut, Izmir and Varna. In theory, as a result of the quarantine reforms in the 1830s, ships sailing from the Ottoman empire and Egypt with a

³⁹ Isacar A. Bolaños, 'The Ottomans during the Global Crises of Cholera and Plague: The View from Iraq and the Gulf', *International Journal of Middle East Studies*, li, 4 (2019), 607–8.

⁴⁰ Toufoul Abou-Hodeib, 'Quarantine and Trade: The Case of Beirut, 1831–1840', *International Journal of Maritime History*, xix, 2 (2007).

⁴¹ Bulmuş, *Plague, Quarantines and Geopolitics in the Ottoman Empire*, 137.

clean bill of health no longer needed to undergo lengthy quarantine in European ports. In terms of anti-plague measures, the Mediterranean region was more unified than ever, bridging the age-old divide between its Catholic west and Muslim Orthodox east.⁴² Ottoman and Egyptian quarantines now had to prove effective in preventing or containing new outbreaks of plague.

III

RUSSIAN SCIENTIFIC MISSIONS IN THE MIDDLE EAST

In the 1840s, the Russian government funded two medical expeditions to the Middle East. Aleksandr Umanets, the director of the Odessa quarantine, led the first mission, in 1842, to inspect Ottoman and Egyptian quarantines and to conduct an experiment with plague matter in Cairo. The expedition travelled for eighteen months to Istanbul, Alexandria, Upper Egypt, Sinai, Palestine, Syria, Cyprus, Rhodes, Izmir, then Egypt again, before returning to Odessa. In 1846 a new Russian mission left for the Middle East, with a mandate to scrutinize further the eastern Mediterranean quarantines and to collect data on recent plague outbreaks. Artemii Rafalovich, a doctor from Odessa, took his team on a journey of thirty months, travelling to Istanbul, Izmir, Syria, Palestine, Egypt, Algeria and Tunisia, before continuing on to Malta, France, Spain, Tuscany and Sardinia for additional quarantine research.⁴³

It was not a coincidence that both Russian medical missions originated in Odessa. This Black Sea port, established only in 1794, rose to become Russia's most cosmopolitan city. Founded by a Spanish admiral in the service of Catherine II, Odessa's first two governors were Frenchmen. It welcomed Greek refugees from Istanbul in 1821, and was home to the second largest Jewish community in the Russian empire (after Warsaw).⁴⁴ By the mid nineteenth century, growing wealthy on maritime trade

⁴² See E. Natalie Rothman, *Brokering Empire: Trans-Imperial Subjects between Venice and Istanbul* (Ithaca, 2012); Molly Greene, *Catholic Pirates and Greek Merchants: A Maritime History of the Mediterranean* (Princeton, 2010).

⁴³ Artemii A. Rafalovich, 'Kratkii otchet o zaniatiakh na Vostoke uchenovrachebnoi ekspeditsii, poslannoii ot MVD' [A Short Report on Activities in the Orient of the Scientific-Medical Expedition Sent by the Ministry of the Interior], *Zhurnal Ministerstva vnutrennikh del*, xxvi (1849).

⁴⁴ See Patricia Herlihy, *Odessa: A History, 1794-1914* (Cambridge, Mass., 1986); Steven J. Zipperstein, *The Jews of Odessa: A Cultural History, 1794-1881* (Stanford, 1991).

and its fertile hinterland tilled by German, Moldavian, Bulgarian and Ukrainian farmers, Odessa had become Russia's third largest city after St Petersburg and Moscow.⁴⁵ It was also Russia's gateway to the Middle East, facilitating a busy traffic of Muslim pilgrims, Jewish merchants and Greek sailors.⁴⁶ However, this trans-border mobility made the city particularly susceptible to epidemic disease, and outbreaks of plague in 1797, 1802, 1812, 1829 and 1837 were regularly blamed on contagion from the Ottoman empire. The epidemic of 1812, for example, had claimed up to a hundred thousand lives in Istanbul before devastating Odessa, killing a quarter of its population of twelve thousand.⁴⁷

Russian medical expeditions to the Middle East sought to evaluate whether Ottoman and Egyptian quarantines were sufficient to prevent the spread of plague to the Russian domains. Russia perceived itself to be at greater epidemiological risk than most European states owing to its proximity to the Ottoman empire. At the time, the fastest ship took eighteen days to sail from Istanbul to Vienna, fourteen days to Marseille, and only thirty hours to Odessa.⁴⁸ The land border between Russia and the Ottoman empire was also notoriously porous. The tsarist authorities had long been monitoring epidemics in the Danubian principalities, the 'middle ground' between Russia and the Ottoman empire.⁴⁹ In 1841, on the other side of the Black Sea, the districts of Aleksandropol, Erivan and Nakhichevan (all in modern-day Armenia and Azerbaijan) reported outbreaks of plague, leading to border closures, road blockages and curfews throughout the South Caucasus. The tsarist government blamed the epidemic on Kurdish nomads who had crossed over from the Ottoman empire, reportedly carrying the disease.⁵⁰ The regular outbreaks of plague in the Russo-Ottoman borderlands stoked the Russian government's

⁴⁵ Patricia Herlihy, 'Ethnic Composition of the City of Odessa in the Nineteenth Century', *Harvard Ukrainian Studies*, i, 1 (1977), 53.

⁴⁶ See Eileen Kane, 'Odessa as a Hajj Hub, 1880s–1910s', in John Randolph and Eugene M. Avrutin (eds.), *Russia in Motion: Cultures of Human Mobility since 1850* (Urbana, 2012).

⁴⁷ Zipperstein, *Jews of Odessa*, 32; Robarts, *Migration and Disease in the Black Sea Region*, 236 n. 24.

⁴⁸ Aleksandr A. Umanets, 'Karantinaia sistema v Turtsii' [The Quarantine System in Turkey], *Zhurnal Ministerstva vnutrennikh del*, vi (1844), 332.

⁴⁹ Robarts, *Migration and Disease in the Black Sea Region*, 19–24, ch. 6.

⁵⁰ Hayastani Azgayin Arkhiv, Yerevan (National Archives of Armenia), fond 100, opis' 1, delo 25, listy 59–60 (22 July 1841), 85–8 (28 May 1841).

anxiety about its weak epidemiological barriers and fuelled its interest in the eastern Mediterranean quarantines.

The Russians were not alone in sending medical expeditions to inspect lazarettos and to study plague in the Middle East. In the second quarter of the nineteenth century, several European medical establishments dispatched fact-finding missions to the region. The French Academy of Medicine sent expeditions to Egypt to study plague in 1827 and 1844, while the Austrian government sent its medical team to study epidemics in Egypt in 1849.⁵¹ The Mediterranean region, and particularly the Middle East, had become, as one scholar called it, 'Europe's imperial medical archive and prophylactic'.⁵²

The two Russian specialists who ventured to the Ottoman empire and Egypt in the 1840s had much in common. Both were born in the imperial borderlands into well-off but not elite families; both specialized in public health and had made their careers in cosmopolitan Odessa. Aleksandr Umanets (1808–77) came from a Ukrainian landowning family in Crimea. After studying in Moscow, he served in the chancellery of Mikhail Vorontsov, governor-general of Novorossiia and Bessarabia. Through Vorontsov's patronage, by his mid thirties Umanets was directing one of Russia's major quarantines in Odessa. Upon his return from the Middle East, he was transferred first to the quarantine in Kerch, Crimea, in 1845, and then, in 1846, to the quarantine in Tiflis, Georgia. His career as a civil servant progressed further as he moved to Tver and later to St Petersburg, where his father-in-law, Aleksandr Rikhter, served as court surgeon and director of Russia's Medical Department.⁵³ Artemii

⁵¹ On the first French expedition, see Étienne Pariset, 'Mémoire sur les causes de la peste, et sur les moyens de la détruire', *Annales d'hygiène publique et de médecine légale*, vi (1831). On the second French expedition, see René-Clovis Prus, *Rapport à l'Académie Royale de Médecine sur la peste et les quarantaines* (Paris, 1846); Gavin Milroy, *Quarantine and the Plague: Being a Summary of the Report on These Subjects Recently Addressed to the Royal Academy of Medicine in France, with Introductory Observations, Extracts from Parliamentary Correspondence, and Notes* (London, 1846). For mention of the Austrian mission, see Kuhnke, *Lives at Risk*, 208 n. 19.

⁵² John Chircop, 'Quarantine, Sanitisation, Colonialism and the Construction of the "Contagious Arab" in the Mediterranean, 1830s–1900', in John Chircop and Francisco Javier Martínez (eds.), *Mediterranean Quarantines, 1750–1914: Space, Identity and Power* (Manchester, 2018), 210.

⁵³ Andrei O. Bol'shakov, 'Russkie v Gize, 1843 g.' [Russians in Giza, 1843], *Vestnik drevnei istorii* (2010), no. 2.

Rafalovich (1816–51), who was born in Mogilev (now Belarus) and raised in Odessa in a wealthy Jewish family, was fluent in Yiddish, Russian, German, French and Italian. He obtained a medical degree from the University of Dorpat (now Tartu, Estonia). By the early 1840s, he was teaching forensic medicine at the Richelieu Lyceum in Odessa, and had published an academic study on plague, which came to the attention of tsarist officials, who invited him to join an expedition as senior expert to study the disease in the Middle East.⁵⁴

Umanets and Rafalovich published detailed reports of their expeditions in two outlets: the Russian government's *Zhurnal Ministerstva vnutrennikh del* (Journal of the Ministry of Interior Affairs), read by officialdom throughout the empire, and *Otechestvennye zapiski* (Annals of the Fatherland), a literary journal relished in urban salons.⁵⁵ Their medical travelogues combined scientific research with exoticized accounts of 'oriental' life. The descriptions of plagued hamlets and quarantined harems sought to educate as well as to frighten and delight Russian readers. When publishing in foreign journals, in French and German, Umanets and Rafalovich focused primarily on the efficacy of Ottoman and Egyptian quarantines and their findings about plague.⁵⁶ Following their return from their expeditions, both men published two-volume ethnographic accounts of their travels in Egypt.⁵⁷ Coincidentally, and not

⁵⁴ See Artemii A. Rafalovich, 'Vzgliad na vazhneishie voprosy, odnosiashchiesia do chumy' [An Opinion on the Most Important Questions Related to Plague], *Zhurnal Ministerstva vnutrennikh del*, xi (1845).

⁵⁵ Aleksandr A. Umanets published eight articles in the series 'Putevye zapiski russkogo na Vostoke v 1842 i 1843 godakh' [Travel Notes of a Russian in the East in 1842 and 1843] in *Zhurnal Ministerstva vnutrennikh del*, vi–vii (1844), x (1845); and *Otechestvennye zapiski*, xxxiv, 5 (1844); xxxv, 7 (1844); xxxvi, 10 (1844); xxxvii, 11 (1844); xlvii, 8 (1846). Artemii A. Rafalovich published thirteen articles in the series 'Zapiski russkogo vracha, opravlennogo na Vostok' [Notes of a Russian Doctor Sent to the East] in *Zhurnal Ministerstva vnutrennikh del*, xviii–xx (1847), xxii–xxiv (1848), xxv–xxvi (1849), in addition to earlier articles in xv (1846) and xv (1846) and the final expedition report in xxvi (1849). Rafalovich published four articles in the series 'Zapiski russkogo vracha, puteshestvuiushchego na Vostoke' [Notes of a Russian Doctor Travelling in the East] in *Otechestvennye zapiski*, xlix, 12 (1846); li, 3 (1847); lxiii, 3 (1849); lxvii, 12 (1849).

⁵⁶ See, for example, Artemii A. Rafalovich, *Courrier de Marseille*, 21 June 1848; Artemii A. Rafalovich, 'Briefe eines Russischen Arztes (Rafalowitzsch) aus der Türkei', *Das Ausland*, ccxviii (1847), xxliii (1848), xxii (1849), ix (1851).

⁵⁷ Aleksandr A. Umanets, *Poeszdka na Sinai, s priobshcheniem otrzykov o Egipte i Sviatoi Zemle* [A Journey to Sinai, with Excerpts on Egypt and the Holy Land], 2 vols. (St Petersburg, 1850); Artemii A. Rafalovich, *Puteshestvie po Nizhnemu*

(cont. on p. 251)

unlike many European travellers, the two men were avid collectors of ancient Egyptian artefacts and would later donate their collections, which they had acquired on their scientific missions, to the Odessa Museum of Antiquities (now the Odessa Archaeological Museum).⁵⁸

The two Russian missions were funded by the Ministry of the Interior and enjoyed the full support of the tsarist diplomatic corps, which secured them audiences with top public-health officials in the Ottoman empire and Egypt and the credentials to visit lazarettos and hospitals, interview local residents, and perform medical experiments.⁵⁹ The second mission in particular, a project of the Russian Medical Department, was supported by the sultan's brother-in-law and director of the Ottoman quarantine system, Ahmet Fatih Pasha; the Ottoman minister of health, Ismail Efendi; and the director of the Imperial Medical School in Istanbul, Sigmund Spitzer.⁶⁰ Leaders of both expeditions met Mehmet Ali of Egypt. Umanets, who met him twice, claimed that he referred to Egyptian quarantines as primarily a commercial enterprise that allowed him to tax foreign merchants.⁶¹

Foreign inspection of the eastern Mediterranean quarantines came with the assumption of European superiority. Nühket Varlık, in her examination of the early modern Mediterranean, refers to the Europeans' imagining of the Ottoman healthscape as 'epidemiological Orientalism', wherein a Muslim society was expected to be less attentive to its hygiene and health.⁶² This

(n. 57 cont.)

Egiptu i vnutrennim oblastiam del'ty [A Journey to Lower Egypt and Interior Provinces of the Delta], 2 vols. (St Petersburg, 1850).

⁵⁸ Vladimir Beliakov, 'Egiptomania' [Egyptomania], *Vostochnaia kolleksiia*, iii (2003), 95.

⁵⁹ Umanets, *Poezdka na Sinai*, i, p. v; Irina M. Smilianskaia, *Siriia, Livan i Palestina v opisaniakh rossiiskikh putestvennikov, konsul'skikh i voennykh obzorakh pervoi poloviny XIX veka* [Syria, Lebanon and Palestine in Descriptions of Russian Travellers and Consular and Military Surveys of the First Half of the Nineteenth Century] (Moscow, 1991), 100.

⁶⁰ On Spitzer's work, see Gürsel Ortug, Ferruh Yücel and Hakan Ay, 'The Role of Austrian Physicians and Prof. Joseph Hyrtl (1810–1894) on Modernization of Ottoman-Turkish Medicine', *Annals of Anatomy*, clxxxv, 6 (2003).

⁶¹ Umanets, *Poezdka na Sinai*, ii, 196–7.

⁶² Nühket Varlık, "'Oriental Plague' or Epidemiological Orientalism? Revisiting the Plague Episteme of the Early Modern Mediterranean', in Nühket Varlık (ed.), *Plague and Contagion in the Islamic Mediterranean: New Histories of Disease in Ottoman Society* (Newark, 2017).

condescending way of thinking about Middle Eastern bodies and knowledge persisted throughout foreign accounts. In the nineteenth century, medical travelogues, like the ones written by the Russian experts, linked the arrival of cholera and the reappearance of plague to images of 'oriental' poverty and neglect.⁶³ In their analysis, European travellers often tied epidemics to politics and religion in the Muslim world. Thus, regular outbreaks of the disease were allegedly exacerbated by 'oriental despotism', namely, the Ottoman and Egyptian rulers' lack of care for their subjects and institutional corruption.⁶⁴ Likewise, a high death toll during epidemics, particularly among Muslims, as many foreigners observed, was due to Muslims' purported fatalism, or ready acceptance of plague as an inescapable divine punishment.⁶⁵

Russia's investment in the quarantines on the Black Sea and the medical expeditions to the Middle East betrays insecurity about its own international image. Since St Petersburg blamed the Ottoman empire and Egypt (two 'oriental' and 'Mahometan' countries) for transmitting plague to the Russian domains, it feared that the European states would regard 'Asiatic Russia' in a similar light. Russia was still experiencing outbreaks of plague, and cholera had first reached Europe from Moscow. Contemporaneously with the Ottomans and the pasha, the

⁶³ See Arnold, *Colonizing the Body*, 169–70, 183–9; Anna Afanasyeva, 'Quarantines and Copper Amulets: The Struggle against Cholera in the Kazakh Steppe in the Nineteenth Century', *Jahrbücher für Geschichte Osteuropas*, lxi, 4 (2013), 497–8.

⁶⁴ See Pierre Nicolas Hamont, 'Sur l'état hygiénique de l'Égypte', *Annales de l'hygiène publique*, vi, 1 (1831); William Holt Yates, *The Modern History and Condition of Egypt: Its Climate, Diseases, and Capabilities, Exhibited in a Personal Narrative of Travels in That Country. With an Account of the Proceedings of Mohammed Ali Pascha, from 1801–1843*, 2 vols. (London, 1843).

⁶⁵ Many travellers reported that Ottoman and Egyptian Christians were more likely than Muslims and Jews to isolate their households and had fewer fatalities during plague: see Patrick Russell, *A Treatise of the Plague: Containing an Historical Journal, and Medical Account, of the Plague, at Aleppo, in the Years 1760, 1761, and 1762. Also, Remarks on Quarantines, Lazarettos, and the Administration of Police in Times of Pestilence*, 2 vols. (London, 1791), i, 33–4, 63–5; ii, 267, 312; R. R. Madden, *Travels in Turkey, Egypt, Nubia and Palestine, in 1824, 1825, 1826, and 1827*, 2 vols. (London, 1829), i, 284; C.-F. Volney, *Voyage en Syrie et en Égypte, pendant les années 1783, 1784 et 1785* (Paris, 1787), 232–3; Giovanni Battista Belzoni, *Narrative of the Operations and Recent Discoveries within the Pyramids, Temples, Tombs and Excavations, in Egypt and Nubia: And of a Journey to the Coast of the Red Sea, in Search of the Ancient Berenice, and Another to the Oasis of Jupiter Ammon* (London, 1820), 1–3.

Romanovs had been modernizing Russia's health-care facilities and building quarantines, not merely to safeguard their own subjects from plague, but also to confine their epidemics within their borders lest Russia be seen as a threat to Europe. For St Petersburg, like Istanbul and Cairo, quarantines and public-health reforms were a way of being modern and 'civilized' on a par with other European empires.⁶⁶

IV

EUROPEAN DEBATES ON QUARANTINES AND PLAGUE

The price of the unified quarantine regime was slower traffic across land and sea. With quarantines all along the eastern Mediterranean coast, ships and caravans now spent weeks waiting idly at every stop whenever an incident of plague was suspected in Egypt or Syria, and these reinforced constraints on mobility bred political opposition to lengthy periods of quarantine. Those in favour of liberal free-trade policies blamed the quarantines for being unnecessarily strict and nothing more than surreptitious tools of taxation.⁶⁷ In 1838 Britain concluded the commercial Treaty of Balta Liman with the Ottoman empire, allowing British merchants full access to the Ottoman market and the abolition of Ottoman monopolies. While the Porte agreed to these commercial concessions in return for British support against Egypt, Britain wished to decrease its dependency on Russian raw materials, but the quarantines were an obstacle to Britain taking full advantage of the treaty.

European shipping companies also strongly opposed the excessive detention periods that vessels and cargoes spent in ports. Lloyd, for example, the largest Austrian shipping company at the time, whose two major shipping lines linked

⁶⁶ Valeska Huber makes a similar argument for the second half of the nineteenth century: 'Unification of the Globe by Disease?', 463. On 'modernity' and 'civilization' in the Ottoman and Russian empires, see Selim Deringil, "They Live in a State of Nomadism and Savagery": The Late Ottoman Empire and the Post-Colonial Debate', *Comparative Studies in Society and History*, xlv, 2 (2003); Ussama Makdisi, 'Ottoman Orientalism', *American Historical Review*, cvii, 2 (2002); Jeff Sahadeo, 'Epidemic and Empire: Ethnicity, Class, and "Civilization" in the 1892 Tashkent Cholera Riot', *Slavic Review*, lxiv, 1 (2005); David Schimmelpenninck van der Oye, *Russian Orientalism: Asia in the Russian Mind from Peter the Great to the Emigration* (New Haven, 2010).

⁶⁷ See, for example, Arthur T. Holroyd, *The Quarantine Laws: Their Abuses and Inconsistencies. A Letter Addressed to the Rt Hon. Sir John Cam Hobhouse, Bart.* (London, 1839).

Alexandria and Istanbul via Izmir or the Levantine ports, criticized eastern Mediterranean quarantines as ruinous to commerce and heavily lobbied Vienna to ease the restrictions on ships arriving from the Ottoman empire and Egypt.⁶⁸

Britain, Austria, the Netherlands and the United States, for which maritime trade was a priority, were particularly keen on shortening the periods of quarantine. In contrast, southern European states such as Sardinia, Spain and Greece, which had a long history of suffering from Mediterranean plagues, favoured retaining the long detention periods. Russia emerged as a leading opponent of easing quarantine restrictions on ships sailing from the eastern Mediterranean. While its trade with the Ottoman empire and Egypt was significantly more modest than that of Britain and Austria, Russia's long land border with the Ottoman empire also made St Petersburg less willing to experiment with shorter quarantines.

Commerce aside, quarantines and epidemics inspired a great deal of debate in the medical field. Two ideologies about the transmission of epidemic diseases competed for global recognition in the first half of the nineteenth century. The first and more established of the two was contagionism. Contagionists believed that plague was transmitted through contact with a sick person or their contaminated possessions. Contagionist beliefs were born out of observations of the rapid spread of bubonic plague in medieval Europe: if one member of a family fell sick, the entire household would often follow suit. Contagionists insisted that quarantines remained the best means of arresting the epidemic by isolating infected individuals and their possessions. The competing set of beliefs was anti-contagionism; many anti-contagionists were adherents of the miasma ('pollution' in Ancient Greek) theory and known as miasmists. Miasmists held that atmospheric and environmental conditions such as the freshness of air, the proximity of swamps and planetary positions had a bearing on the outbreak and intensity of an epidemic. To combat disease, they advocated improving people's living conditions, including access to sewerage, clean water and rubbish disposal. The contagionist–

⁶⁸ Allison Frank, 'The Children of the Desert and the Laws of the Sea: Austria, Great Britain, the Ottoman Empire, and the Mediterranean Slave Trade in the Nineteenth Century', *American Historical Review*, cxvii, 2 (2012), 415; Ronald E. Coons, 'Steamships and Quarantines at Trieste, 1837–1848', *Journal of the History of Medicine and Allied Sciences*, xlv (1989).

miasmist debate was critical to the evolution of international responses to epidemics. The currently accepted germ theory of disease would gain prominence in the second half of the nineteenth century, with breakthroughs in bacteriology and modern vaccination in the 1880s.⁶⁹

The cholera pandemic of 1829–37 tipped the debate in favour of anti-contagionists. To a mid-nineteenth-century observer, cholera seemed to have spread haphazardly, leaping past quarantines, which reinforced the perception that quarantines were ineffective and should be abolished.⁷⁰ As European governments hastily erected new quarantines amid the cholera pan(dem)ic, their medical establishments grew increasingly anti-contagionist. The French Academy of Sciences published a series of anti-contagionist accounts by its members.⁷¹ Likewise, the leading English-language medical journal *The Lancet* was staunchly anti-contagionist throughout the 1830s and 1840s. The quarantines were pronounced by France's Academy of Medicine in 1846 and by Britain's Royal College of Physicians in 1848 to be ineffective against disease, specifically cholera.⁷²

Most states on both sides of the North Atlantic adopted a dual system of epidemiological protections (quarantines and sanitary reforms) that appeased adherents of both medical camps. In the aftermath of the cholera pandemic of 1831, the Ottoman and Egyptian governments likewise instituted both methods of protection. The city of Alexandria led the way in 1841 with a comprehensive sanitary code, emulated by other cities throughout the region, which mandated street repair and cleaning, ventilation of bazaars, food inspection, waste disposal,

⁶⁹ Contagionism and miasmism were not codified ideologies, but, rather, loose sets of medical theories and practices which often overlapped. On the debate between contagionists and miasmists, see Peter Baldwin, *Contagion and the State in Europe, 1830–1930* (Cambridge, 1999), 10–36; Erwin H. Ackerknecht, 'Anticontagionism between 1821 and 1867', *Bulletin of the History of Medicine*, xxii, 5 (1948).

⁷⁰ See James McCabe, *Observations on the Epidemic Cholera of Asia and Europe* (Cheltenham, 1832); John Bowring, *Observations on the Oriental Plague, and on Quarantines, as a Means of Arresting its Progress* (Edinburgh, 1838); M. [Pierre] de Ségur-Dupeyron, *Rapport adressé à son exc. le Ministre du commerce, chargé de procéder à une enquête sur les divers régimes sanitaires de la Méditerranée* (Paris, 1834).

⁷¹ See, for example, Eusèbe de Salle, *Mémoire sur la peste et particulièrement sur son mode de propagation* (Paris, 1841); M. Charles Texier, 'Observations sur la contagion de la peste en Orient', *Comptes rendus hebdomadaires des séances de l'Académie des Sciences*, iv (1837).

⁷² J. C. McDonald, 'The History of Quarantine in Britain during the Nineteenth Century', *Bulletin of the History of Medicine*, xxv, 1 (1951), 31–2.

and fumigation and whitewashing of residential buildings.⁷³ By the 1840s, epidemics had subsided in Egypt and the Ottoman empire, and both contagionist and miasmist camps credited their own reforms with this outcome.

In the 1840s, the Austrian, British and French governments, under pressure from their shipping lobby and medical establishments, started to ease the quarantine periods for ships arriving from the Middle East. In 1841–3, affirming the efficacy of Ottoman and Egyptian quarantine reforms, the Austrian government recognized, for the first time, clean bills of health issued in the eastern Mediterranean ports and reduced quarantines to sixteen days for ships with a clean bill of health arriving from Egypt, fourteen days from Syria, and eleven days from Anatolia. In 1844 quarantine was further reduced for all vessels from the Middle East irrespective of their bill of health.⁷⁴ In 1846 a French fact-finding expedition published a damning analysis of the efficacy of quarantines against plague, which led their government to shorten its quarantine period in Marseille. Instead, it sent medical inspectors to monitor epidemics on the ground, in foreign ports.⁷⁵ A year later, the French authorities in Marseille and the Privy Council in Britain abolished all quarantines for ships from the Levant, as long as they carried a clean bill of health.⁷⁶

V

THE MIDDLE EAST AS A GLOBAL MEDICAL BATTLEGROUND

The medical debates between contagionists and miasmists were dominated by Europeans but were often based in the Global South. By the 1830s, the Middle East had become an arena for European and local doctors, including those on quarantine expeditions, to test their hypotheses. They published their results in leading publications, and not infrequently as pamphlets and books, in French, German and

⁷³ Kuhnke, *Lives at Risk*, 57–9.

⁷⁴ Coons, 'Steamships and Quarantines at Trieste', 50–1.

⁷⁵ George Weisz, *The Medical Mandarins: The French Academy of Medicine in the Nineteenth and Early Twentieth Centuries* (New York, 1995), 77.

⁷⁶ John Booker, *Maritime Quarantine: The British Experience, c.1650–1900* (Aldershot, 2007), 506–7. On British quarantine diplomacy, see Alex Chase-Lenenson, *The Yellow Flag: Quarantine and the British Mediterranean World, 1780–1860* (Cambridge, 2020).

English, designed to sway the medical establishment and influence public policy in their countries. Although the impetus for eastern Mediterranean quarantines was the second cholera pandemic, the international debate focused primarily on preventing another outbreak of plague. Little was known then about 'Asiatic cholera' and whether it would return to Europe.⁷⁷ Plague, however, which had resurfaced in Egypt and the Levant in the mid 1830s, was an old foe and constituted the *raison d'être* for the Mediterranean quarantines, the efficacy of which was now being questioned.

The eastern Mediterranean was a lucrative job market for European physicians. Owing to a shortage of personnel trained in Western medicine, the Ottoman empire and Egypt invited specialists from all over Europe to run their new hospitals and quarantine stations. Mehmet Ali appointed the Frenchman Antoine Clot (known in Egypt as Clot Bey) as head of the military Medical Council in Cairo.⁷⁸ Across the sea, the Frenchman Sade de Galliere and the Austrians Karl Ambroso Bernard and Anton Lago presided over Ottoman medical reforms.⁷⁹ French, Austrian, Italian and German medics constituted the majority of arrivals, but Ottoman and Egyptian institutions also employed Russian, Polish, British and Scandinavian specialists. Foreign medical personnel received generous salaries from the Ottoman and Egyptian governments, or private endowments, and enjoyed tax exemptions. They were courted by local elites, who sought the best health care for their families, and they were often accorded a higher social status than they could have expected back home. Most of them resided in Istanbul, Izmir, Alexandria, Cairo or Beirut, but, because the Egyptian and Ottoman quarantine regulations required a European specialist in every local quarantine station, European

⁷⁷ The global community would experience three more cholera pandemics, in 1846–60, 1863–75 and 1881–96, before Robert Koch isolated the cholera vibrio after leading the German Cholera Commission to study an outbreak in Egypt in 1883.

⁷⁸ Clot Bey lived in Egypt in 1825–49 and 1856–8. On his illustrious career in Egypt, see Fahmy, *All the Pasha's Men*, 210, 212–13, 216–21; Kuhnke, *Lives at Risk*, 34–48, 122–4; Antoine B. Clot Bey, *Mémoires* (Cairo, 1949).

⁷⁹ Marcel Chahrour, "A Civilizing Mission?" Austrian Medicine and the Reform of Medical Structures in the Ottoman Empire, 1838–1850', *Studies in History and Philosophy of Biological and Biomedical Sciences*, xxxviii, 4 (2007); Bulmuş, *Plague, Quarantines and Geopolitics in the Ottoman Empire*, 11.

medics could be found even in small towns in Syria and Egypt.⁸⁰ As early as the 1830s, David Porter, an American chargé d'affaires in the Ottoman empire, was writing that, upon his visit to the small town of Gemlik, near Istanbul, during a smallpox outbreak, he discovered that 'the place was infested with Frank [European] doctors'.⁸¹

These Europeans imported the contagionist–miasmist debate to the medical scene in the eastern Mediterranean. In Egypt, for example, Clot Bey, who came to dominate the country's medical establishment in the 1830s and 1840s, only appointed anti-contagionist doctors to positions in hospitals, military units and the Egyptian fleet. While based in Egypt, the site of the most recent epidemic of plague, Clot Bey came out strongly in opposition to quarantines, which reinforced anti-contagionist arguments back in his native France. Conversely, the Quarantine Board based in Alexandria, under the leadership of the Italian Francesco Grassi, followed contagionist practices in the lazarettos and quarantine stations.⁸²

Was plague contagious? In the first half of the nineteenth century, as the European colonial empires encountered new epidemic diseases that had different transmission systems from that of plague, such as yellow fever and cholera, the contagiousness of plague was being questioned.⁸³ In Britain, Charles Maclean, a major anti-contagionist figure who had studied plague in the Levant, disputed the contagiousness of

⁸⁰ See Kuhnke, *Lives at Risk*, 168–75, 189–90; Ersoy, Gungor and Akpınar, 'International Sanitary Conferences from the Ottoman Perspective', 55.

⁸¹ Porter wrote that smallpox had devastated Gemlik because of malpractice by an unnamed Russian doctor, a 'fine young man' who had passed through the area some time before. He had offered to vaccinate local children, but used smallpox matter instead of a vaccine, thus infecting the children, who had all since died. The tragedy led to an outbreak of smallpox in the community and the residents' aversion to any vaccination. David Porter, *Constantinople and its Environs in a Series of Letters*, 2 vols. (New York, 1835), i, 271.

⁸² Kuhnke, *Lives at Risk*, 87. An ideological division between the contagionist quarantine personnel and the anti-contagionist leadership of medical boards also appeared in France, with a growing rift between Marseille and Paris.

⁸³ Scientists would correctly identify the mode of plague transmission only half a century later. In 1894 two bacteriologists, Alexandre Yersin and Shibasaburo Kitasato, separately isolated the plague bacillus, now known as *Yersinia pestis*, following an outbreak in Hong Kong. In 1897 Paul-Louis Simond confirmed that rats were key to the transmission of the disease and, in 1898, correctly identified rat fleas as a conductor of the plague bacillus from rats to humans through flea-bites. See Myron Echenberg, *Plague Ports: The Global Urban Impact of Bubonic Plague, 1894–1901* (New York, 2007), 33, 69.

plague victims.⁸⁴ In response to his writings on the subject, the Royal College of Physicians convened a committee to investigate the doctrine of contagion, but in 1819 ruled that plague was contagious and indeed communicated solely by contact.⁸⁵ The question was revisited when the quarantines instituted after 1831 failed to prevent the deadly outbreak in Egypt in 1835.⁸⁶ In the 1830s, Clot Bey founded an international commission to study whether plague was communicable. The commission exposed healthy Egyptian subjects to the disease by inoculating them with the pus or blood of victims.⁸⁷ To prove that it was not contagious, Clot Bey even inoculated himself three times with the blood of a plague patient, with no ill effect.⁸⁸ On the other side of the eastern Mediterranean, in 1837, another Frenchman, Arsène-François Bulard, carried out dissections on plague corpses in the Greek Hospital in Izmir, concluding that they were not contagious.⁸⁹ A year later, he shut himself up in a plague hospital in Istanbul, lying in the unchanged beds of plague patients, to prove that the disease was not communicable.⁹⁰ In 1846 the expedition of the French

⁸⁴ Charles Maclean, *Results of an Investigation Respecting Epidemic and Pestilential Diseases, Including Researches in the Levant Concerning the Plague* (London, 1817); Maclean, *Evils of Quarantine Laws, and Non-Existence of Pestilential Contagion*.

⁸⁵ *Report from the Select Committee Appointed to Consider the Validity of the Doctrine of Contagion in the Plague*, in *Philosophical Magazine*, liv (1819); lv (1820).

⁸⁶ In the 1830s, a new generation of anti-contagionists took up Charles Maclean's mantle in an effort to sway public opinion and the British government's policy against quarantines: see Bowring, *Observations on the Oriental Plague, and on Quarantines, as a Means of Arresting its Progress*; Holroyd, *Quarantine Laws*. On the debate over plague in Egypt, see Francesco Grassi and Antoine B. Clot Bey, 'Controverse sur le caractère contagieux ou non-contagieux de la peste, 1839–1843', in Panzac, *Quarantaines et lazarets*, 141–51. James Laidlaw, a British surgeon at the European Hospital in Alexandria, changed his contagionist beliefs to anti-contagionist after observing the epidemic in Egypt in 1835: 'Report upon the Contagion of the Plague', *Edinburgh Medical and Surgical Journal*, lxxviii (1847).

⁸⁷ Of four criminals who were forced to sleep in plague victims' beds and were inoculated with their blood or bubo pus, two developed symptoms and one died: Kuhnke, *Lives at Risk*, 87, 204 n. 63.

⁸⁸ A.-B. Clot-Bey, *De la peste observée en Égypte: recherches et considérations sur cette maladie* (Paris, 1840), 352–7; Clot Bey, *Mémoires*, 288–90.

⁸⁹ Artemii A. Rafalovich, 'Smirna, Sira' [Smyrna, Syra], *Otechestvennye zapiski*, li, 3 (1847), 48; Aleksandr A. Umanets, 'Karantin i hospitali v Smirne' [Quarantine and Hospitals in Smyrna], *Zhurnal Ministerstva vnutrennikh del*, vii (1844), 301–2, 308.

⁹⁰ Bulard later adopted contagionist beliefs and, while stationed in Egypt and part of Clot Bey's plague commission, clashed with Clot Bey on ideology: Arsène François Bulard, *De la peste orientale, d'après les matériaux recueillis à Alexandrie, au Caire, à Smyrne et à Constantinople, pendant les années 1833, 1834, 1835, 1836*,

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Academy of Medicine reaffirmed that plague patients were not themselves contagious: it was the foul environment in which they lived that infected those around them.⁹¹

The Russian expeditions of Umanets and Rafalovich favoured contagionist theories, which aligned with their government's reluctance to ease the period of quarantine. These medical missions, therefore, not only inspected lazarettos but also gathered evidence in the Middle East to dispel the anti-contagionist conclusions of the French Academy of Medicine and other European miasmists. Thus, Rafalovich interpreted an outbreak in Palestine in the mid 1840s as proof that plague patients were contagious. Reportedly, a group of Christian pilgrims hid the fact that a newborn among them had died of the disease while in quarantine in Jaffa, concealing his body from the authorities. Upon leaving the quarantine station, they visited a monastery that had no history of plague. During their stay, the disease broke out among them, killing some of the pilgrims along with a number of the local clergy. The pilgrims then escaped the monastery and travelled to Jerusalem and Ramallah, both of which soon succumbed.⁹² Rafalovich also found that outbreaks of plague and syphilis in Egypt often occurred at the same time of year, shortly after the Tanta fair, the largest in the country.⁹³ He presented this as evidence that people must be infecting each other during the fair before spreading disease throughout Egypt.⁹⁴ He also reported to the Russian government that, despite the findings of the French Academy of Medicine, plague was transmitted through humans with an incubation period of eight to ten days, so that it was essential to

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1837 et 1838 (Paris, 1839); Adolphus Slade, *Travels in Germany and Russia: Including a Steam Voyage by the Danube and the Euxine from Vienna to Constantinople, in 1838–39* (London, 1840), 99.

⁹¹ Prus, *Rapport à l'Académie Royale de Médecine sur la peste et les quarantaines*.

⁹² Artemii A. Rafalovich, 'Poezdka iz Kaira v Palestinu: El-Arish, Gaza, Iafa, Ierusalim' [A Journey from Cairo to Palestine: Al-Arish, Gaza, Jaffa, Jerusalem], *Zhurnal Ministerstva vnutrennikh del*, xx (1847).

⁹³ The annual Tanta fair drew between a hundred thousand and a hundred fifty thousand visitors: Gabriel Baer, *Studies in the Social History of Modern Egypt* (Chicago, 1969), 138–9.

⁹⁴ Artemii A. Rafalovich, 'Puteshestvie iz Kaira v Aleksandriiu sukhim putiomi chrez vnutrennie oblasti del'ty' [A Journey from Cairo to Alexandria by Land via Interior Provinces of the Delta], *Zhurnal Ministerstva vnutrennikh del*, xxv (1849), 296.

quarantine those travelling from suspect areas for at least that length of time.⁹⁵

In support of their contagionist principles, the two Russian delegations tested a new medical technique of applying intense heat to destroy the infection. The experiment was based on the contagionist view that goods could transmit plague, and therefore also needed to be quarantined. A recent outbreak of plague in Acre, for example, was commonly blamed on six Catholic monks' opening an old box that contained the possessions of someone who had died from plague many moons ago.⁹⁶ In 1843 Umanets's mission planned to perform an experiment in Cairo in which intense heat was to be applied for twenty-hour hours to clothes that had belonged to a recent plague patient; healthy volunteers were then to wear the clothes to confirm the thesis that heat destroys all plague matter.⁹⁷ A later Arabic source reveals that, as might be predicted, no one had volunteered for the experiment. The Russian expedition, however, carried sufficient clout that the pasha himself ordered convicts in the Liman prison in Alexandria to serve as test subjects for the experiment, 'which is beneficial to mankind'.⁹⁸

The second Russian expedition performed its own medical experiment in Istanbul's Galatasaray Imperial Medical School in 1846. Applying the same heating technique, the mission focused on cowpox. In this, Rafalovich was entering the debate that was pitting two European physicians against one another, namely, Dr Gosse of Geneva and Dr Bò of Genoa. Based on his experiments in Turin in 1841, Dr Gosse claimed that heating

⁹⁵ Rafalovich, 'Kratkii otchet o zaniatiakh na Vostoke ucheno-vrachebnoi ekspeditsii, poslannoi ot MVD', 165–8, 171–3.

⁹⁶ Artemii A. Rafalovich, 'Okrestnosti Ierusalima: put' ot Ierusalima do Beirut' [Enviros of Jerusalem: A Road from Jerusalem to Beirut], *Zhurnal Ministerstva vnutrennikh del*, xx (1847).

⁹⁷ Umanets, *Poezdka na Sinai*, i, pp. v–vi; the committee report was published internally in 1845.

⁹⁸ Amin Sami, *Taqwim al-Nil* [Calendar of the Nile], 3 pts in 5 vols. (Cairo, 1928), ii, 525; cited in Fahmy, *All the Pasha's Men*, 136–7. Exposing prisoners to biological hazard in the name of scientific progress was a common practice. Half a century later, Waldemar Haffkine, a Russian bacteriologist born in Odessa, pioneered vaccines against cholera in 1892 and bubonic plague in 1896. During the outbreak of plague in Mumbai in 1897, Haffkine conducted his first extensive human trials at Mumbai's Byculla and Umkardi prisons, inoculating 298 men in total. In 1899 Haffkine's vaccine was tested in Egypt, where plague returned for the first time in half a century: Echenberg, *Plague Ports*, 60–2, 98; House of Commons, *Reports from Commissioners, Inspectors, and Others*, 51 vols. (1908), xlvii, 222.

cowpox matter destroyed its ability to produce pockmarks after vaccination. Conversely, Dr Bò denied the validity of the heating technique, criticizing the methodology of the first Russian expedition's experiment.⁹⁹ Rafalovich collected cowpox matter from the pockmarks of six recently vaccinated children (four Greeks, one Turk and one Circassian) whose families had volunteered them for the experiment. He left two samples untouched, and placed two samples in boiling water for twelve hours and two for twenty-four hours. He then inoculated eight healthy child volunteers (whose names suggest that they were Jewish) with the three types of cowpox matter. Five days later, he visited the eight families and found that all those vaccinated with unheated cowpox matter had developed pockmarks, while those inoculated with heated matter had not. He concluded that the experiment had successfully proved that constant heat destroyed the ability of the disease to be passed on.¹⁰⁰ Although the experiment featured cowpox, not plague, it bolstered the contagionist hypothesis that a substance known to be infected could be quickly and successfully decontaminated.

The expeditions also took a close look at old corpses, widely believed to be a source of plague. Many miasmists upheld the 'cadaveric virus theory', a nineteenth-century iteration of the Galenic idea that disease was caused by miasma from decaying organic matter.¹⁰¹ They believed that disintegrating human bodies buried without coffins released noxious vapours that found their way to the surface and poisoned the air. Miasmists considered graveyards to be hotbeds of epidemic disease, particularly plague, and advocated relocating graveyards outside city limits. The theory was endorsed by Etienne Pariset, the permanent secretary of the French Academy of Medicine, based on his study of plague in Syria and Egypt in 1827.¹⁰²

⁹⁹ L.-A. Gosse, *De la réforme des quarantaines: mémoire adressé à Sa Majesté Charles-Albert, roi de Sardaigne, etc.* (Geneva, 1842), 106–9; Angelo Bò, *Sugli attuali novatori in fatto di quarantene e sui risultati delle esperienze sulla facoltà disinfettante del calorico istituite dalla Commissione sanitaria russa in Egitto* (Genoa, 1844), 12; abridged in *Annali universali di medicina*, cx, 328 (1844).

¹⁰⁰ Artemii A. Rafalovich, 'Bol'nitsy; bolezni, gospodstvuiushchie v Konstantinopole; deistvie usilennoi teploty na korov'iu ospennuiu materiui' [Hospitals; Dominant Diseases in Constantinople; An Effect of Enhanced Heat on Cowpox Matter], *Otechestvennye zapiski*, xlix, 12 (1846).

¹⁰¹ Kuhnke, *Lives at Risk*, 70.

¹⁰² Pariset, 'Mémoire sur les causes de la peste, et sur les moyens de la détruire'.

Contagionists, on the other hand, did not believe that the disintegrating corpses had any effect on the emergence of plague. Rafalovich observed that, although plague often resurfaced around a large Muslim cemetery in Istanbul's Galata neighbourhood, other areas of Galata were affected as badly and sometimes plague spared areas around cemeteries. He credited Ottoman quarantines with the disappearance of plague in Istanbul and, because the position of cemeteries was unchanged, he held the cadaveric virus theory to be false.¹⁰³

In Izmir, Rafalovich challenged Louis Aubert-Roche, a French doctor based in Egypt, who had visited the city in the 1830s and claimed that the intolerable putrid smell emanated from the city's cemeteries.¹⁰⁴ Accordingly, Rafalovich asked the director of the Greek Hospital in Izmir to allow him to dig up a grave for research purposes. Having received permission, he excavated a two-month-old grave to examine the corpse. Although he found an advanced level of decomposition, there was no odour, which for him was proof enough that buried bodies in Izmir were not releasing any poisonous vapours that could produce plague.¹⁰⁵ This experiment, which miasmists considered detrimental to health, and Izmir's residents certainly regarded as blasphemous, was intended to challenge the anti-contagionist cadaveric virus theory at the very site where it had allegedly been validated.

In their approach, the two Russian expeditions could best be described as 'contingent contagionists'.¹⁰⁶ While they disagreed with anti-contagionists on how plague was transmitted and could be prevented, they accepted the miasmist premiss that the environment played a role in its initial emergence. For them, some towns were so poorly situated, near swamps, or with bad air circulation, or open to dusty desert winds, that the disease took hold there easily.

¹⁰³ Rafalovich, 'Bol'nitsy', 117–18.

¹⁰⁴ Louis Aubert-Roche, *De la peste ou typhus d'Orient: documents et observations recueillis pendant les années 1834 à 1838, en Égypte, en Arabie, sur la Mer Rouge, en Abyssinie, Smyrne et à Constantinople* (Paris, 1840), 108, 116. In 1835 Aubert-Roche was dismissed from the marines' hospital in Alexandria for failing to enforce quarantine during the outbreak of plague. Other European physicians, including Henry Abbott, an English naval surgeon, and Dr Koch, a German chief surgeon for the Egyptian fleet, were also dismissed for their non-compliance with quarantine regulations: Kuhnke, *Lives at Risk*, 88–9.

¹⁰⁵ Rafalovich, 'Smirna, Sira', 46–7, 50.

¹⁰⁶ See Ackerknecht, 'Anticontagionism between 1821 and 1867', 568–9.

Accordingly, the missions carefully documented the geographic and environmental conditions of every place they visited in the Middle East, and their environmentalist assumptions reinforced a belief, shared by many contagionists and anti-contagionists alike throughout Europe, that plague must have a birthplace.

However, Rafalovich denied that plague could originate in either Istanbul or Izmir. Istanbul was situated on hills, with plenty of fresh air, while its predominantly wooden architecture allowed air to circulate freely, though Rafalovich did express concern for the neighbourhood of Galata, favoured by Europeans, because it was overcrowded and had a primitive sewerage system.¹⁰⁷ Likewise, although both Rafalovich and Umanets found the Christian lower town of Izmir to be 'filthy' and congested, they commended the Muslim upper town for its wooden architecture and mountain air. It was the Izmir quarantine, the showpiece of Ottoman quarantine reforms, that in their view protected the empire's second city from external epidemics.¹⁰⁸ (See [Plate](#).)

The Levantine ports were considered to be at greater risk of plague than those of Anatolia, and the Quarantine Administration in Istanbul set up a quarantine line between Anatolia and Syria, cutting off the Arab provinces from the rest of the Ottoman empire. The Ottomans effectively implemented a double cordon sanitaire for all caravans travelling from Egypt, via Palestine and Syria, to Anatolia.¹⁰⁹ In 1846 the French Academy of Medicine, based on its own investigative expedition, concluded that plague originated in Syria. Its report described the Syrian interior as a desert-like bowl, surrounded by mountains, which hindered circulation of air; this unfortunate geographical position, coupled with poor hygiene throughout the Levant, created plagues.¹¹⁰ However, Rafalovich used environmental arguments to come to a different conclusion: Syria's mountains brought fresh air into the interior, its well water was clean, and its cities were not crowded enough for

¹⁰⁷ Rafalovich, 'Bol'nitsy', 116–17.

¹⁰⁸ Umanets, 'Karantin i gospitali v Smirne', 305; Rafalovich, 'Smirna, Sira', 37–9.

¹⁰⁹ Artemii A. Rafalovich, 'Obshchie zakliucheniiia o Sirii i Palestine v otnoshenii ikh k chume' [General Conclusions about Syria and Palestine in Regard to Plague], *Zhurnal Ministerstva vnutrennikh del*, xxiv (1848).

¹¹⁰ Prus, *Rapport à l'Académie Royale de Médecine sur la peste et les quarantaines*.



The Izmir lazaretto, between 1860 and 1890. Photograph from Félix Bonfils *et al.*, *Constantinople, Smyrna, Beyrout, Ba'albec, Damascus*, 15a, < <https://www.loc.gov/item/93500449/> > .

plague to arise naturally. If plague was endemic in Syria, it would have recurred regularly, yet no outbreaks had been recorded for at least five years, for which he credited the Ottoman quarantine line between Syria and Egypt.¹¹¹

Egypt was uniformly regarded by both Ottoman officialdom and European public-health authorities as the eastern Mediterranean region most prone to plague. Between 1800 and 1844, it suffered outbreaks in twenty-one out of the forty-five years.¹¹² Both Umanets and Rafalovich regarded the country, particularly Lower Egypt, as a birthplace of plague. Rafalovich reported that the disease had become endemic because of the particular environmental conditions of the Nile delta, with annual floods that washed out cemeteries, canals that were polluted with standing water, overcrowded villages, and brick architecture that prevented circulation of air.¹¹³

¹¹¹ Rafalovich, 'Obshchie zakliucheniiia'.

¹¹² Justin A. McCarthy, 'Nineteenth-Century Egyptian Population', *Middle Eastern Studies*, xii, 3 (1976).

¹¹³ Umanets, *Poezdka na Sinai*, i, 129; Artemii A. Rafalovich, 'Srednii i Verkhnii Egipet v administrativnom i mediko-politseiskom otnoshenii' [Middle and Upper Egypt in the Administrative and Medical-Constabulary Respect], *Zhurnal Ministerstva vnutrennikh del*, xxv (1849), 144–51. The view of Egypt as a 'birthplace

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The Russian travellers made a host of recommendations to their Egyptian colleagues regarding ways in which they could improve their sanitary reforms. The second expedition entered into the ongoing conversations about Egyptian 'model villages' that were being constructed, purportedly, to increase the productivity of the population.¹¹⁴ The Russians approached these model villages as an opportunity to eradicate epidemic contagion. They envisioned them with wide streets, spacious houses made of wood and clay (not stone, as it impeded air circulation), and access to fresh water. Local governments would whiten the houses with lime, plant trees, and regularly clean the irrigation canals.¹¹⁵ The idea of model villages would be revived in twentieth-century Egypt, when sanitary benefits were used to legitimize the forced relocation of Egyptian peasants.¹¹⁶

The European medical expeditions in the eastern Mediterranean added a layer of justification to the growing political divide between the Ottoman empire and Egypt. Even after Egypt had been reincorporated into the Ottoman political system in 1840, the two quarantine networks, governed from Istanbul and Alexandria, remained separate, if mutually reinforcing, systems.¹¹⁷ During that decade, European medics, including the Russian missions, viewed the Ottoman empire and Egypt as two distinct political entities for epidemiological purposes. Most of them regarded the Ottoman empire as merely a conduit of plague, and Egypt as its birthplace. For medical inspectors, the border that mattered most in the Middle East was the one separating Palestine from Sinai, which coincided with the administrative frontier between Ottoman Syria, which Istanbul had reclaimed, and Ottoman Egypt, now ruled autonomously by Mehmet Ali. The quarantines in Gaza and

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of plague' was an old one in Europe: Russell, *A Treatise of the Plague*, ii, 313; Gilbert Blane, *Letters, etc., on the Subject of Quarantine* (London, 1799), 3.

¹¹⁴ See Timothy Mitchell, *Colonising Egypt* (Berkeley, 1991), 44–8, 92–3.

¹¹⁵ Rafalovich, 'Puteshestvie iz Kaira v Aleksandriiu sukhim putiom chrez vnutrennie oblasti del'ty', 313–15. For similar recommendations, see J.-B. Lautour, 'Mémoire sur l'état hygiénique de l'Égypte', *Revue de l'Orient: bulletin de la Société Orientale*, iv (1844).

¹¹⁶ See Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley, 2002), 184–206.

¹¹⁷ Kuhnke, *Lives at Risk*, 97.

al-Arish, set up along the Palestine–Sinai border, were guarding the public health of the domains of the sultan and the pasha.¹¹⁸

The Russian expeditions interviewed dozens of witnesses about their memories of plague. While the medics focused on descriptions of symptoms, their accounts also reveal what locals had to say about the ‘birthplace of plague’. All the Turkish, Greek and Arab communities that were interviewed were adamant that plague never originated in their locale but was always brought in from outside. Alan Mikhail rightly notes that quarantines, feared and despised by local people as tools of state coercion, transformed plague into a ‘foreign’ disease that could no longer be local and familiar.¹¹⁹ Thus, the Gazans blamed the epidemic of 1838 on pilgrims from Cyprus and Antalya; the plague of 1841 in Acre reportedly came from Egypt; and the plague that struck Damascus in the same year had been carried by soldiers from Tyre, in Lebanon.¹²⁰ Doctors in Izmir assured the Russian expeditions that plague regularly arrived in Izmir from Istanbul, Syria or Egypt.¹²¹ Even in the Nile delta, plague was considered an alien disease, having arrived from other parts of the eastern Mediterranean.¹²²

The conclusions of the two Russian missions went against the growing consensus among the British, Austrians and French that plague had disappeared permanently from the eastern Mediterranean. The two expeditions, while complimenting the commitment of the sultan and the pasha to quarantine reforms, held that plague was endemic in Egypt, and that the eastern

¹¹⁸ In 1843 Ida Hahn-Hahn lamented having to spend time in Egypt’s al-Arish quarantine shortly after staying in the Ottoman quarantine in Gaza: ‘Only fancy, here we are sitting in quarantine! ... As if Egypt were not the real hot-bed of the plague!’: Ida, Countess Hahn-Hahn, *Letters of a German Countess: Written during her Travels in Turkey, Egypt, the Holy Land, Syria, Nubia &c.*, in 1843–4, 3 vols. (London, 1845), ii, 297.

¹¹⁹ Mikhail, *Nature and Empire in Ottoman Egypt*, 238–40. On quarantines and sanitary reforms as state coercion in Egypt, see Fahmy, *All the Pasha’s Men*, 226; Mitchell, *Colonising Egypt*, 65–7, 98–9.

¹²⁰ See, respectively, Rafalovich, ‘Poezdka iz Kaira v Palestinu’; Rafalovich, ‘Okrestnosti Ierusalima’; Artemii A. Rafalovich, ‘Poezdka iz Beirut v Damask chrez Tripoli i vozvrashchenie iz Damaska v Beirut chrez Deir-el-Kamar’ [A Journey from Beirut to Damascus via Tripoli and Return from Damascus to Beirut via Deir al-Qamar], *Zhurnal Ministerstva vnutrennikh del*, xxii (1848).

¹²¹ Umanets, ‘Karantin i gospitali v Smirne’, 302; Rafalovich, ‘Smirna, Sira’, 55, 57.

¹²² Artemii A. Rafalovich, ‘Aleksandriia’ [Alexandria], *Zhurnal Ministerstva vnutrennikh del*, xviii (1847).

Mediterranean quarantines could not be guaranteed to contain epidemics. They recommended the maintenance of strict periods of quarantine for ships from the eastern Mediterranean whenever plague was suspected in the Middle East, and as a result of the missions from Odessa, the Russian government continued its policy of stringent quarantine in the Black Sea ports for decades to come.¹²³

VI

CONCLUSION

In the second quarter of the nineteenth century, the global battlefield of ideas and practices in the fight against epidemics shifted from medical schools in Paris, Vienna and London, and lazarettos in Marseille, Trieste and Odessa, to those in the Ottoman empire and Egypt. European medics and sanitary inspectors remained principal actors in this conversation, vigorously debating the nature of plague and ways to prevent it. The quarantine system, once built by the Italian port cities, was declared a universal model by Britain, France and Austria, and embraced by Istanbul and Cairo. A shared quarantine regime based on the idea of isolation during a time of plague had emerged by the 1830s, paralysing international trade and travel.

The quarantine regime, stretching from the Atlantic, through the Mediterranean, into the Black Sea, soon came under attack from some of its founders. These governments needed to pursue a balance between keeping the quarantine period short enough to minimize their commercial losses, yet long enough to avoid another pandemic. In the age of steamships and railways, when epidemiological theories were routinely politicized to further the governments' economic objectives, lengthy quarantines no longer seemed sustainable. From the 1840s, governments across the Mediterranean kept decreasing the length of quarantine while prioritizing new urban sanitary reforms, thereby furthering a symbiosis between contagionist and miasmist ideas about the transmission and prevention of epidemic disease.

The Odessa expeditions signalled the increasing involvement of Russia in the eastern Mediterranean. As quarantine reforms

¹²³ Artemii A. Rafalovich, 'Siriiskie karantiny' [Syrian Quarantines], *Zhurnal Ministerstva vnutrennikh del*, xx (1847); Rafalovich, 'Kratkii otchet o zaniatiakh na Vostoke ucheno-vrachebnoi ekspeditsii, poslannoii ot MVD', 163–5, 171–3.

converged with international trade and diplomacy in the area, Russia sought to stake out its opposition to shortening the period of quarantine by means of its plague expeditions, the two missions gathering scientific data about the efficacy of the Ottoman and Egyptian quarantines. The missions also asserted the membership and active participation of Russian medics in the European medical community, the two specialists from Odessa aligning themselves with Europe's contagionist authorities, picking battles with French miasmists, and criticizing perceived flaws in the sultan's and the pasha's public-health systems.

The quarantine reforms represent a medical dimension to European, including Russian, imperialism in the Middle East. Foreign consuls sat on quarantine boards in Istanbul and Alexandria, overseas quarantine specialists inspected Ottoman and Egyptian lazarettos, and doctors trained in Europe assumed remunerative positions in new hospitals across the eastern Mediterranean. Sanitary reforms found an enthusiastic response from the sultan's and the pasha's governments, which had much to gain from their new quarantine and health-care infrastructure, and therefore these reforms may not seem as flagrantly exploitative as other facets of imperialism (for example, at the same time, European consuls were demanding massive economic concessions and guardianship over Ottoman Christians). However, the European medical missions, in evaluating eastern Mediterranean quarantines and performing experiments on Ottoman and Egyptian subjects, were reinforcing the unequal balance of power between Europe and the Middle Eastern states. They were also perpetuating among European scientific and popular audiences orientalist visions of Egypt as a 'birthplace of plague', and of Muslim communities as resistant to Western reforms.

The Ottoman and Egyptian quarantine reforms in the 1830s largely eliminated outbreaks of plague in the eastern Mediterranean. The international quarantine boards in Istanbul and Alexandria reflected an increasingly global response to epidemics, and their success prompted the French government to suggest an international congress of all nations with ports on the Mediterranean.¹²⁴ Thus, the European states and the Ottoman empire convened an International Sanitary Conference in 1851, the first of fourteen. The first two conferences were held in Paris,

¹²⁴ See Booker, *Maritime Quarantine*, ch. 15.

while Istanbul was chosen to host the third conference, in 1866, and remained the easternmost city ever to hold one. These conferences established the institutional framework for the World Health Organization, founded after the Second World War, and laid the basis for international sanitary law.¹²⁵ From standardized quarantine regulations to international inspections, the global epidemiological infrastructure today owes its origins, in many ways, to the mid-nineteenth-century Ottoman and Egyptian quarantines and the vibrant debates about plague, detention and corpse odour in the eastern Mediterranean.

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¹²⁵ McDonald, 'History of Quarantine in Britain during the Nineteenth Century', 38.