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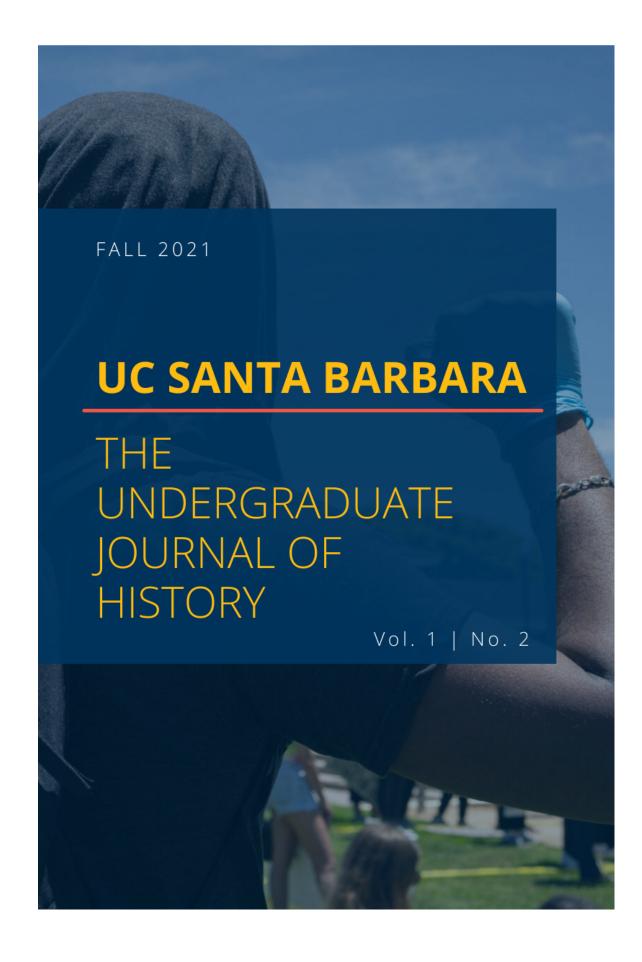
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### **Cover Image**

On the cover, a protestor wearing nitrile gloves and holding his fist, 31 May 2020. Credit: Sicheng Wang | Daily Nexus.

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### Quarantine in eighteenth and nineteenth Century England: Epidemics and Empires

### Jacqueline Isero

#### Introduction

The sun never set on the British Empire, and, therefore, daylight was omnipresent. Unfortunately, so too was disease.1 The colonization of foreign lands and the subjugation of alien peoples involved in empire-building produced many epidemic outbreaks of disease. Most nations responded with quarantine and sanitary measures—the British were no different. The British Empire, which accounted for nearly one quarter of the world's landmass and more than one quarter of its inhabitants, reached its zenith at the end of the nineteenth century.<sup>2</sup> Towards the beginning of this century, England adopted the laissez-faire economic philosophy of economist Adam Smith's Wealth of Nations and slowly abandoned their formerly mercantilist preferences and policy.<sup>3</sup> It was near the same time that anticontagionists called to question the efficacy of quarantine, which they saw as an unnecessary inconvenience that thwarted trade and inhibited economic growth.<sup>4</sup> Laws mandating quarantine in England only lasted as long as they did because, without them, countries who believed strongly, and correctly, in the benefits of quarantine would have further harmed the British economy by indiscriminately quarantining British ships, whose laxity on sanitary measures they would have conceived as a threat. The debate surrounding quarantine law was multi-tiered: it was simultaneously a matter of economics, a source of international conflict that required diplomatic resolution, and an argument concerning the nature of disease propagation. The repeal of quarantine law and the birth of free-trade ideology are inextricably intertwined: the contagionist debate adapted to the political and economic climate of the nineteenth-century British Empire and the preservation of public health was subverted by the financial interests of influential men.

The evolution of English quarantine law closely paralleled the debate concerning the proper method of the propagation of plague and other diseases. Quarantine was favored when the contagionists were in fashion and disfavored when the anticontagionists reigned. As a result, contagionism became less favorable as the British Empire grew and amassed wealth through unfettered trade. The favorability and disfavorability of contagionism as a theory of disease propagation was affected by the political and economic context in which it was espoused. Venetians, the most frequent traders with the East during the Black Death, are often credited for creating the first complete quarantine code in 1448. The English word "quarantine" is said to have been derived from the Italian "quaranta", which translates to forty and "giorni", which means days. <sup>6</sup> In "A Century of English Quarantine," twentieth-century historian Charles F. Mullett records the inconsistencies and reversals that plagued English quarantine law. In his lectures on quarantine, Dr Collingridge outlines a similar history. <sup>7</sup> Considering the long precedent of quarantine law that dates back before the Venetian's 1448 code, Britain's eventual repeal of quarantine laws in 1896 was extraordinarily backwards and antiquated.

### Contagionism, Mercantilism, and the Quarantine Laws of 1710 and 1720

At the beginning of the eighteenth century in Britain, mercantilist economic philosophy continued to prevail.<sup>8</sup> In her book *Harmony and Balance: An Intellectual History of Seventeenth-Century English Economic Thought*, Andrea Finkelstein writes, "the salient characteristics of the

mercantile system were its definition of wealth as gold and silver, its concentration on a positive balance of trade to the exclusion of the domestic economy (because it saw that domestic economy as not bringing gold/silver into the economy), its reliance on monopoly to accomplish that positive balance, and its sacrifice of the desires and needs of the domestic consumer to the requirements of the export-producer. Thus, it was a set of government policies supported by the commercial exporter devolving from a false definition of wealth." Mercantilist economists define wealth as gold and silver, which are natural resources that could not be made artificially, effectively determined wealth to be a finite entity. The increasing trade that accompanied mercantilist policies in Britain and the rush to obtain as much of the world's finite wealth as possible was the perfect environment for the spread of disease. The speed at which disease spread would only get progressively worse as transportation from place to place became faster and more frequent.

The implementation and enforcement of quarantine mandates implicitly accepted the concept of contagionism—and it was this implication that anticontagionists rejected wholeheartedly. Contagionism refers to theories that espouse diseases that are communicable from person to person and are transferred via the infected or contagious matter of some sort. Without contagion theory, quarantine procedures would have no place. In his article entitled "Plague and Contagionism in Eighteenth-Century England: the Role of Richard Mead," Arnold Zuckerman writes, "the concept of 'contagion' was known "in ancient times to medical professionals and laypersons, if not by that name, but 'learned physicians' had found it difficult to reconcile contagion with humoral and miasmatic theories of epidemic diseases." The humoral theory dates back to Galen, Hippocrates, and classical Greek medicine, and it postulates that the body contains four bodily humors, which, if unbalanced, cause disease. Miasmatic theory, a type of atmospheric theory of disease, posits that disease is caused by "miasma," or bad air, which the diseased person would have encountered before falling ill. Miasmatic and Humoral theories of disease are distinct from contagionism. They do not necessitate the diseased person to contact infected matter, and they often deny the transferability of diseases as a route of infection and disease propagation. The ordinary person, Zuckerman argues, was aware of the contagious nature of specific diseases—he could see the aftermath of interacting with a sick person, and he witnessed his neighbors and family members succumb to diseases that spread from family to family. However, the official medical discourse disregarded this and primarily stuck to humoral or atmospheric theories of diseases that kept their worldview and system of belief intact.<sup>11</sup>

Contagionism was introduced into the official discourse in the early eighteenth century and was briefly popularized before being overrun once again by anticontagionist medical practitioners and political pundits. Contagionists did not put as much faith into coincidence and happenstance as did anticontagionists. They tended to discredit anecdotal accounts of epidemics unless they could find hard facts, such as reliably documented deaths from or government response to a disease, to back up the occurrence of the events described. One of the premiere contagionists responsible for the recommendations which led Parliament to enact the quarantine act of 1720 was Richard Mead. Zuckerman writes that Mead's ideology was "something of a compromise between the contagionist and miasmatic theories." The miasma, in Mead's thinking, was the source of the contagion in many instances. Mead, Zuckerman writes, believed that the plague was "propagated by diseased persons, by merchandise from infected places, and by the air." Mead believed in the communication of disease from person to person and from country to country through contagious matter, a controversial stance. In his treatise "A Short Discourse on Pestilential Contagion, and the Methods to be Used to Prevent It," Richard Mead implores that the reader uses the "utmost

Diligence" in "finding out means to keep our selves clear" from a plague. To this end, Mead recommends "obliging Ships, that come from *Infected* Places, to perform Quarantine" and continues to list quarantine rules he thinks it is necessary to follow in the case of an epidemic of disease, including the much-contested institution of lazarettos. <sup>16</sup> Mead was a well-respected friend to Isaac Newton, vice president of the Royal Society, member of the College of Physicians, and the doctor to the "Princess of Wales." His recommendations for quarantine were taken seriously by Parliament and implemented. <sup>17</sup>

The first two quarantine acts were reactionary in response to significant epidemics in foreign states. According to both Collingridge and Mullett, the first official quarantine act passed by Parliament was enacted in 1710 or "the ninth year of the reign of Queen Anne." Mullett writes that this first quarantine act was "derived, as the commands make plain, from heavy mortality in the Baltic," which was then suffering from a "raging" plague. England bore witness to the devastation of the Baltic states. The adoption of quarantine in England was an effort to stave off a similar ruin. Mullet writes that the first quarantine act set the foundation for the next 115 years of quarantine law. It ordered that

no one should board these ships without a license, and after December 25, 1710, no master should go on shore or permit any passenger or member of his crew to do so without a license; otherwise, the ship was forfeited to the queen. Persons going on shore were to be returned to quarantine. Any boat on the ship might be seized during detention by the quarantine officer who would maintain watches to prevent any coming or going. After the tension the ship could be certified and proceed on its way; after quarantine also, the cargo would be opened and aired.<sup>21</sup>

The general idea was to prevent infected persons from leaving while protecting healthy persons from becoming infected. This general principle would carry through the next century of quarantine law. This purposeful restriction of free movement would also become an object of criticism by anticontagionists with economic agendas.

The second quarantine act was enacted in 1720—and went into effect in 1721—in response to an alarming outbreak of plague in Marseilles.<sup>22</sup> Mullett argues that, in light of the Marseilles plague, the first quarantine act and the penalties it provided for were seen to be insufficient and not harsh enough. In the new act, penalties were increased, and power was conferred to the King, allowing him to mandate quarantine as he saw fit. The act allowed for better enforcement, but it also allowed greater license to be taken with preventative measures. The statute enacted by the second act was shortened and added to over time, with at least three intermediate acts which attempted to revise parts of the 1720 act, but there were no significant changes in the law until 1805. The quarantine act of 1720 and its intermediate acts bolstered quarantine as an accepted policy in Britain.

Data was often manipulated in the contagionist versus anticontagionist debate. Dr Charles Maclean, a medical doctor and well-known opponent of contagionism, concurs with Milroy in his "Obligations of Governments to Abolish the Laws of Quarantine." Maclean includes data tables in his article and uses the data to conclude that the mortality from disease during epidemics with quarantine laws was higher than in the epidemics without quarantine laws or during which quarantine laws were not followed. <sup>24</sup>Maclean writes: "The excess of mortality, in those pestilences, in which the Quarantine Laws were applied, over that in which they were not applied, was, in 1603, 11,408; in 1625, 25, 872; in 1665, 71, 420; forming a total of 108, 700 deaths, attributable, my conclusions being correct, principally to the operation of Quarantine Laws, in these three pestilences." Maclean also focuses on case studies in which

non-adherence to quarantine regulations brought about the end of the plague epidemic. Maclean recounts that in Marseilles in 1720,

it was when the mortality was at the height, when all precautions were abandoned in despair, when the shops were opened for the supply of the public, and when religious processions were resorted to, by which the people were brought together in masses, that the pestilence began immediately to abate, continuing regularly to decrease until its final cessation.<sup>25</sup>

Maclean claims that the resumption of everyday life and behavior halted the plague and that it is the break from routine quarantine that makes people sicker. Anticontagionists often contradicted themselves by proclaiming the arrival of a diseased person in port and the subsequent spread of the same disease was a coincidence while also placing direct blame on quarantine regulations for increased mortality.

# Anti-contagionists, Free Trade Ideology, and the 1825 Relaxation of Quarantine Laws

Anti-contagionists recognized that quarantine was built on contagionism and was, therefore, fundamentally flawed. Why would they accept quarantine laws when the laws were designed to protect against a phenomenon they did not believe to exist? One of the foremost opponents of quarantine in nineteenth-century England, Dr Gavin Milroy, comments on contagionism: "upon this most absurd belief, the machinery of quarantine regulations has been mainly planned."26 Milroy argues that regulations that are built within a contagionist frame of mind must be inherently erroneous. Milroy uses case exemplars to further his argument. He claims that "small islands present, of course, the most favorable opportunities for inquiry" and uses Malta, Gozo, and the Ionian islands towards this end. Milroy uses the existence of quarantine protocols and sanitary measures in these case studies to argue that quarantine is ineffective: "these countries profess to place the greatest reliance on quarantine measures and certainly carry them out with the greatest rigor, the experience of the recent epidemic has again shown their inefficacy against its invasion."<sup>27</sup> Milroy shows that these islands had strict quarantine procedures in place and were still suffering outbreaks of plague, so, therefore, quarantine must not have been working. Of course, even the most stringent quarantine protocols can be bypassed by individuals or organisms and rendered defective; the protocols' presence alone does not prove or disprove their efficacy, a point which contagionists would later harp on.

The transition from contagionism back to anti-contagionism was economically motivated and as political as it was ideological. Mid-nineteenth century contagionists recognized their decline into disfavor. However, they still quarreled with those in favor of repealing quarantine laws because they saw them as burdensome to the nation and based on fallacious reasoning. T. Spencer Wells, Surgeon to the Samaritan Hospital and contemporary of Milroy and Maclean, offers a rebuttal to Milroy's "Operation and Results of Quarantine in British Ships Since the Beginning of the Present Century."28 In his article, "On the Practical Results of Quarantine," Wells claims he can trace every outbreak of disease in European ports back to the arrival of diseased persons, and he mocks proponents of miasma or atmospheric theories of disease: "the old reply would of course be offered, that these were mere coincidences, and that the arrival of a plague patient in a healthy sea-port had nothing whatever to do with the disease which followed his arrival, but that this was owing to some open drain or open sewer, which had certainly been in existence for years and years before and since without producing plague, but which, just at the time of arrival of the infected person, had become endowed with some unusual virulence, in consequence of some assumed change in the condition of the atmosphere."29 Wells finds the anticontagionists' logic to be far-fetched

and implausible. He recognizes the mental gymnastics anticontagionists must perform to conform disease epidemics with their Hippocratic, atmospheric, or miasmatic theories of disease. The contagionist theory of disease, Wells believed, was more straightforward and less problematic. Wells directly responds to Milroy's claims that quarantine was either ineffective or harmful with his case studies. He reframes stories of the spread of disease as told by Milroy, draws on his personal experience abroad studying disease and working in lazarettos (of which Milroy had none), and generally details instances in which quarantine was effective. In the end, Wells appeals to common sense and the popular view, which was mainly accepting of contagion theory: "let us suppose ourselves in a sea port or an island, and that a ship arrived with plague on board, I would ask, is the population of that place likely to be more alarmed by hearing that the crew are at liberty to wander through the town or island, or that the sick have been confined in one part of a lazaretto, and the healthy in another; that the ship has been cleansed, and that all persons engaged about her have been kept under observation until all danger of spreading the disease has ceased? Common sense can give but one answer to this."30 Wells knows that the citizenry would prefer to have the people from the diseased ship separated from them, despite doctors' official opinion that disease is not contagious—and for this reason, he thinks quarantine is the wisest course of action. He sees what the established medical profession does not: that quarantine helps maintain society's tranquillity and security by avoiding mass hysteria about freely wandering agents of disease. Regardless of the soundness of Wells' logic, however, anticontagionist theory prevailed in the nineteenth century.

The quarantine act of 1805, unlike the 1710 and 1720 acts, was a deliberate and calculated reaction to the country's economic condition as opposed to an emotional expression of fear. Mullett writes that, from the passing of the 1805 act forward, "attacks on quarantine, its principles and its cost, steadily mounted, but official opinion, in medical and political circles alike, adhered to the doctrine of contagion for another twenty years, and even then, was willing to make only mild concessions." The first indications of leniency, however, sparked a revolutionary debate between political and scientific factions.

In 1825, exactly twenty years later, an act which "repealed the several laws relating to quarantine and made other provisions in lieu thereof" was passed.<sup>32</sup> Mullett clarifies that the most significant change the act wrought was abolishing the death penalty for quarantine offenses, which considerably relaxed quarantine law.<sup>33</sup> Mullet writes, "it was this relaxation that most aroused the defenders of contagion and quarantine."<sup>34</sup>Contagionists recognized the significant blow they had been dealt via this act and worked to alleviate their status. Earlier quarantine acts had stirred little debate. In 1819, however, Charles Maclean was responsible for motioning for a Select Committee to investigate "the Validity of the Doctrine of Contagion in the Plague."35 Anticontagionists, against protests from the contagionists, argued in Parliament for further relaxation and repeal of quarantine law.<sup>36</sup> In an 1849 "Report on Quarantine" presented to both houses of Parliament, the General Board of Health wrote, "when quarantine was first established, the spread of epidemic diseases exclusively or chiefly by contagion was a doctrine universally received; but during the last century a change has gradually taken place in professional opinion." The Report continues to explain that a result there was a "gradual relaxation of the stringency of quarantine regulations" and a "growing doubt" as to whether quarantine was effective or not.<sup>37</sup> The General Board of Health discusses potential atmospheric causes of recent epidemics and explains why sanitary measures would be superior to quarantine.<sup>38</sup> The Report on Quarantine reveals that Britain had almost completely reversed its stance on quarantine by the mid-nineteenth century in favor of less restrictive regulations.

### British Imperialism, Free Trade, and the 1896 Repeal of Quarantine Laws

The height of the British Empire occurred in the nineteenth century, and this dominance coincides with its abandonment of mercantilism and adoption of free trade ideology.<sup>39</sup> The success of British Imperialism and trade also coincided with the repeal and relaxation of quarantine law. In their article entitled "Free Trade, British hegemony and the international economic order in the nineteenth century," Patrick O'Brien and Geoffrey Pigman write, "at the core of mercantilist thought and political action resided an assumption of a finite (or at least slowly expanding) volume of international trade in commodities and services and its corollary that national shares could only be enlarged by investment in military force and astute diplomacy." O'Brien and Pigman's assessment of mercantilism concurs with Finkelstein's definition of Britain's eighteenth-century mercantile system. O'Brien and Pigman differentiate eighteenth-century mercantilism with nineteenth-century free trade ideology by analyzing British tariff law that suggests an infinite international order and economy.<sup>41</sup> Changes in worldview and international order are possibly attributed to changes in quarantine law.

One of the most frequently used arguments by opponents of quarantine, other than disagreement about the contagious nature of the disease, was economic: quarantine infrastructure came at high cost and inconvenience to the nation that employed it. Anticontagionists like Dr Maclean, Dr Collingridge, and Milroy argued that the disruption caused by quarantine was unwarranted and unlawful. Mullett summarizes Maclean's grievances with the quarantine laws: "the laws increased sickness, mortality and fear, impeded science, produced immorality, obstructed travel, commerce, navigation, and manufactures, destroyed expeditions and armaments, injured the general consumer and the public revenue, and were capable of being, as they already had in Europe, "rendered subservient to the purposes of despotism." 42 Quarantine, as Maclean discusses, affects a vast array of operational areas; and a common fear was that quarantine could be employed arbitrarily as a means of government control. In addition, monetary losses were recounted by Collingridge, who claimed that "quarantine charges in many cases amounted to 35 percent of the value of the cargo, and one instance is given in which they exceeded 90 percent, although there had been no sickness on board the vessel."43 These quarantine laws greatly diminished the profit margin of trade. Similarly, Milroy marvels at the minimal mention of quarantine in the Encyclopedia Britannica when "it has been estimated that a loss of little short of a million sterling is thereby annually inflicted on our shipping."44 Anticontagionists argued that the expense and nuisance produced by quarantine was a detriment to English society as a whole and not conducive to the maintenance of the world's greatest Empire.

In 1896, quarantine in England was repealed. Collingridge, writing in 1897, concludes his lecture by commenting: "thus for England quarantine has been formally abolished, and our protection henceforth against the importation of disease will be medical inspection, without any vexatious detention of a healthy vessel merely because she has arrived from an infected port." Medical inspection is an alternative sanitary measure to quarantine and relies on close observation of potential disease threats. Merchants and those in business preferred medical inspection because it was less invasive and more practical. Collingridge finishes by urging his reader to "demonstrate to other countries the value of our system to induce them to accept the same conclusions." Collingridge thought the English way was the best and expected that, in time, the supposed superiority of the British Empire would be submitted to as it had been the case regularly in the past; quarantine, however, remained the norm in other European countries, despite the British Empire's objection to it.

Contagionists agreed that quarantine was an annoyance, but they thought it was justified and necessary to preserve public health. Wells refutes the call for quarantine repeal:

I claim, therefore, for these regulations an enormous saving of human life, infinitely overbalancing any pecuniary mischief caused by impediments to commerce, or any personal inconvenience to which travelers have been subjected. I fully admit that great loss and very unnecessary inconvenience has resulted from improper regulations, but I say that the true friend of humanity would seek to reform what was improper, not to abolish an entire system which had done incalculable service.<sup>47</sup>

Wells essentially labels anticontagionists as enemies of humanity and commends quarantine for its life-saving history. This point of view shows that he values public health more than the potential for economic gain and believes healthy citizens are more productive as members of society. In his speech before Parliament, Dr John Bowring implores his colleagues: "but, to benefit a few interested individuals, would the Government continue a system which was most inconvenient to commerce and most unprofitable to the country?"

Bowring frames the debate as a question as to whether the government should cater to the interests of the few at the expense of the many—to which his answer is a resounding no. On the other hand, anticontagionists would argue that catering to the interests of the few is conducive to economic growth and success. In *Contagion and the State in Europe, 1830-1930*, Peter Baldwin writes:

Preventive strategies against contagious disease go to the heart of the social contract, requiring a determination of where the line runs between the interests of the individual and those of the community. The continental approach tended to treat the public weal as preeminent, while the concerns of affected individuals (whether travelers in quarantine, the sequestered infected, vaccinees or prostitutes) ceded priority. The British generally reversed these priorities.<sup>49</sup>

Foreign states recognized the English Empire's blatant disregard for public health. For that reason, quarantine was a source of international conflict that necessitated the employment of diplomacy between foreign nations. Collingridge summarizes this phenomenon:

the enormously-increased importance of our foreign trade and the obvious futility of the strict enforcement of quarantine had excited the attention of thinking men. But quarantine was not yet got rid of. Originally established to prevent the importation of disease, when this object was shown to be futile the system was still retained in order to prevent interruption to trade. It was clear that while other countries kept up the practice any official abandonment would only lead to an indiscriminate quarantining of British vessels. That this was no imaginary danger has been shown on many occasions.<sup>50</sup>

British negligence could be deadly for the nations that engage in trade with them; for this reason, many countries threatened to embargo British goods or force them to quarantine to protect their citizens. Mullett comments that because of this perceived threat, "any benefits to the import trade by relaxation would be cancelled by damage to the export trade, especially in those countries which already considered England an infected country." Mullet continues to explain that "the mere rumor that Britain was going off quarantine had already damaged trade, and he had been at some pains to assure Mediterranean countries that a change in administration did not mean a change in fundamental policy." Even discussion of a repeal caused problems between Britain and other countries, and the English, to promote ease of mind and relation, had to assure their trading partners that they were simply discussing

potential reforms. International conferences attempted to rectify conflict between nations in France in 1851, Vienna in 1874, and Dresden in 1893. One of only three countries to do so, England remained a staunch opponent of quarantine. It admitted that they had retained quarantine only "in consequence the position of other European Powers." In other words, the only reason England kept their quarantine laws was because they feared retaliation from pro-quarantine countries if they were to repeal quarantine entirely.

#### Conclusion

England's quarantine policy was politically influenced in the eighteenth and nineteenth centuries, and the Empire's economic welfare often took precedence over public health and safety. Many means were used to justify the repealing of quarantine law, including arguments against contagionism, claims regarding the inefficacy of quarantine, and concerns regarding the economic harm and inconvenience incurred by quarantine protocol. Ultimately, the debate over whether or not to repeal quarantine in England was highly politicized, making it difficult for opponents or proponents to take a neutral position.

<sup>&</sup>lt;sup>1</sup> Frank M. Snowden, "Overview of the Three Plague Pandemics: 541 to ca. 1950," in Epidemics and Society: From the Black Death to the Present (n.p.: Yale University Press, 2019).

<sup>&</sup>lt;sup>2</sup> "British Empire," Encyclopaedia Britannica.

<sup>&</sup>lt;sup>3</sup> "British Empire," Encyclopaedia Britannica.

<sup>&</sup>lt;sup>4</sup> Gavin Milroy, "Operation and Results of Quarantine in British Ports since the Beginning of the Present Century," Association Medical Journal 1:27 (July 8, 1853).

<sup>&</sup>lt;sup>5</sup> William Collingridge, "The Milroy Lectures on Quarantine," *The British Medical Journal* 1 (March 13, 1897), p. 647.

<sup>&</sup>lt;sup>6</sup> Collingridge, "The Milroy," (1897), p. 646.

<sup>&</sup>lt;sup>7</sup> Collingridge, "The Milrov" (1897).

<sup>&</sup>lt;sup>8</sup> Andrea Finkelstein, *Harmony and the Balance: An Intellectual History of Seventeenth-century English Economic Thought* (Ann Arbor: University of Michigan Press, 2003), pp. 247-8.

<sup>&</sup>lt;sup>9</sup> Finkelstein, Harmony and the Balance, (2003), pp. 247-8.

<sup>&</sup>lt;sup>10</sup> Arnold Zuckerman, "Plague and Contagionism in Eighteenth-Century England: The Role of Richard Mead," Bulletin of the History of Medicine 78: 2 (2004) p. 278.

<sup>&</sup>lt;sup>11</sup> Brad Bouley, "Black Plague" (lecture, University of California, Santa Barbara, Santa Barbara, CA, August 24, 2020).

<sup>&</sup>lt;sup>12</sup> Zuckerman, "Plague and Contagionism," (2004), p. 273.

<sup>&</sup>lt;sup>13</sup> Zuckerman, "Plague and Contagionism," (2004), p. 286.

<sup>&</sup>lt;sup>14</sup> Zuckerman, "Plague and Contagionism," (2004), p. 286.

<sup>&</sup>lt;sup>15</sup> Zuckerman, "Plague and Contagionism," (2004).

<sup>&</sup>lt;sup>16</sup> Richard Mead, <u>A short discourse concerning pestilential contagion</u>, and the methods to be used to prevent it; <u>Discourse concerning pestilential contagion</u>, and the methods to be used to prevent it (London, England: Printed for Sam. Buckley, and Ralph Smith, 1720), p. 21.

<sup>&</sup>lt;sup>17</sup> Zuckerman, "Plague and Contagionism," (2004), p. 275.

<sup>&</sup>lt;sup>18</sup> Collingridge, "The Milroy," (1897), p. 647.

<sup>&</sup>lt;sup>19</sup> Mullett, "The Bubonic," (1946), p. 528.

<sup>&</sup>lt;sup>20</sup> Collingridge, "The Milroy," (1897), p. 647.

<sup>&</sup>lt;sup>21</sup> Mullett, "The Bubonic," (1946), p. 529.

<sup>&</sup>lt;sup>22</sup> Collingridge, "The Milroy," (1897), p. 647.

<sup>&</sup>lt;sup>23</sup> Charles Maclean, "Obligations of governments to abolish the laws of quarantine," Hume Tracts, (1830).

<sup>&</sup>lt;sup>24</sup> Maclean, "Obligations of governments," (1830).

<sup>&</sup>lt;sup>25</sup> Maclean, "Obligations of governments," (1830), p. 4.

<sup>&</sup>lt;sup>26</sup> Milroy, "Operation and Results," (1830), p. 582.

<sup>&</sup>lt;sup>27</sup> Milroy, "Operation and Results," (1830), p. 639.

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<sup>28</sup> T. Spencer Wells, "On the Practical Results of Quarantine," Association Medical Journal 2 (September 15,
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- <sup>29</sup> Wells, "On the Practical," (1854), p. 832.
- <sup>30</sup> Wells, "On the Practical," (1854), p. 834.
- 31 Mullett, "The Bubonic," p. 536.
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- <sup>36</sup> Mullett, "The Bubonic," p. 539.
- <sup>37</sup> General Board of Health, Report on Quarantine: Presented to both Houses of Parliament by Command of Her Majesty (London, England: William Clowes & Sons, 1849), p. 5.
- <sup>38</sup> General Board of Health, Report on Quarantine, p. 7.
- <sup>39</sup> "British Empire," Encyclopaedia Britannica.
- <sup>40</sup> Patrick K. O'Brien and Geoffrey Allen Pigman, "Free trade, British hegemony and the international economic order in the nineteenth century," Review of International Studies 18, no. 02 (April 1992): 92,
- <sup>41</sup> O'Brien and Pigman, "Free trade," p. 92.
- <sup>42</sup> Mullett, "A Century," (1949) p. 540.
- <sup>43</sup> Collingridge, "The Milroy," (1897,) p. 647.
- <sup>44</sup> Milroy, "Operation and Results," (1897), p. 579.
- <sup>45</sup> Collingridge, "The Milroy," (1897,) p. 647.
- <sup>46</sup> Collingridge, "The Milroy," (1897), p. 649.
- <sup>47</sup> Wells, "On the Practical," (1854,) p. 833.
- <sup>48</sup> John Bowring, "Copies of such Correspondence, or Extracts of Correspondence, as may have taken place since the last Parliamentary Returns, on the subject of the Quarantine Laws," speech presented at House of Commons, (March 18, 1847).
- <sup>49</sup> Peter Baldwin, Contagion and State Europe, 1830-1930 (New York: Cambridge University Press, 1999), p. 563.
- <sup>50</sup> Collingridge, "The Milroy," (1879), p. 647.
- <sup>51</sup> Mullett, "A Century," (1949), p. 543.
- <sup>52</sup> Mullett, "A Century," (1949), p. 543.
- <sup>53</sup> Collingridge, "The Milroy," (1879), p. 648.