'An Egyptian Infection'
War, Plague and the Quarantines of the English East India Company at Madras and Bombay, 1802

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Work on the history of quarantine in South Asia has recently been prolific, but has tended to focus on the period after 1858, when the administration of the British territories in the Indian subcontinent was officially handed over from the English East India Company (EEIC) to the British Crown.[1] There is justification for this emphasis, for maritime quarantine would become one of the most important aspects of colonial medical policy in India with repercussions for both the British and the Indians.[2] However, well before 1857, the EEIC had gained political and economic control over much of South Asia and had established a substantial administrative infrastructure to govern these territories. In addition, EEIC ships plied a regular and multi-million pound trade in tea, calico, chinaware and drugs between many ports of the world, including its Indian holdings.[3] In the face of the considerable volume of sea traffic, it is very likely that the EEIC administration in India were faced with the threat of infectious disease arriving by sea and subsequently confronted with the necessity of taking some measures against such a threat. This paper is a study of one such occasion – it is a transnational account of plague and quarantine policy as pursued by the British in Egypt and in India; highlighting the controversies over the policy of quarantine

1 Mark Harrison, "Quarantine, Pilgrimage and Colonial Trade: India 1866–1900", *Indian Economic and Social History Review*, 29 (1999), 117–144; Mridula Ramanna, *Western Medicine and Public Health in Colonial Bombay, 1845–1895* (New Delhi, 2002), pp. 152–154; Rajnarayan Chandravarkar, "Plague Panic and Epidemic Politics in India, 1896 1914" in Terence Ranger and Paul Slack eds., *Epidemics and Ideas: Essays on the Historical Perception of Pestilence* (Cambridge, 1996), pp. 203-41; Ian. J. Catanach, "Plague and the Tensions of Empire, 1896–1918", in David Arnold, ed. *Imperial Medicine and Indigenous Societies* (Manchester, 1988), pp. 149–171. While quarantine had implications in the fields of commerce and international relations for the British, this policy affected the flows of Indian pilgrims on the Hajj as well as Indian trade.

2 Harrison, "Quarantine, Pilgrimage and Colonial Trade".

3 H.V. Bowen, *The Business of Empire: The East India Company and Imperial Britain, 1756–1833* (Cambridge, 2006), pp. 219–260.

within medicine in England and exploring how these conflicts played out in the quarantines established in India by the EEIC's nascent Empire.

This article follows British and Indian troops as they arrived in Egypt at the beginning of the nineteenth century in response to the French invasion and were exposed to a severe plague epidemic. It describes how plague ran rampant among the European and Indian forces and the manner in which the European medical establishment in Egypt managed this threat. In contrast, we then consider how the EEIC's emerging administrative and medical establishments in Madras and Bombay handled quarantine when confronted by the threat of plague arriving on the troop ships returning from Egypt. This paper then discusses the factors that drove the fragmented British implementation of quarantine policies, both at home and in the colonies; describing the schisms and fragmentations within the EEIC's medical and political administration.

Plague and Quarantine through History

Caused by *Yersinia pestis,* the plague has swept through the world in three known pandemics, leaving an indelible mark on affected populations. The remarkable socioeconomic, demographic and political impacts of the Black Death on Europe were so powerful that centuries later in the early 1800s, it still aroused atavistic fears and instinctive responses to the threat of plague.[4] This disease would have the

4 J. F. D. Shrewsbury, *A History of Bubonic Plague in the British Isles* (Cambridge, 1970); A. B. Appleby, "The Disappearance of Plague: A Continuing Puzzle", *Economic History Review*, 33 (1980), 161–173; Samuel K Cohn, *The Black Death transformed: disease and culture in early Renaissance Europe*, (London, 2002); Hugo Kupferschmidt, "History of the Epidemiology of Plague: Changes in the Understanding of Plague Epidemiology since the Discovery of the Plague Pathogen in 1894", *Antimicrobials and Infectious Diseases Newsletter,* 16,3 (1997), 51–54; Stenseth, et al. "Plague: Past, Present, and Future", *PLoS Med,* 5 (2008), e3; B. P. Zietz and H. Dunkelberg, "The History of the Plague and the Research on the Causative Agent *Yersinia pestis"*, *International Journal of Hygiene and Environmental Health* 207 (2004), 165–178; C. F. White, "Plague: Modern Preventive Measure in Ships and Ports", *Proceedings of the Royal Society of Medicine*, 25 (1935), 25–37; Ole. J. Benedictow, *The Black Death 1346–1353: The Complete History* (London, 2006). The most common form of the plague was the bubonic plague. Non-specific symptoms include nausea, fever, chills, headaches, myalgia, weakness and vomiting; the distinguishing symptoms include large, painful and blackened inflammations of the lymph nodes at armpit, groin and neck, called buboes. Death rates vary between 40 and 75 percent, depending on the type of plague. The first pandemic, called the Justinian plague, spread from Central Africa to Lower Egypt and the Mediterranean during the sixth century and was estimated to have killed 100 million people. The second pandemic, or the Black Death, emerged from Central Asia and reached the Crimean ports by the mid-1300s. Over the next 400 years it would become established and kill one quarter of the population of Europe. The third pandemic began in the 1850s in China's Yunnan region and gained international notice when it began to spread to other

dubious distinction of fuelling some of the earliest direct actions of civil governments to control and prevent disease. One of the oldest and most ubiquitous such public health strategies to protect populations against the onslaught of imported infectious diseases was quarantine. This system had its roots in the panicked response of European authorities to the threat of plague, or the Black Death, in the fourteenth century. Three centuries later, many major European cities routinely adopted some form of quarantine, particularly when the presence of plague was declared elsewhere.[5]

Quarantine was intended to identify individuals who were either sick or suspected of disease; isolate them from the general population and thus prevent the transmission of disease. Ships that docked at the port of arrival were presented with a Bill of Health—an authenticated certificate concerning the health of the ship and its company, which had to be obtained from the Harbour Master before entering or leaving port. A 'foul' Bill of Health was presented if there were one or more cases of infection on board and a 'suspected' Bill of Health if the ships had arrived from an infected port.[6] The crew and cargo were then isolated in quarantine for an average of 40 days, cutting off any physical contact with the port. Violence and aggression were condoned to compel the cooperation of the reluctant ship's crew. Masters who concealed information regarding their ships and/or violators of quarantine could be put to death.[7] By the late eighteenth century, although quarantine continued to be used ubiquitously across Europe, in Britain it had come under siege from medical theorists who questioned its efficacy, governments who resented the administrative expenses of quarantine and by fractious trading companies such as the EEIC who had a vested interest in reducing the costs of quarantine.[8] It is against the backdrop of these conflicts that the British found themselves faced with the necessity of quarantine in Egypt and India.

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parts of the world much faster than in previous outbreaks. Although Europe remained relatively untouched by this pandemic, India and China would lose millions to this disease.

5 Carlo Cipolla, *Fighting the Plague in Seventeenth-Century Italy* (Madison, 1981); Gunther E. Rothenberg, 'The Austrian Sanitary Cordon and the Control of the Bubonic Plague: 1710–1871', *Journal of the History of Medicine and Allied Sciences*, 28 (1973), 15–26; Anne Hardy, "Cholera, Quarantine and the English preventive System", *Medical History,* 37 (1993), 250–269.

6 Krista Maglen, "'The First Line of Defence': British Quarantine and the Port Sanitary Authorities in the Nineteenth Century", *Social History of Medicine*, 15 (2002), 413–428.

7 Peter Baldwin, *Contagion and the State* (London,1999), p. 93.

8 Maglen, "'The First Line of Defence'".

The incidents recounted in this article take place against the backdrop of sharpening French military and political interest in Egypt, which was then a Mameluke territory and Ottoman province. Napoleon Bonaparte, flush with military success in Europe, sought to further French influence in the east and successfully invaded Egypt with a hastily arranged expedition in 1798.[9] The British responded to this perceived threat to the security of their empire by sending military and naval support to the Mameluke and Ottoman forces already in Egypt in 1799.[10] By 1801, 15,000 British troops under the command of Abercrombie, together with a force of more than 60 Royal Naval vessels in Alexandria, had comprehensively defeated the French.[11]

The EEIC had joined the battle in 1800 when, bowing under pressure from the British government, the Court of Directors commanded the Governor General of India to send Company troops to Egypt and join the Crown fight against Napoleon. This Company contribution to the British war effort in Egypt numbered about 2,000 British and 2,600 Indian troops; they arrived in August 1801, commanded by Colonel David Baird.[12] These troops included soldiers from all

9 Edward James Kolla, "Not So Criminal: New Understandings of Napoléon's Foreign Policy in the East", *French Historical Studies* 30 (2007), 175–201; J.C.B Richmond, *Egypt 1798–1952: Her Advance towards a Modern Identity* (London, 1977); Leften Stavros Stoianovich and Traian Stoianovich, *The Balkans since 1453* (London, 2000), p. 200. Since Egypt was on the route to India, Napoleon was fully aware that a French presence in this region could generate considerable anxiety in London; for fear that the Ottoman Empire and the lands bordering the Red Sea route to India should fall under French influence. Egypt was also important strategically as the base from where India could be regained by the French, a point argued in 1793 by Talleyrand.

10 David French, *The British Way in War, 1688–2000* (London, 1990), p.104.

11 *Ibid.*

12 Edward Ingeram, "The Role of the Indian Army at the End of the Eighteenth Century", in Patrick J.N. Tuck ed., *East India Company: 1600–1858* (London, 1998), pp. 112–113. This was not the first or last time that the Company's Indian troops would be used to fight British wars off Indian soil. Indian troops would be used in the Crimean War, in Persia (1856–57), China (1559), Ethiopia (1867), the Mediterranean (1878), Egypt (1882), Sudan (1896–98) and in both world wars. In 1802, however, differences of opinion regarding the use of the Indian army in Egypt, or in effect as an imperial force, had arisen between Dundas, British Secretary of State for War and the newly appointed Governor General of India, Wellesley. The latter believed that the Indian army would be better occupied securing British interests in India against the French, rather than in the role that Dundas appeared to think appropriate for them, as a supplement for British troops. In fact, Wellesley contended that the British in India would benefit from additional troop support from London, as many of them were sick or invalided for long periods. When, at great expense to the EEIC, the Indian army finally travelled to Egypt, they actually arrived late, landing after the French had surrendered, and in effect contributing

three British presidencies, consisting of the 10th (North Lincoln) Regiment, with detachments of the 80th (Staffordshire Volunteers), the 86th Regiment, and 88th (Connaught Rangers) Regiment, plus Bengal Volunteers, Bombay Native Infantry, and Artillery. After the French capitulation, this Indian contingent remained in camp at Aboukir, where it was soon visited by disease.[13]

While these foreign forces struggled over control of Egypt, the plague had largely become a distant and unpleasant memory to most of Europe. But Egypt had never really been free from the ravages of this disease.[14] In fact, recent research suggests that the Nile Valley was the birthplace of the bubonic plague.[15] During the period between 1798 and 1801, when various forces were fighting for control of Egypt, much of the country was held hostage by plague. Owing to some very detailed descriptions left behind by French and British observers, it is possible to ascertain that this disease was indeed the bubonic plague.

On the French side, Rene DesGenettes, the French army's Physician-Chief in Egypt, had commanded that his staff assess and report on the health, local environment, indigenous diseases, medical treatment and vital statistics, beginning detailed investigations into the causation of plague in particular and Egyptian mortality in general.[16] From these investigations, we know at least 77 major plague years were reported before the nineteenth century.[17] Between 1800 and 1844 alone, there were plague epidemics in Egypt in 21 of the 44 years.[18] Jomard, who was part of Napoleon's team of scientists, concluded that plague tended to become epidemic

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nothing to the British victory. The Chairman in London remarked to Wellesley that "I hope in God… (the Indian army) will still reach Egypt…if only as an excuse for the great expense."

13 Abu Qir or Abukir was a village on the Mediterranean coast of Egypt along the Nile.

14 Kupferschmidt, 'History of the Epidemiology of Plague'; Daniel Panzac, *La Peste dans L'Empire Ottoman, 1700–1850* (Belgium, 1985).

15 Eva Panagiotakopulu, "Pharaonic Egypt and the Origins of Plague", *Journal of Biogeography*, 31 (2004), 269–75. Some 5,500 years ago, Panagiotakopulu notes, life in Egypt became more cosmopolitan and mobile than before. Humans started living in towns, making it easier for diseases to spread. Later, international trade accelerated and black rats arrived on newly established trade routes from India and Mesopotamia. The Nile River's annual flood drove Nile rats into town, where they could have shared their fleas with black rats. Unlike the Nile rat, the plague bacterium kills black rats quickly, leaving lots of hungry fleas looking for a home in an environment surrounded by humans. Once black rats hosted the oriental fleas, and with it, *Y. pestis*, they spread the plague across entire continents.

16 J. Worth Estes, and Laverne Kuhnke, "French Observations of Disease and Drug Use in Late Eighteenth-Century Cairo", *Journal of the History of Medicine and Allied Sciences*, 39 (1984), 121–152; Thomas G. Russell and Terence M. Russell, "Medicine in Egypt at the time of Napoleon Bonaparte", *British Medical Journal,* 327 (2003), 1461–1464.

17 G.F. Petrie, Ronald E. Todd, Riad Skander and Fouad Hilmy, "A Report on Plague Investigations in Egypt", *The Journal of Hygiene*, 23 (1924), 117–150.

18 Justin A McCarthy, "Nineteenth-century Egyptian population", *Middle Eastern Studies,* 12(1976), 1–39.

in Egypt every five to six years.[19] DesGenettes was of the opinion that the plague was so severe in Egypt that it was the most important demographic counterpoint to the very high birth rate.[20]

For instance, in the winter of 1800–01 alone, the plague epidemic increased the number of deaths among adults and children in Cairo. In the following spring, the seasonal mortality in Cairo continued to be grossly distorted by the plague outbreak—he recorded 2,937 deaths among the city's population of 250,000 in the single month of April.[21] It is clear from these descriptions that the disease had an established presence in the Egyptian population and posed a significant threat to the warring foreign armies on Egyptian soil in the early nineteenth century.[22]

The French army itself was subject to one minor and one major outbreak of plague in 1800–1. Of the 8,915 French soldiers that died in hospital, more than 1,000 of that number had been victims of plague during the expedition to Syria.[23] Early British reports of the plague describe it raging among the British allies, the Mamelukes, who lost nearly one-fourth of their entire army to the disease.[24] Although the British immediately curtailed all interactions with the Mameluke armies, it proved a pointless measure as the plague was soon transmitted to the British and Indian armies, stationed in both Aboukir and Alexandria.[25]

The sepoy components of the British forces were attacked suddenly and violently by this disease, many falling unconscious in the ranks and dying soon afterwards.[26] The disease was very infectious—in a single sepoy regiment of 300 soldiers, 120 succumbed to the disease.[27] None of the sepoys, women or children in the Indian

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19 Edme-François Jomard and Gibert-Joseph Chabrol, *Description de l'Égypte: État Moderne, II:2* (Paris, 1810), p. 697.

20 Estes and Kuhnke, "Disease and Drug Use in Cairo."

21 Walter Scheidel, *Death on the Nile: Disease and the Demography of Roman Egypt* (New York, 2001), p. 42.

22 William Wittman, *Travels in Turkey, Asia-Minor, Syria and Across the Desert into Egypt* (London, 1803), p. 517. Wittman was a surgeon, member of the Royal College of Surgeons and Surgeon to the British Military Mission in the Middle East. He provided very detailed reports of the plague and the obvious and common symptoms: headaches, fever, thirst, generally and intense or burning internal heat about the precordia; nausea and occasional vomiting; the vessels of the eyes are turgid, accompanied by diarrhoea (which is often a troublesome and dangerous symptom); haemorrhages; delirium; petechiae and large liver spots cover the body in different parts; buboes in the groin, axillae…an early and great prostration of strength…The pain of the buboes is sometimes most excruciating, and the surfaces are at times discoloured even to a livid or deep black colour; at other times the pain is trifling, accompanied with little or no discolouration of the skin.

23 McCarthy, "Egyptian Population".

24 Wittman, *Travels*, pp. 137–140.

25 *Ibid*., p.140.

26 *Ibid*., p. 561.

27 *Ibid*., p. 356.

regiments who contracted the plague survived.[28] In Alexandria, the plague had raged with such violence among the sepoys that they were ordered to remain sequestered in Aboukir, in the hope of restricting the spread of infection to the other troops. But these measures proved futile, for even as the sepoy army was about to leave Egypt for the Indian subcontinent, General Baird was informed that cases of bubonic plague continued to appear amongst the camp followers of the 7th Bombay Native Infantry, which was bringing up the rearguard of the army.[29] This regiment was then compelled to stay back in Egypt—while the remainder of the Indian army departed for their respective presidencies.

Measures taken by the British in Egypt against the Plague

There was some conflict amongst the members of the British medical establishment in Egypt regarding the possible infectious nature of the plague. While surgeons such as Wittman and McGrigor contended quite strongly that the disease was contagious, many in the medical establishment from India were virulent anti-contagionists. [30] White, a naval surgeon employed with the Indian troops is a perfect example. He believed so strongly that the contagion theory of disease in the case of plague and ophthalmia was false that he inoculated himself with matter taken from the bubo of a plague patient. He also "rubbed the same matter upon different parts of his body." White soon contracted the disease, and died as a result of his experiment. But whatever they may have believed about the cause and spread of the disease itself, the British in Egypt were very rigorous in their approach to the plague.

Many British doctors believed that measures such as isolation and quarantine were very effective prophylactics against the disease. These doctors not only established 'pest houses' to quarantine the sick or those suspected of the plague, but also established lazarettos at the Egyptian port of Alexandria.[31] These pest houses were set up and guarded with great care; Wittman reported that in the Egyptian desert, pest houses were set up in large airy tents and infected patients were completely isolated for their initial treatment. After a plague death, the body was burnt. All the clothes, bedding and linen that were used by the sick, even the tent, were also immediately burned. Attendants who had treated the patients were confined in

28 *Ibid.*, p. 241.

29 James McGrigor, *The Autobiography and Services of Sir James McGrigor* (London, 1861), pp. 132–135.

30 *Ibid.*, pp. 393–394, pp. 518–519; George Power, *Attempt to investigate the Cause of the Egyptian Ophthalmia* (London, 1803), p. 9.

31 A pest-house was a hospital used to quarantine and nurse those individuals afflicted by diseases such as plague and smallpox.

quarantine, and "oily frictions" were applied to prevent the infection from spreading.[32]

Breaking quarantine was severely punished, sometimes by death. Wittman reported that one of the Indian sepoys was court-martialled and sentenced to be shot for having allowed two Arab prisoners to escape quarantine.[33] Often these isolationary measures were not enough to contain the infection. Wittman writes, with great frustration, of a gunner, who had entered the tent of a pest house to support the shoulders of a sick friend while he drank water. This man displayed symptoms in a matter of two days and died on the third.[34] This rigorous approach taken by the British towards quarantine, plague prevention and prophylaxis in Egypt is not particularly unusual for its day but it is striking when compared against the fragmented plague and quarantine policy adopted by the EEIC in the Indian presidencies.

The Response in Madras

The initial response of the administration of the British presidency of Madras to the return of the possibly plague-infected troop ships from Cairo and Suez appears to have possessed the requisite sense of urgency. When informed of the presence of plague in British occupied Egypt and the threat of its arrival on Indian soil, Lord Clive, then Governor in Council of the Board of Revenue (BOR) sent direct orders from the capital of the presidency, Fort St George, to all district Collectors across the presidency. The BOR urged that the district governments all take the most vital precautions at all ports under their administration to prevent the introduction of the plague.[35] If any ships arriving from the Red Sea did approach any of the ports, the Collectors and Commercial Residents were to be informed immediately and the ships were ordered not to land or have any contact with the harbour except in instances of extreme distress.[36]

The returning troop ships—the *Candidate,* the *Anna and the Amelia*, the *Cecilia*, the *Shaw Byrangue*, the *Earl of Mornington* and the *Griffin*—were accordingly denied *pratique* (permission) to enter the port of Madras on the orders of the BOR.

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32 Wittman, *Travels*, p.421.

33 *Ibid.*

34 *Ibid.*

35 Tamil Nadu State Archives (TNSA), South Arcot District Records, 109, 33. Letter from G.G Keble, Secretary to Government, Fort St George to the Commercial Resident at Cuddalore, 17 July 1802.

36 *Ibid.*, Madura District Records, 1178, 376–378. Letter from G.G. Keble, Secretary to Government, Fort St George, to the Commercial Resident at Ramnad, Henry Brown, 17 July 1802.

As no lazaretto existed in the presidency at this time, the ships were ordered instead to lie at the small port of Ennore, which lay to the north of Fort St George.[37] The area was designated as 'Quarantine Point' and a Quarantine Officer was appointed from a nearby military station.

All of these ships had their own medical staff on board in the form of ship's surgeons or assistant surgeons. Upon their arrival and subsequent quarantine, the captains commanding these ships, the commanders of the regiments of board and their medical personnel all wrote joint letters to the BOR indicating that to the best of their knowledge, "nothing like the Plague, or any kind of Contagious Fevers of a Pestilential Nature" were found amongst the crew, troops or camp followers on board.[38] Clive asked that the Medical Board substantiate this assertion by sending a member of the Board out to Ennore to inspect and report on the conditions at the Quarantine Point, the health of the crew and troops and to ascertain "whether any inconvenient consequence may be expected from permitting them to proceed to the roads of Madras."[39]

The Medical Board sent, post-haste, a request to Head Surgeon, Dr Andrew Berry to proceed to the makeshift lazaretto. Berry arrived in Ennore the very next day and wrote to the Board from Quarantine Point that Major Orr, the Quarantine officer, had requested that he examine only two of the five ships. Of these two examined ships, he reported that he was unable to find a single person sick or ailing, and none of the individuals on board these two ships had been ill for a single day during the journey either. This in itself is rather unusual, as each of the ships carried between 100–300 soldiers and crew on a month-long journey from Cairo or Suez to Madras. The likelihood that absolutely all of these passengers were "uncommonly healthy"; that none of them had fallen ill and only a single man died on this journey (a death attributed to "sea scurvy") is quite small.[40]

The Physician General of the Madras presidency, Dr James Anderson, also proceeded to Ennore to assess the situation, confirm Berry's findings and inform Lord Clive, the Governor in Council at Fort St George of his recommendations regarding the soldiers' health and the quarantine. Once on board, Anderson conducted an examination of all sailors, soldiers and other crew, "Madras Artillery, 8th Light Dragoons, 33rd Regiment Pioneers, Store Lascars and Artificers, Engineers,

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37 *Ibid.*, Surgeon General's Records (SGR), 13A, 408. Letter from G. Buchan, Secretary to Government to the Physician General and Members of the Madras Medical Board, 28 July 1802.

38 *Ibid.,* SGR, 13 A, 410. E. Hunt, Commanding the Ship Earl of Mornington, James Limond, Captain and Commander, Troops on Board and Anthony Taylor, Assistant Surgeon in Charge, 24 July 1802.

39 *Ibid.*, SGR, 13 A, p.409. Government Order from G. Buchan, Secretary to Government, to the Medical Board, 24 July 1802.

40 *Ibid.*, SGR, 13 A, 413–9. Head Surgeon Dr Andrew Berry, Ennore to Physician General, Dr James Anderson, Fort St George, 29 July 1802.

Commissioners of Provisions, Public and Private Followers" on board the ships docked at Ennore.[41] Since these examinations were completed in the space of a single day, they could not have been anything more than cursory. There was no attempt at systematic isolation of groups of individuals and subsequent observation to make out if the plague had indeed hitched a ride across the seas from Egypt.

Anderson then dramatically stated in his report to Lord Clive on the 30 July, that he wished that "all the rest of the Troops on the coast were in as perfect a state of health as these appear to be."[42] Considering how so many contemporary reports tell of the general ill-health of the soldiers both in Egypt and in Madras, this appears a little effusive.[43] Anderson then contradictorily reported that there were indeed some crew members who were unhealthy and consequently were in Hospital. He had composed a list of these individuals and the ailments they suffered from into a document which was "lost" before it reached the Medical Board in Fort St George.

This seems unusually careless of the Madras Medical Board. Although this medical system was very much in its infancy, as it was grew in response to the needs of the army in the nascent presidency, contemporary medical professionals were able to collect, collate and provide returns on the sick seeking treatment in the field and regiment hospitals to the Medical Board at Fort St George as early as 1787.[44] Considering the urgency of this situation with the threat of plague looming over the presidency, the purported loss of important records on sickness among the returning soldiers and crew of the ships from Egypt appears a little expedient. The Company administration of the day, however, was not unfamiliar with the tactic of "losing" documents or records which had the capacity to prove uncomfortable or cause dissension, either in India or in London.[45] All that remains of this list is the remark that these illnesses, although unspecified, were all supposed to be "correctly stated in regard to their Complaint, which are of a Common Nature and much

41 *Ibid,* SGR, 13 A, 413–9, Dr James Anderson, Physician General, Fort St George to the Right Honourable Lord Clive, 30 July 1802.

42 *Ibid.*

43 Philip D. Curtin, *Death by Migration: Europe's Encounter with the Tropical World in the Nineteenth Century* (Cambridge, 1989); "Report of a Committee of the Statistical Society of London, Appointed to Collect an Enquire into Vital Statistics, Upon the Sickness and Mortality among European and Native Troops serving in the Madras Presidency, from the Year 1793 to 1838", *Journal of the Statistical Society of London*, 3 (1840), 113–143.

44 Aparna Nair, Between Asclepius and Mammon: Disease, Death, Medicine and Public Health in Madras, 1786–1815, Unpublished PhD Thesis.

45 Edward Ingeram, *Empire Building and Empire Builders* (London, 1994), p. 23. Wellesley was a perfect example of this behaviour. When confronted with records that expressed the dissent of his council with his professed opinions, he usually claimed that these records had been lost.

fewer in proportions than elsewhere." It was again reiterated, that the other crew members were "in perfect health."[46]

Based on their brief appraisal, Anderson and Berry both recommended to Lord Clive that the Ennore quarantine be discontinued for four reasons. First, Anderson suggested that the continuation of quarantine would be most harmful to the crew at Ennore, as the lazaretto itself was possessed of a "low, flat, clay soil, which the expected fall of heavy showers will render a very unwholesome situation."[47] Second, he considered that the length of the journey itself from Egypt – fifty-four days – was more than sufficient protection against disease. Since no fever or pestilence had appeared among the crew and soldiers during the long and arduous journey, Anderson deemed the soldiers safe from any future attacks of the plague.[48] Third, from their communiqués to the Medical Board the doctors themselves give the impression that the process of quarantine was at best a mere formality and at worst an expensive encumbrance to the Madras government. [49] Both Anderson and Berry were eager to "liberate" the government from the "Expense of Quarantine". Berry lost no time in transmitting the report as "I mean in consequence to leave Ennore this evening, as there is Nothing regarding the Health of the Crews or the State of the Transports that I can say more upon, and that the Deputy Master Attendant can...examine the Provisions which will be a business of detail as they are in the holds of the Ships, in Madras Roads."[50] The crew and soldiers were equally eager to be released from their confinement at Ennore. Fourth, the doctors attending the Quarantine Point were of the opinion that plague was infectious, although they did not state so explicitly in their reports. However, Anderson did state that this plague was carried by soiled linen, blankets and clothing. Since all of the cloths used by the crew and soldiers had been repeatedly washed, the blankets used by the Indians burnt and the passengers themselves had bathed frequently in the nearby rivers, Anderson wrote to the Medical Board that there could be no other possible "nucleus for Egyptian infection."[51]

Following these recommendations and a scant 13 days after the commotion over the threat of the plague had first been acknowledged by the Madras administration, the Medical Board sent its own counsel to the Government that the health of the troop transport ships lying at Ennore was satisfactory enough to recommend the

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46 TNSA, SGR, 13 A, 413–9, Dr James Anderson, Physician General, Fort St George to the Right Honourable Lord Clive, 30 July 1802.

47 *Ibid.*

48 *Ibid.*

49 *Ibid.*

50 *Ibid.*, SGR, 13 A, 413–9.Head Surgeon Dr Andrew Berry, Ennore to Physician General, Dr James Anderson, Fort St George, 29 July 1802.

51 *Ibid.* Dr James Anderson, Physician General, Madras to the Right Honourable Lord Clive, 30 July 1802.

suspension of the quarantine.[52] In four days time, the Governor-in-Council passed the resolution to relieve the troops and transports from quarantine at Ennore based on the Medical Board's report.[53]

A Counterpoint: The Case of Bombay

An interesting contrast to the Madras lazaretto is offered by the response of the Company administration at Bombay, when faced with the very same threat of plague. Ships returning from Egypt to the shores of the Bombay presidency were also denied *pratique* to dock in the harbour and ordered to weigh anchor offshore. A lazaretto was set up on Butcher's Island off the coast of Bombay and Dr James McGrigor, future director general of the British Army Medical department and the senior surgeon on this Bombay-bound convoy, was sent orders by the Medical Board at Bombay to take up residence on the island and undertake the duties of quarantine officer. But from there on, the Bombay lazaretto began to take on a very different character to the Madras lazaretto.

McGrigor was given military support in the shape of one of the Company's naval vessels, a sloop of war that was anchored off shore.[54] With this support, he enforced a strict regimen of quarantine. He began by issuing general instructions that all ships and vessels following him to Bombay from the Red Sea or the Persian Gulf were to lie in quarantine at Butcher's Island.[55] As the troop ships from Egypt began arriving, McGrigor spent a few months on the island observing the health status of the soldiers and crew aboard the ships at Butcher's Island. He disembarked various groups of these ships' passengers on to the lazaretto and monitored their health.

Some groups were dismissed from the lazaretto faster than others. For example, the 86th artillery regiment, the 1st Bombay regiment and the commissariat department were considered "so uncommonly healthy" that he only detained them a few days on the island.[56] However when the 7th Bombay regiment and its followers numbering 700 –odd individuals arrived in August of the year, McGrigor detained this regiment at the quarantine station for an entire month as the plague had been rife among them in Egypt.[57] Even so, the procedures followed by McGrigor were far more rigorous than any measures taken by Anderson or Berry in Madras.

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52 *Ibid.*, 419. Letter from the Medical Board to the Honourable Lord Clive, 30 July 1802.

53 *Ibid.*, Resolution of the Governor in Council, 3 August 1802.

54 McGrigor, *The Autobiography and Services of Sir James McGrigor*, pp. 133–138.

55 Edmund Burke, 'Appendix: Deaths, April 1858: In London, Sir J. McGrigor, Baronet, K.C.B, KC., K.T.S', in *The Annual Register of the History and Politics of the Year 1858* (London, 1859), 339.

56 McGrigor, *The Autobiography and Services of Sir James McGrigor*, pp. 133–138.

57 *idem*, *Medical Sketches of the Expedition to Egypt from India* (London, 1804).

When the pest-establishment which the Indian army had left behind at Suez returned to Bombay in September, it was also quarantined on Butcher's Island. This group of convalescents, their guards and the pest house servants—although seeming healthy on arrival in Bombay—lay in quarantine on McGrigor's orders for another month because of their exposure to the disease. Following this confinement on Butcher's Island, they were provided with new clothing and only then permitted to enter the presidency town.[58]

Contagionism, Commerce, Controversy and Resistance

It is evident that the lazaretto at Butcher's Island was far more meticulously recorded and thoroughly conducted in comparison to the Madras lazaretto. McGrigor's half year stint on the Bombay lazaretto was in stark contrast to the mere thirteen days that the ships returning to Madras presidency spent at Ennore. While the focus of the Madras lazaretto was primarily on the cargoes of rice, rum and sugar on board the returning ships; that of the Bombay lazaretto was mostly on the soldiers, crew and the followers and their health as is evident in the systematic manner in which groups of the quarantined passengers were disembarked and examined. The Bombay quarantine is evidence enough that not all of the EEIC's employees in the Indian subcontinent, whether medical or nonmedical, saw quarantine as at best an optional or at worst an unnecessary measure as the Madras medical establishment seems to have. The incongruent responses of the Madras and Bombay establishments are comprehensible only when it is considered against contemporary attitudes in the implementation of quarantine policy in Britain and other parts of the world.

Many European ports deeply scarred by the Black Death continued to have a long history of rigorous and stringent quarantine regulations, which remained harsh throughout the late eighteenth and early nineteenth centuries. One of the most stringent such systems were the rigid regulations facing vessels coming from areas such as Turkey and Egypt to ports in the Habsburg Empire. Travellers from the Ottoman lands had to submit to invasive physical searches for buboes, and a quarantine that could last up to 48 days.[59] Almost half of Slavonia and Croatia was rendered a plague-control zone under the Habsburg system of quarantine, which

58 *Ibid.*

59 Sheldon Watts, *Epidemics and History: Disease, Power and Imperialism,* (New Haven, 1997), pp. 24–25.

utilised four thousand troops. Such practices were maintained even in the face of considerable economic losses and political strife.[60]

Other states were equally stringent, in spite of the political and commercial implications of quarantine in the eighteenth and nineteenth century. [61] When plague was carried on board ships from Alexandria and brought to Malta in 1789, quarantine officials ordered the entire cargo burnt to destroy the "plague contagion". [62] The resulting ire of the Tunisian merchants who owned the cargo eventually led to a declaration of war on Venice; indicating that when it came to plague quarantine, some states remained unwilling to compromise even though they were unsure of the exact manner in which quarantine safeguarded them.[63] Even the quarantine response of Egypt to plague in the early 1800s was rigorous in comparison to that of the EEIC in Madras. Muhammad Ali, the *de facto* ruler of Egypt under Ottoman Sultan, was willing to impose strict maritime quarantine on Turkish ships coming from Istanbul to protect Egypt against the plague. This is a significant policy move, as Istanbul was the capital of his political master and Egypt's primary trading partner.[64]

While most educated Europeans remained convinced of the value of quarantine and isolation measures when under the threat of plague, the British were equally persuaded that quarantine had no place in protecting Britain against imported disease.[65] Britain had always been relatively slow to implement plague prevention measures such as quarantine and household isolation and had no regular mechanism for controlling communication with ports known to be infected with plague before the mid-seventeenth century.[66] The British government tended to respond to the threat of plague only when confronted by it rather than pre-emptively formulate and implement regulations for the continued protection of British ports and

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60 *Ibid*; Ronald E. Coons, "Steamships and Quarantines at Trieste, 1837–48", *Journal of the History of Medicine and Allied Sciences*, 44 (1989), 28–56. Trade goods were regularly fumigated. In the case of suspect wool, the Habsburg Empire followed a singular practice—they kept the wool in a warehouse where people of low socioeconomic standing were coerced to reside and sleep. If they developed symptoms, the wool was burnt and they were shot. Bulgarian and Greek traders on either side of this journey would be significantly hampered by the length and rigidity of this quarantine system.

61 *Ibid.*

62 Nancy Gallagher, *Medicine and Power in Tunisia, 1780–1900* (Cambridge, 2002), p. 24.

63 Watts, *Epidemics and History,* pp. 24–25.

64 *Ibid.,* pp. 34–39.

65 Daniel Panzac, *La Peste dans L'empire Ottoman, 1700–1850* (Leuven, 1985); Peter Christensen, "Plague and Plague Policies in Early Modern Denmark", *Medical History*, 47 (2003), 413–50.

66 Paul Slack, "The Response to Plague in Early Modern England", in John Walter and Roger Schofield, eds., *Famine, Disease and the Social Order in Early Modern Society,* (Cambridge, 1989), pp. 167–189.

populations in the manner of many other European states.[67] By the time of the last plague outbreak in England in 1665, public policy had become more regulated.[68] British Quarantine Acts had to tread a delicate balance between the opinions of conflicting lobbies, a variety of constitutional sensitivities, encroachment upon individual liberties and the maintenance of the greater good. The quarantine regulations, while severe in principle, were difficult to enforce as the British courts were rarely as harsh as the foreign courts when it came to individuals breaking quarantine restrictions.[69] By the early 1800s, the extant British quarantines were even physically far less impressive than the great lazarettos of port cities like Venice, Pisa, Genoa or Marseilles.[70]

Slack has also pointed out that in the period between 1670 and 1800, plague was never really the kind of hazard in Britain that the disease had posed in earlier centuries—the disease was kept at bay by the rigors of other European quarantine procedures and sheer geographical distance.[71] Ships embarking from the East, in particular, would often lie in quarantine in the Mediterranean before their arrival at British ports, thus endowing Britain with a relative shelter from plague, when compared to other European states. This would permit many eighteenth century British commentators the luxury of questioning the efficacy of quarantine. Quarantine continued to be unpopular with the British both at home and in their colonies through the nineteenth century, even with the onslaught of the major world pandemics such as cholera and plague. When the first International Sanitary Conference was held in Paris in 1851 and major European governments had started down the path to developing more comprehensive and uniform world quarantine policies, anti-contagionist and anti-quarantine feeling continued to persist in Britain. In fact, the Venice protocol on plague control that was drawn up at the International Sanitary Conference of 1897 blamed the spread of the disease on the traditional British resistance to quarantine.[72]

One primary source of British opposition to quarantine came from members of the medical profession whose deliberations as to whether disease was in fact spread by contagion were very influential in perceptions of the efficacy of quarantine. The miasmatic theory of disease, popular in Britain until late into the nineteenth cen-

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67 *Ibid.* Instances of such reactions include 1580, when ships from Lisbon were halted in the Thames to air their cargo; 1585, when an embargo was placed on imports from Bordeaux, then infected by the plague; 1629 and 1635, when the Privy Council ordered customs officials in all British ports to prohibit crew and cargo arriving from infected ports from landing.

68 Maglen, '"The First Line of Defence"'.

69 John Booker, *Maritime Quarantine: The British Experience, c.1650–1900*, (Aldershot, 2007).

70 Maglen, "'The First Line of Defence"'.

71 Slack, "The Response to Plague".

72 Myron Echenberg, *Plague Ports: The Global Urban Impact of Bubonic Plague, 1894–1901* (New York, 2007)

tury, held that diseases were the result of corruptions of the air; "effluvia" that arose from putrefying or decomposing biological matter, unclean water, or the peculiar character of certain geographical regions. Human beings if exposed to these unhealthy miasmas were considered likely to contract disease.[73] This school of thought believed that quarantine was a redundant and expensive process; and that only sanitation and good ventilation would protect the country against imported disease.[74] This school of thought held that the forced confinement in lazarettos was more likely to breed disease as a result of the exposure to pestilential air and the proof of this was to be found in the apparent inability of quarantine to prevent the spread of diseases such as cholera. They also believed that quarantine as a system encouraged concealment of disease and the abandonment of those who were already ill.[75] Anti-contagionist medical practitioners would continue to campaign successfully against quarantine in the United States, Britain, France and Spain throughout the nineteenth century.[76] Debates over the efficacy of quarantine would continue in the halls of government and between the pages of medical journals; pursued by impassioned and convincing practitioners who were entirely unable to believe that there was any value in the policy.[77] This lobby would remain very powerful in British India well into the nineteenth century and their theories would be continually used by the Indian government to argue against quarantine.

As quarantine had the effect of creating major disruptions, delays and losses in trade, the other source of opposition to the system of quarantine came from the British commercial sector. To a country whose international shipping and trade sectors were growing rapidly and whose ruling classes were heavily invested in this sector, such losses would have appeared far more serious than the possible ravages of disease.[78] Both the Indian and British governments in the late 1800s continued to greet the spectre of quarantine with dismay, vehement debate and indignation over the economic losses linked to the policy.[79] The forty days spent at harbour in

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73 Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (London, 1999), p. 259.

74 Dorothy Porter, *Health, Civilisation and the State: A History of Public Health from Ancient to Modern Times* (London, 1999), pp. 82–83; Southwood Smith, *The Common Nature of Epidemics and Their Relation to Climate and Civilisation* (London, 1866), p. 64.

75 Maglen, "The First Line of Defence".

76 Porter, *Health, Civilisation and the State,* p. 83.

77 Harrison, *Public Health in British India,* pp. 117–138. The British Medical Journal's pages are filled with treatises from medical practitioners who had worked in British India and argued that quarantine was singularly unable to protect against populations from diseases such as cholera or plague. If a single case of cholera occurred in spite of quarantine, these practitioners claimed the essential futility of quarantine as a protective measure and the potential harm that it could do.

78 Baldwin, *Contagion and the State,* p. 94.

79 Harrison, "Quarantine, Pilgrimage and Colonial Trade".

quarantine reduced profits by increasing the overall duration of the journey, destroying perishable goods and created losses owing to the quarantine tax.[80] Consequently both governments and commerce often used *laissez-faire* economics to demonstrate that the practice of quarantine was in conflict with Britain's much vaunted liberal economic principles as it directly interfered with free trade.[81] Quarantine also had the capacity to generate antipathy among sailors and merchants—confining the sick together with the healthy on board ships in the lazarettos tended to breed considerable ill-will and resentment towards an already unpopular measure.

Conclusion

In the end, it is not possible for us to know for certain whether the Company ships successfully managed to bring plague from Egypt to India in 1802, and whether their quarantines at Madras and Bombay controlled the spread of the disease. There is no further mention of plague or plague like diseases in the medical records of either presidency after 1802, although Bombay does suffer from an epidemic some years later. But what is certain is that the lack of a plague epidemic pursuant to the return of the EEIC troop ships had little to do with Company quarantine policy. In the case of Madras, research conducted during and after the 1896 invasion of plague suggests that the ecological cycle of the disease could not be sustained for very long in the hostile climate of the presidency, although Bombay presidency, on the other hand, was very susceptible to the disease and would bear the brunt of the future 1896 plague pandemic.[82] Regardless of whether the disease actually reached Indian shores, the most interesting features of this episode are the diverse quarantine policies followed by the Madras and Bombay establishments as well as the relative rigor of the Bombay lazaretto.

The intellectual controversy as well as the commercial antagonism towards the use of quarantine in contemporaneous Britain discussed earlier explains the attitudes of the Medical Board and the Board of Revenue in the Madras presidency. Faced with the threat of plague, the administration and the medical staff submitted to the official request for the quarantine, but ensured that the entire process was

80 Maglen, "'The First Line of Defence'".

81 *Ibid*.

82 Hwa-Lung Yu and George Christakos, "Spatiotemporal modelling and mapping of the bubonic plague epidemic in India", *International Journal of Health Geographics*, 5 (2006),12; L.F. Hirst, *The Conquest of Plague* (Oxford, 1953). In both the Eastern and southern parts of the Madras presidency where the specific species of fleas endemic to the region limited the transmission of plague to the local rat population, and consequently to the human population.

completed as expeditiously as possible. Their focus remained on the cargo carried by the ships, rather than the health of the soldiers and sailors.

It must also be kept in mind that ideas of state responsibility for the well being and health of the local population were still embryonic in this young colonial state—for which a useful parallel is to be found in the Company's management of famine in Madras in the late 1700s.[83] When famine swept through the presidency in the late eighteenth century, entire villages were deserted as afflicted populations migrated to other areas seeking relief and employment.[84] The colonial administration focussed their response to this famine on grain market regulation rather than on the essential investments in local infrastructure, such as investment in irrigation, loans to famine-afflicted farmers and labourers; measures which were traditionally instituted by local rulers in times of need. As far as the EEIC were concerned, these latter measures were expensive, difficult to implement and deeply unpopular among the upper echelons of the administration; who reiterated that any further measures against famines would flout the much-vaunted *laissez-faire* economic policy.[85] While post-1857 colonial administrations would use this principle of state responsibility for local populations to justify and legitimise British colonisation and imperial rule in the Indian subcontinent, this early Company Raj was as yet coming to terms with the concept.[86]

Given that this Company state in both Bombay and Madras was in the early stages of development, it can further be argued that the creation, institution and implementation of methods to restrict the spread of plague necessitates the growth of the state itself, the growth of local administrative structures and the creation of a "medical police".[87] In the nascent garrison states of the EEIC in India, such administrative structures had not yet developed, or developed fully; explaining the lack of cohesion in the response to such a serious threat as that of plague.[88] This disparity in public health policy and commitment between presidency governments

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83 Ravi Ahuja, "State Formation and 'Famine Policy' in Early Colonial South India", *Indian Economic and Social History Review*, 39 (2002), 351–80.

84 Roland Lardinois, "Deserted Villages and Depopulation in Rural Tamil Nadu" in Tim Dyson, ed., *India's Historical Demography: Studies in Famine, Disease and Society*, (London, 1989), pp.16–49; Richard H. Grove, "The Great El Niño of 1789–93 and its Global Event in World Environmental History Consequences: Reconstructing an Extreme Climate", *The Medieval History Journal,* 10 (2007), 75–100.

85 *Ibid.*

86 Harrison, *Public Health in British India.*

87 Slack, *The Impact of Plague in Tudor and Stuart England*.

88 See Douglas M. Peers, 'Gunpowder Empires and the Garrison State: Modernity, Hybridity and the Political Economy of Colonial India, circa 1750–1860', *Comparative Studies of South Asia, Africa and the Middle East,* 27 (2007), 245–259 and *idem, Between Mars and Mammon: Colonial Armies and the Garrison State in Early Nineteenth Century India* (London, 1995). For a discussion of the garrison state in India, and Ahuja, "State Formation and Famine Policy".

was not uncommon even in British India after 1857, when the administrative apparatus had developed further.[89] The extraneous pressures on the British and Indian governments regarding disease, quarantine and shipping regulations that characterised the later 1800s were also lacking in the instance of the 1802 plague.

These aspects do not, however, explain the comparative rigor of the Bombay lazaretto. To elucidate the motivations that drove the Bombay lazaretto, it is necessary to take into consideration the changing economic and political status of the presidency at this time. By the end of the eighteenth century, the EEIC had initially been considering the "demotion" of Bombay from its standing as a presidency after an assessment of its abysmal record of numerous administrative failures and considerable political mismanagement. A perfect example of this negligence was Bombay's poor administration of the rich and fertile district of Malabar, which constituted a third of the western coast. When Malabar was handed to the Bombay presidency, the British merchants of Bombay made such a terrible job of administering it that the Governor General Wellesley transferred it to Madras presidency. It was Dundas, then President of the Board of Control, who elevated the deteriorating status of Bombay when the powerful private British merchants of the west coast succeeded in convincing him of the rewards of retaining Bombay as a presidency. The advent of Napoleon onto the British radar in the Indian arena added to the importance of Bombay, which was now considered the first line of defence against possible naval attacks by the French; in addition to the possibilities of the developing trade with China.[90] By 1800, the EEIC's Court of Directors began to consider Bombay as a port of great importance and a crucial Company asset, based also on the impression that the port remained open at all seasons of the year in a region buffeted annually by the harsh winds of the monsoons.[91] In the face of all these changes, it would follow quite logically that the British merchants, who were very influential in dictating Company policy in Bombay, could direct that the EEIC administration lavished more care on quarantine policy in the Bombay port than was implemented for Madras.

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89 Seán Lang, "Drop the Demon *Dai*: Maternal Mortality and the State in Colonial Madras, 1840–1875" *Social History of Medicine*, 18 (2005), 357–378. For example, Lang explores the early development of the maternity hospital in Madras and the differences in maternal mortality policy between presidencies.

90 Pamela Nightingale, *Trade and Empire in Western India, 1784–1806* (Cambridge, 1970).

91 Anne Bulley, *The Bombay Country Ships, 1790–1833* (London, 2000), pp. 3–6.

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