

## **Quarantine as it is, and as it ought to be / by Gavin Milroy.**

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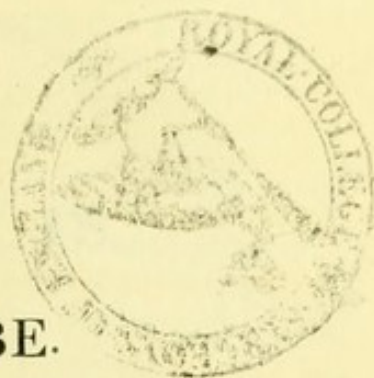


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*The Royal College of Surgeons* 2  
QUARANTINE AS IT IS,

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AND

AS IT OUGHT TO BE.



BY

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FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, ETC., ETC.

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*Read before the Public Health Section of the National Association  
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# QUARANTINE AS IT IS,

AND

## AS IT OUGHT TO BE.

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**Q**UARANTINE is the enforced detention and isolation of ships and of everything on board them, persons as well as cargo, on arrival in a harbour, in consequence of the apprehended importation thereby of a disease deemed liable to spread and to become pestilential.

There is also a Quarantine by land, which consists in trying to isolate a place where the disease already exists, by encircling it with a cordon of troops, to bar all intercourse between the infected locality and the adjacent districts, in the hope of preventing the extension of the mischief, and extinguishing it on the spot where it exists.

The duration of Quarantine is made to vary according to the believed presence or absence of the apprehended disease in the port from which the vessel sailed, or at which she last touched, the health of the crew and passengers during the voyage and on her arrival, the description of her cargo, and the circumstance of there having been any communication or not with other ships, persons, or things on the high seas or elsewhere.

If the port of departure be entirely free from the disease, the vessel receives a clean bill of health (*patente nette*); if otherwise, a foul bill (*patente brute*), the effect of which is, that a more or less lengthened Quarantine will be imposed on her in the port of arrival, although all on board may have remained in perfect health during a voyage of many days, or even weeks, and although there be no trace whatever of any sickness when she arrives. There is, moreover, what is called a 'suspected' bill of health (*patente touchée*), given to vessels coming from places which, although quite healthy themselves, continue to hold communication with countries where the apprehended disease may exist, without adopting the customary and traditional stringent measures against these countries. The quarantine required for suspected bills of health is intermediate in duration and strictness between what is imposed in the other two cases; for it is to be kept in



mind, that even a clean bill of health does not always ensure immediate 'pratique,' or free communication with the shore upon the ship's arrival.

Some articles of merchandise are considered to be susceptible, *i.e.*, capable of attracting and becoming impregnated with the morbid miasm floating in the atmosphere of an infected locality, and of conveying this poisonous matter from place to place. Other goods are supposed to possess this property only feebly and imperfectly; while a few are said not to have it at all, and to be *unsusceptible*. These distinctions are for the most part purely imaginary.

The visit of a Quarantine officer to a ship on arrival is rather for the purpose of obtaining answers to certain prescribed questions respecting the voyage, &c., than of ascertaining the actual condition of the vessel itself and of the persons and things on board, as far as sickness, or liability to cause sickness, is concerned. He merely goes alongside in a boat, puts certain queries to the captain, writes down the answers on a sheet of paper, and passes this to the captain for signature. The signed paper and the ship's bill of health, having (in the event of any suspicion) been first sprinkled with vinegar, or duly fumigated, are received back into a basket, or with a pair of metal tongs, by the health-officer, who returns on shore either to make out a warrant of release or to prescribe the necessary Quarantine.

Should any one be sick when the ship arrives, and there be no medical man on board, the Quarantine officer prescribes as he best may, without seeing the patient. If he went on board, he must remain there, and could not return on shore. The case is the same even when the sick or suspected are removed to a lazaret. The health officer can attend upon them only under certain appointed precautions; otherwise, he could not leave the lazaret himself without incurring the risk of conveying the pestiferous poison abroad!

The theory and the whole machinery of Quarantine rest on the belief, not only that certain diseases are communicable from the sick to the healthy under all circumstances and conditions, and are capable of spreading in this manner with epidemic force in a new and distant locality; but also that the miasms of these diseases, floating in the atmosphere of infected places, are liable to cling to the surface of persons and inanimate objects, and may thus be conveyed in shipping to great distances, and after long intervals of time, retaining all the while the power of infecting the atmosphere in the port of arrival.

It is also presumed that the morbid germs may be incubant or lying dormant in the systems of persons who, although perfectly well on arrival, may sicken afterwards, and then become the radiating centres of a wide-spreading infection.

That certain zymotic diseases are more or less actively infectious—*i.e.*, communicable from the sick to the well through the medium of the atmosphere—is not to be gainsaid.

In one group of these diseases, as in small-pox, scarlatina and measles, the infectious property seems to be *inherent* and *essential*. This may, indeed, at times be feeble and unenergetic; still, it is always



present, and may, from some unforeseen cause, suddenly acquire great potency.

Moreover, no ordinary sanitary precautions that we know of can prevent either the development, the extension, or the recurrence of the exanthematous or eruptive fevers, however much these precautions will very generally serve to abate their severity and fatality. Occasionally, though rarely, small-pox and scarlatina are as fatally malignant in the clean and airy abodes of the rich as in the dwellings of the poor. The temperament and constitution of the persons attacked have much to do with the severity of the seizure.

There is another group of zymotic diseases in which the infectious property is not inherent and essential, as in the former, but is only *conditional* and *contingent*, i.e., depending upon, and requiring for its manifestation, the coexistence of an artificially polluted atmosphere. Typhus fever is an example of this class. No disease has a more terrible power of self-propagation and increase when the sick are crowded together in impure, ill-ventilated chambers. In clean and spacious apartments, however, where the atmosphere is being continually renewed by the due admission of fresh air and the simultaneous escape of the vitiated air, all risk of the extension of the infection ceases. The means of arresting the evil are thus in our own power, and are, moreover, always at hand.

In this respect, therefore, there is a marked difference between the infection of typhus, and that of such diseases as small-pox and scarlatina. Unlike, too, to the true exanthematous or eruptive fevers, typhus seldom or never springs up *de novo* without the concurrence of local noxious agencies which it is easy to prevent and remove, and the very existence of which is proof positive of neglected sanitary regulations.

Now, what is true of typhus is equally applicable to the oriental *plague*, as respects its mode of development and extension. The experience of the last five-and-twenty years has established this as a fact beyond any reasonable doubt. The plague is apt to spring up in the filthy towns and villages of Turkey and Egypt, under the very same conditions as typhus does in our foul lanes and alleys; and when it spreads, its spreading is due to the like influences of artificial local contamination. It was therefore no vain or unmeaning boast of the late Mehemet Ali, when, alluding to the many works of improvement he had carried out and intended to carry out in Egypt, he said, 'We must get rid of the plague.' He knew that it might be done.

In all prophylactic and preventive measures, therefore, directed against the plague, we have but to consider what experience has shown to be necessary against typhus; neither more nor less being required. The Quarantine restrictions and regulations against the former disease should be exactly those which it is found right and necessary to be adopted against the latter disease.

But what have recent occurrences in the Mediterranean shown to be the practice still pursued by almost all the European States in reference to this matter?



In the early part of the present year, a bad form of fever broke out in a filthy Arab village near the town of Bengazi, on the Barbary coast, and continued to spread slowly for weeks and months without exciting much alarm in the district. During all this time, it was not regarded or called the plague. This has always been the case with epidemics of this pestilence. No one pretends to be able to distinguish the disease at first from other bad forms of fever. And so it was at Bengazi. It was only when buboes and carbuncles were superadded to the other symptoms, that the fever was recognised and designated as the plague; and then only did quarantine measures begin to be enforced in the Mediterranean ports against the infected place. Before that, no special precautions had been taken or deemed necessary against arrivals from the Barbary coast. But no sooner was the dreaded name of plague affixed to the disease, (which, as we have seen, had been existing for months before its real nature was discovered,) than the entire machinery of quarantine, with all its strange and most extravagant complications, was set in motion by most of the European States to prevent the importation of the pestilence among their subjects.

One or two examples will suffice to show the nature of some of the precautions.

A quarantine of twenty-one days' duration was imposed in the ports of Naples, Greece, Portugal, &c., upon all vessels coming from or which had touched at Gibraltar; not that any disease existed there or that the health of the Rock was bad at the time, but merely because it continued to hold communication with Morocco, which was also at the time in a healthy state and quite free from any pestilential malady. Our Government, as well as that of France, held out for some time against such preposterous proceedings, and counselled a rational moderation in the enforcement of precautionary measures; but the attempt only brought down upon our intercourse and commerce retaliatory prohibitions of the utmost stringency, and our Mediterranean ports were compelled to yield.

One of the Peninsular and Oriental steamers on her voyage out from this country to Alexandria had to land some passengers at Gibraltar. Before leaving the harbour there, it was necessary to have a bill of health of the place. The document was duly sent on board, enclosed in a tarred box carefully fastened down. The captain of the steamer, not aware of the risk he and his ship incurred, inadvertently opened the box to look at the paper. On arrival at Malta, it was declared by the authorities there that, in consequence of this act, the steamer must be regarded as having had communication with a suspected port, and must undergo a quarantine of ten days. The passengers who landed were detained in the lazaret for that period, before they received pratique!

At Alexandria, a curious event occurred. A vessel with 250 pilgrims crowded on board arrived in that port from Tunis. During the voyage, one of the pilgrims—who, it is scarcely necessary to say, are always abominably filthy in their persons and habits—sickened



of a fever and died. After some controversy as to the true nature of the case among the health officers of Alexandria, it was decided that it should be regarded as one of plague, and the most stringent precautionary measures were accordingly enforced against the ship and all on board, to prevent the spreading of the disease to the town. The pilgrims were crowded together into the lazaret, and kept under strict guard. While thus confined, another man fell sick of fever and died. Again was there difference of opinion among the medical attendants as to whether it was a case of genuine plague, or not; but the majority decided in the affirmative. One of these gentlemen, in examining the case, had touched the patient's body, and had returned home without having undergone the prescribed purification. When this came to be known to the foreign consuls, they at once communicated the intelligence to their governments, and the result was that Alexandria was forthwith declared to be infected or suspected of having the plague, and treated accordingly.

Comment upon such proceedings as the above is unnecessary; they outrage common sense, and disgrace the medical profession at whose door lies all the folly of 'quarantine as it is.'

The subsidence and all but cessation of the plague during the last twenty years in the Turkish dominions has been attributed by many to the institution of quarantine, or rather a system of sanitary police, by the Porte in 1838-39. And doubtless the measures which have been carried out in Turkey, Syria, and Egypt since that period, must have been productive of no small amount of good in arresting and extinguishing the disease, and preventing its unchecked propagation. Wherever a real or suspected case of the disease occurred, the infected house was immediately emptied of all its inmates, and underwent a thorough cleansing and purification. Infected or suspected shipping was likewise subjected to quarantine detention, and not permitted, as had previously been the case, to enter harbours at once and communicate immediately with the shore without let or hindrance.

After the great fire of London in 1666, which swept away so much of the worst-conditioned parts of the city, and resulted in a general improvement in the dwellings, streets, &c., the plague, which was then seldom absent in its sporadic form, and had three or four times raged with epidemic violence since the beginning of the century, became greatly less frequent, and ere long ceased to be ever met with in the metropolis; and this, too, before any system of quarantine had been established in our country.

I shall now briefly notice another pestilence against which quarantine is in the present day specially directed—viz., *yellow fever*.

The experience of the last nine or ten years has afforded an unusually wide field for the observation of this disease, and it has been studied with much greater exactitude than before. Its appearance for the first time (as far as accurate records go) as a great epidemic in the Brazils in 1849-50, and its gradual extension northwards and southwards to the latitude of New York on the one hand and that of Buenos Ayres on the other, and from east to west right across the



South American Continent, as well as its persistence from that date down to the present time in some part or other of this wide extent, are events full of instruction and warning.

Now, no one fact has been more indisputably made out than that yellow fever never manifests any tendency to spread from the sick to the well in pure and airy chambers, more especially when the patient has been removed from the place where he caught the disease. The medical and other attendants run no risk whatever under such circumstances.

To deny the communicability of yellow fever absolutely and unqualifiedly is unwise, because it is against evidence. In the ill-ventilated between-decks of a ship, and in like conditioned abodes on shore, it has unquestionably spread by infection. The potency or activity of the infectiousness of yellow fever is, however, never so great as that of the plague or of typhus; it is more easily dissipated and annulled.

As in the case of the plague, mild cases of yellow fever are not distinguishable from the ordinary endemic fevers of the country, which are not regarded as at all infectious, and against which there is no quarantine. Such cases usually usher in an epidemic. It is only when its malignancy is fairly established that quarantine comes into force. The gates of the citadel are closed after the foe has got in.

Certain it is that quarantine, as hitherto practised, has signally failed in keeping out yellow fever from countries exposed to its invasion. Instances upon instances might be quoted: I shall mention but one, the most recent and one of the most striking of all; viz., that of Lisbon last year. Notwithstanding the unceasing maintenance of a most vigilant and stringent quarantine at every point of her coast, and against every part of the world which was or could be suspected—to the immense inconvenience of all intercourse and serious detriment to commerce—the enemy found its way into that notoriously foul and unwholesome city, and caused such a panic by its destructive ravages, that for a time all business was suspended, the law courts were closed, and the legislature refused to hold its sittings.

Portugal was the only country in Europe visited by the pestilence, although others, our own among the number, had much ampler and more frequent intercourse with Brazil, from which the Lisbon Board of Health contended that the disease had been imported.

The mild precautionary measures adopted of late years at Southampton, towards vessels arriving there with cases of yellow fever recently or actually on board, have been found quite sufficient in protecting the public health.

*Epidemic Cholera* is another disease for which quarantine continues to be imposed in many countries.

It was expected by the medical profession and the educated public in this country, as well as in France and the United States, that after the experience of the two visitations in 1831-2 and in 1848-9, the universally ascertained inefficacy of ordinary quarantine to keep



out the pestilence—for not a country or land escaped—would have been everywhere acknowledged and acted upon in the future. Not so, however; for on no former occasion was the system more rigorously followed out than it was in the last visitation in 1853-4 by Spain, Portugal, Naples, Greece, and Sweden.

For example, on the earliest intimation of cholera having appeared in this country, Spain immediately required that Gibraltar should at once impose a strict quarantine upon all arrivals from our shores, whether the ships were healthy or not. The governor of the garrison hesitated to accede to the demand; and straightway an embargo was placed by the Spanish authorities on all direct communication between their country and the Rock, to the great inconvenience and distress of the inhabitants of both, more especially of the latter, which derived its chief supplies of food from the surrounding district. Smuggling of course went on, however, actively all the while. After lengthened remonstrances and counter-remonstrances, Gibraltar was compelled by force of circumstances to yield. Ere long, the exigencies of war broke through all quarantine restraints both there and in other ports in the Mediterranean; and during the greater part of 1854, when the cholera was at its height both in our own country and in France, an unobstructed intercourse was continually going on with Gibraltar and Malta, and between those places and every part of the Mediterranean, the Bosphorus, and the Black Sea. Now, it is a very notable fact that during the whole of the Russian war, cholera never spread either at Gibraltar or Malta, nor yet at Balaklava or at Kamiesch, although vessels were continually arriving and landing the sick at all those places, and the only precautions that were adopted were the prompt removal from shipboard of every person that could be sent on shore, and the locating them in healthy situations. No experiment could be more conclusive or ought to be more instructive.

While such was the course pursued, and such were the results, in English and French ports, the most rigorous quarantine continued to be exercised by other countries. The steamer, in which I was a passenger in the summer of 1855 from Marseilles to Constantinople, took on board at Malta a French soldier who, while affected with diarrhœa, had most imprudently bathed in the sea just before coming off to the vessel. The symptoms rapidly became worse, and he died collapsed next morning. The body was immediately committed to the deep. On reaching the Greek island of Syra, the steamer was declared to be infected, although there was not the slightest trace of sickness among any on board, and kept during her stay in strict quarantine, and the passengers, who had to be landed, were sent off for ten days to a lone island seven or eight miles distant!

Notwithstanding the utmost vigilance of the Spanish and Portuguese authorities at the same time, the pestilence found its way into both of these countries, and spread from town to town and from district to district, committing terrible ravages everywhere, and especially in sea-port towns, which are always the most unwholesome and worst conditioned. No city has of late fared worse than Lisbon has done. In



1856, the cholera, and in 1857-8 the yellow fever, swept away thousands of her people. Nowhere is quarantine more vigilant and more strict.

I have thus briefly noticed the three diseases—plague, yellow fever, and cholera, against which quarantine is at present chiefly directed. Admitting that infection, or communicability from the sick to the well, is an element or factor in the propagation of each and all of them—although in the case of cholera the property is comparatively very feeble—I have sought to show that it requires for its active manifestation the co-existence and co-operation of a polluted atmosphere, and that all that is needed for its effectual dissipation is the correction or removal of this artificial adjunct. The ready means of extinguishing the mischief are thus always in our own hands. Let not, therefore, in considering the subject of quarantine, the mere abstract technical question, ‘Does this or that disease ever manifest an infectious property?’ be uppermost in the mind and guide our decision; but rather such practical questions as these,—‘What part does infection play in their general dissemination?’—‘Is the part a principal or merely a subordinate one?’ and ‘Is the infection constant and inherent, or is it only conditional and, therefore, avoidable?’ This simple rule will save the inquirer from many errors, and lead him into the right way.

‘Quarantine as it ought to be,’ should, in my opinion, be as follows :—

1. The enforced detention and isolation of shipping are necessary only when disease actually exists on board, and when the vessel is in a foul and infected condition upon arrival.

The health-officer should go at once on board, and personally inspect the state both of the ship and of all on board, before determining the restrictions to be imposed.

An accurate registry of every inspection should be kept.

2. The sick, and all persons in whom the early or precursory symptoms of sickness are present, should be removed as promptly as possible, from the ship to clean and airy rooms on shore, or to a floating hospital moored in a healthy situation. The detention of such persons in an infected ship is obviously most objectionable.

3. There being no reliable evidence that any pestilence was ever introduced into a community by persons who had been quite healthy during a voyage, and were so upon arrival, it is unnecessary to detain such persons in a lazaret upon the mere speculative apprehension that the disease may be dormant in their systems.

Emigrants and pilgrims, being often extremely filthy in their persons and clothing, should be subjected to special examination and purification before they are permitted to go free upon landing. A supervision of the dwellings to which such passengers usually resort should also be maintained.

4. The experience of all lazarets having shown that the fears of a pestilential disease being introduced by the ordinary cargoes of dry and imperishable goods are groundless, the tedious and expensive restrictions often imposed upon such cargoes may be discontinued without any risk.



Such articles as foul rags, putrid hides, rotten meat and vegetables, guano, &c., should be landed under special regulations, and apart from ordinary wharves and from dwellings.

Foul bed and body linen and other baggage of the sort should not be landed when there has been sickness on board, or where any epidemic exists on shore, without previous thorough cleansing and disinfection.

5. Vessels in a filthy, unwholesome state from foul bilges or otherwise should not be allowed, whether there has been sickness on board or not, at once to enter a crowded port, or to lie alongside a wharf or other ships; nor should they be permitted to land their cargoes until they have been duly cleansed out and ventilated.

A foul ship is much more to be dreaded as a vehicle of introducing disease than anything she has on board; and no small risk is often incurred by pilots, custom-house officers, and other persons who go and remain on board. The atmosphere in the hold and the between-decks of such a vessel will often poison a stranger fresh from the shore, when the crew have escaped.

If disease has been on board during the voyage or on arrival, the ship should be limewashed and fumigated, as well as cleaned out and aired, before free entrance is granted.

6. One of the most important duties of a quarantine health-officer should be to maintain a vigilant supervision over the sanitary state of ships in port and on arrival.

If bills of health were made to certify the condition of a ship, and of her accommodation for the crew and passengers, as well as the mere existence or non-existence of disease in the port of departure, a far more effectual protection against the introduction of disease into the port of arrival would be afforded than now exists.

A *clean bill of health* would then have a significant meaning, and the services of the health-officer would be of great value to the community.

The machinery of quarantine might thus be made instrumental in the general sanitary improvement of mercantile shipping, a subject which calls for much more public attention in every country than it has yet received. There is a large amount of impaired and damaged health, as well as of actual disabling sickness and of death, among the crews of our merchantmen, arising from causes on board ship which might be easily prevented.

7. As to the quarantine measure on land of encircling an infected spot with a cordon of troops or police in the hope of preventing the extension of any pestilence, humanity as well as experience denounce it as utterly unjustifiable. It is alike barbarous and homicidal.

Such is the system of quarantine which I should propose. If asked what hope is there of so simple a system being ever adopted generally, and in foreign countries as well as in our own country and colonies, I must admit that the attempts hitherto made to reform the existing quarantine have been anything but encouraging. Missions and commissions, and international conferences have been tried and failed, and diplomatic remonstrances have not been more successful.



No one nation can well act in the matter quite independently and without the concurrence of other countries. England and France and the United States would willingly adopt a more rational procedure, but they are checked (as recently in the plague on the Barbary coast) by other governments refusing to go along with them, and threatening their intercourse with oppressive restrictions.

One way only is left, and probably it is the best, after all—viz., to enlighten general opinion everywhere, by keeping before the public eye the fallacies and evils of the existing system, and at the same time the simple and effectual means of reform.

A good mode of doing this would be by the annual publication of a digested report of all proceedings touching quarantine, not only in our own ports at home, but also in our different colonies, as well as in all foreign countries, in as far as they have affected in the course of the year our commerce and intercourse. A large amount of information on the subject is continually being sent to the Foreign and Colonial Offices, and also to the Board of Trade and Privy Council. Hitherto, this information has been only occasionally and at uncertain and often distant intervals made public, and then generally in a bulky blue-book. Let but an annual digest of each year's proceedings be prepared in the Privy Council Office, and, as with the reports of other governmental departments, be regularly laid before Parliament; and ere long public attention will be drawn to the subject, first in our own country, next in our colonies, (in many of which the utmost ignorance and error prevail,) and eventually even in those continental nations that have hitherto resisted every attempt at change, and cleave to a system which, in most of its details, outrages common sense and is a scandal to medical science.

The appointment of a Special Committee by the Association to examine into the whole subject of quarantine, and to report the results of their inquiries at the next annual meeting, might, I think, be also productive of much good to the cause of enlightenment and truth.\*

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\* A resolution to this effect was adopted by the Public Health Section, and afterwards confirmed by the Council of the Association.

The Committee appointed consists of the Superintendent-General of Quarantine, the Directors-General of the Army and of the Navy Medical Departments,—Sir James Clark, Bart., Professor Owen, Drs. Southwood Smith, J. Davy, Babington, Farr, M<sup>r</sup>William, Bryson, and Milroy; and Messrs. Ronald Martin, Spencer Wells, and Wiblin.—London, March, 1859.