

Sketch of the operation and of some of the most striking results of quarantine in British ports since the beginning of the present century.

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SKETCH

OF

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THE OPERATION

AND OF SOME OF THE MOST STRIKING

RESULTS OF QUARANTINE

IN

BRITISH PORTS,

SINCE THE BEGINNING OF THE PRESENT CENTURY.

BY

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ETC. ETC.

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SKETCH

THE OPERATION

RESULTS OF QUARANTINE

THIS Paper was read before the Epidemiological Society during the present year. It has already appeared in the pages of the ASSOCIATION MEDICAL JOURNAL; but as many persons out of the profession take a lively interest in the subject of quarantine, I have directed a number of copies to be prepared in its present form for the convenience of more general circulation. It is my intention to follow out the subject, and illustrate it by reference to the results of the system in Foreign Ports.

LONDON, FITZROY SQUARE,
JULY 1853.

W. H. ALLEN, PRINTER, 10, ABchurch Lane, E.C.

OPERATION AND RESULTS OF QUARANTINE IN BRITISH PORTS SINCE THE BEGINNING OF THE PRESENT CENTURY.

THE subject which I have the honour to bring this evening under your notice is one which seems to me to belong, in an especial manner, to a society whose declared aim is to investigate the natural history of epidemic diseases, with the view, of course, to the discovery of the most effectual means to control their development, arrest their spread, and mitigate their fatal malignity. Its importance will be recognised by all, when it is considered that quarantine professes to be a precautionary plan or process, whereby pestilences may be altogether kept at bay, and countries be thus preserved from the invasion of their destructive agency. No theme, therefore, in state medicine more deserves our attention ; and just in proportion to the importance of its bearings, is it necessary that our opinions be based upon reason and truth,—in other words, upon sound conclusions drawn from a sufficient number of well observed and faithfully recorded facts. Nor let it be forgotten that, independently of the immediate practical consequences involved in its right solution, this is one of the principal questions about which medical men are necessarily brought into direct contact and conference with the higher departments of public

life ; and on which the value of their advice is not confined within the circle of mere professional criticism, but will be subjected to the scrutiny of all who are interested in the freedom of international intercourse, from the statesman and the legislator down to the merchant and the traveller.

And yet, strange to say, there is not a topic in medical literature which has been so imperfectly handled, or on which there is less reliable evidence on the one hand, and a greater amount of extravagant and absurd assertion on the other. Unfortunately, too, there is not a single work in existence, as far as I know, to which any one seeking for detailed and trustworthy information upon the subject of quarantine can be referred. It is not so much as even named in the *Cyclopædia of Medicine*, published in 1835 ; while Dr. Copland, in his elaborate *Dictionary*, has, under the head of Protection from Pestilences, treated it with so little precision and clearness, and under the manifest influence of so strong a bias to particular one-sided views, that the reader finds himself both perplexed and unsatisfied. Nor has the subject fared better in the standard encyclopædias of general information. In the last edition of the *Encyclopædia Britannica*, published so recently as 1842, there is the most meagre mention possible—not exceeding a couple of dozen lines;—although the commercial bearings of quarantine are so important, that it has been estimated that a loss of little short of a million sterling is thereby annually inflicted on our shipping ; and even this brief notice is not free from palpable error. Occasionally, at distant intervals, an article in a literary review has drawn public attention to the general question, or to some particular details ; but never with the scope of a systematic or comprehensive inquiry.

You thus see how imperfectly the subject has hitherto

been investigated ; and you will probably all agree with me that it is high time, alike for the credit of our profession, which claims to guide public opinion upon such matters, as well as for the general interests of the community, that an attempt be made to ascertain the real state of our knowledge as derived from past experience, with the ulterior view of finding out, if possible, a clue to guide us to the truth through the meshwork of discordant and contradictory statements and opinions in which it is involved. This entanglement is necessarily not a little increased by the circumstance, that it is not to one disease alone, but to several—and these varying too from each other in many features of character,—that the relations of quarantine have to be considered. Hitherto, it has been almost exclusively in reference to the oriental plague (against which quarantine was originally instituted) that the subject has been discussed. All the parliamentary evidence that has at any time been published in this country, is, as far as I know, limited to this one topic ; and, indeed, so little have the bearings of quarantine to other diseases been generally thought of, that the writer in the *Encyclopædia Britannica*, a distinguished professor too of medical jurisprudence, does not so much as even name any other besides the plague. The plague, however, constitutes but one item in the inquiry ; and even supposing that we had arrived at anything like decided conclusions respecting this form of pestilence, we should then have settled but a single point. How stands the question of quarantine with yellow fever ?—with Asiatic cholera ?—not to mention typhus fever, and the whole tribe of the exanthemata. Probably, most of my hearers are aware, that in very many places where quarantine restrictions exist, they are enforced, not against one only, but against each and all of the diseases now enumerated.

Upon this, however, as indeed upon every other head,

the most ridiculous and contradictory practice is followed in different countries, and often too in different parts of the same country. Without descending to particulars, it cannot but be obvious that, to do anything like justice to the subject, a very wide and most varied field of examination is necessary ; for, while each disease requires to be considered in reference to its own ascertained laws of propagation and diffusion, it is of the utmost importance to compare these laws together, to ascertain wherein they differ, and wherein they agree ; with the view of determining how far the diseases are controllable by quarantine restrictions. The work is a large, and perhaps not a very easy one ; but until it be fairly done, in a spirit of calm and conscientious inquiry, the medical profession fails, I think, to perform a duty which it owes to the public service. On the present occasion, I must impose upon myself much narrower limits, and shall confine my remarks to three only of the diseases alluded to ; viz., the plague, yellow fever, and the Asiatic cholera. And here let me say, that it is not my intention to lead you into the troubled waters of controversy, respecting any single point in the purely medical history of these diseases. The object of this paper is not to discuss any theory or to balance any dispute, but simply to narrate with thorough truthfulness facts and occurrences, as they have been recorded by trustworthy writers, leaving it to each gentleman to form such conclusions as the data may seem to warrant. Let me but offer one suggestion ; viz., that in seeking to arrive at the truth in such an inquiry, we should,—while keeping our minds free from all preconceived opinions, and unperplexed by any other debateable questions save the one immediately under consideration,—apply the same laws of evidence, and follow the same mode of reasoning to discover the truth in respect of the origin of an epidemic disease, as we recognise to be necessary in the

investigation of the causes of other natural phenomena, or in forming a judgment from circumstantial evidence in a case of criminal prosecution. Let facts and occurrences be looked at in their own light, and not through the coloured spectacles of a preadopted creed; let us avoid placing reliance on hearsay unsifted testimony,—let us be on our guard against eking out imperfect and unsatisfactory information by mere conjectures,—and let us cease to have recourse to that too common phrase, “it is highly probable”, in our endeavours to trace a connexion between antecedent and subsequent phenomena. It would be well, I have often thought, if the Scottish form of verdict, “not proven”, were more steadily before the minds and more frequently on the lips of medical juries, on a variety of occasions.

Quarantine is defined, very vaguely it must be acknowledged, in the *Encyclopædia Britannica*, to be “a trial which ships must undergo when suspected of pestilential infection”. If the trial alluded to were confined to the ships alone, it would be a simple and comparatively a very inoffensive procedure. But this is a very minor part of the quarantine system. It is not the ship alone, but all and everything on board, animate and inanimate, that is subjected to the said trial; which trial consists in an enforced detention and seclusion for a period of from two or three to forty days (the word *quarantine* indicates the latter number), followed in many instances by the fumigation of persons and things, before they are set at liberty. Bear in mind too, that it is not necessary that any disease should actually exist on board at the time of the vessel’s arrival, or even that any case whatever of illness should have occurred at any time during the voyage. It suffices, if she has come within a specified time from a place where disease is reported to be. This circumstance alone is generally regarded as an adequate reason for the imposition of quarantine restrictions, on the

ground, either that disease may be present in an incubative form in the system of some person or another among the crew or passengers, or that its material cause—the *materies morbi*—may be adhering to some article or another on board.

Quarantine therefore is not (as is sometimes alleged by those who seek to make light of its grievances) the mere detention of the sick and infected, with the view of preventing their being landed at once and being taken wherever they or their friends may choose, without restraint or any regard to sanitary precautions. It applies equally to the well and healthy; nor is any distinction ever made between different individuals in point of susceptibility or liability to become attacked. All are treated alike; although, in the case of yellow fever, some may have had the disease and others have not; or, in the case of small-pox, some may have been vaccinated, while others are wholly unprotected. Quarantine bears to simple sanitary prophylaxis the same relation, as a lazaret does to an ordinary clean and airy hospital.

The term is sometimes applied to the precautionary measure of isolating the sick on shore, or of establishing a cordon around a district, in the hope of confining a pestilence and arresting its progress. At other times, it is used to designate voluntary seclusion by individuals in health within their own dwellings, during the prevalence of sickness. But it would be much better if the word were confined to its original acceptation, viz., that of a detentive coast-guard against the importation of disease by shipping. It is in this restricted sense that it is employed in the following observations; my aim being to ascertain how far the system, as hitherto practised, has succeeded in the object for which it was established. Small islands present, of course, the most favourable opportunities for inquiry.

As to the various measures which have been adopted for the arrest of diseases, when they have found their way into a country, and as to the results of these measures, this topic does not come within the scope of the present paper.

I now proceed to my statement of facts ; and, first, respecting the plague. As my narrative is purposely confined to the present century, I have no instance to mention until we come down to the memorable outbreak in Malta, in 1813. Two or three prefatory remarks, however, may not be misplaced. It is a fact worthy of notice that in Egypt, Syria, and Turkey—the countries which are always regarded as the parent lands of plague—there was a remarkable lull, all but a complete cessation, of epidemic plague between 1803-4 and 1812. We shall afterwards see that other epidemic diseases seem to have been similarly affected in remote countries during this interval. In 1812, one of the most formidable outbreaks of the pestilence that was ever known occurred in Constantinople ; nearly 150,000 persons perished. Egypt also suffered rather severely in that year ; and Smyrna on the west coast of Asia Minor, and Odessa on the Black Sea, not to mention other places, are also known to have been attacked. In the following year, 1813, the pestilence appears to have become more widely diffused ; for we find that it prevailed more or less extensively in Wallachia, Roumelia, Albania, and Greece, all provinces then of Turkey in Europe. There was also, at the same time, an unusual prevalence of malignant fever over the greater portion of Europe ; and we shall afterwards see that, in this year, a fresh outbreak of yellow fever took place in different parts of Spain. At Malta, the spring season was remarked to be a very sickly one ; sudden deaths were more frequent than usual ; but the most noticeable feature of the prevailing medical constitution was the remarkable ten-

dency that existed to furuncular and other forms of unhealthy outward inflammation. "Every whitlow festered, and every scratch became an ugly sore. A tight shoe was sufficient to produce a livid boil with symptomatic bubo. The military hospitals were crowded with such cases."

I will now detail the ascertained facts connected with the development of the pestilence in the island, which, it may be remarked, was believed to have been exempt from the plague for one hundred and twenty years. Nowhere perhaps is a quarantine establishment more complete in all its details and appliances than at Malta. The quarantine harbour is quite distinct and separate from the general harbour; there is an extensive lazaretto for the reception of the sick or suspected; and there is a regular staff of health officers. In consequence of the island being jealously watched by the Neapolitan and other Mediterranean States, which are ever ready to put her in quarantine upon the slightest pretext, the vigilance of all concerned is always on the alert.

On the 28th of March, a vessel arrived from Alexandria, having a foul bill of health in consequence of the plague existing in that city. Two fatal cases of plague had occurred on board during the voyage. Her cargo consisted of flax. Immediately upon arrival, her crew were sent on shore to the lazaret, and the vessel was placed under the strict charge of health guardians, to prevent all communication either with the shore or with other vessels. The captain and one of the crew sickened in the lazaret on the 1st of April; both died on the 7th. In consequence of this, it was at first proposed that the vessel with her cargo should either be burnt, or taken out to sea and sunk; a mode of procedure that had been more than once resorted to at Malta for the public security.* A less summary plan to get her out of the way

* The same decisive measure has been occasionally had recourse to on our own coasts. At the beginning of the present century, three vessels from

was however agreed to, viz., to send her back forthwith to Egypt, with her cargo untouched. Accordingly a fresh crew were put on board, and she was dispatched on the 10th of April. It is an interesting fact, that not a single case of sickness occurred, either on board during the ten days' voyage back to Alexandria, where she arrived in safety, or among the people engaged in unloading her in that port.

On the 16th of April, a young girl, the child of a shoemaker living in one of the low unhealthy parts of Valetta, at a distance from the harbour, sickened with fever; she died in the course of a few days. The pestilential nature of her case was not suspected at the time. The mother was next attacked; in her case, the fever was accompanied with swelling of the inguinal glands. Suspicions now began to be excited, and rumours to be circulated, that the plague had made its appearance in the town. As it does not belong to the object of this paper to follow the subsequent course of the disorder, I shall say no more than that it is admitted by all who have written upon the subject, that, ere the Committee of Public Health had quite decided as to the real nature of the visitation, "the insidious disease was insinuating itself in every angle of the city, in places remote from the scene of its first appearance". The question for us to consider is, how did it find its way in, presuming

Mogadore were sent round to the Nore, and there, by order of the government, upon the advice of the then quarantine authorities, sunk in deep water, along with their cargoes, consisting chiefly of goat-skins. The country had to pay upwards of £20,000 to the owners for this act of sanitary precaution! Something of the same sort was done at Stangate Creek in 1814. A cargo of skins, being deemed incapable of effectual expurgation from the possible retention of plague miasmata, without great risk to the men employed, was ordered to be sent on shore and burnt. In 1819, an infected vessel was submerged for a time in Malta harbour. No later than 1846, a work on Plague and Quarantine was published in London by a military medical officer, who had been in Corfu during the prevalence of the pestilence there; therein it is gravely recommended that, "generally speaking, it will be best, and perhaps the cheapest way in the end, to destroy the ship and cargo at once."

that it was imported by the infected vessel, notwithstanding all the rigorous precautions which had been taken?—and, moreover, how came it to appear first, not among the health officers who had been put aboard of her, or even among the servants of the lazaretto where the captain and one of the crew had sickened and died, nor yet in the immediate neighbourhood of the *parlatorio* or landing-place, where the only communication between vessels in quarantine and the town is permitted, and that too through a grating and under the eye of officers, but in a locality at a considerable distance, and among people wholly unconnected with the shipping? A rumour indeed got afloat, long after the event, that the father of the girl who was first attacked was in the habit of eking out his small gains as a shoemaker by acting as a smuggler, and that he had managed, somehow or other, to get a package of new linen from the vessel. It would occupy too much time to narrate the odd gossiping sort of evidence, on which this rumour was based. Suffice it to say, that it was never shown that the suspected package had ever been traced to the poor man at all (he died at an early period of the pestilence); nor indeed that any such package or anything else had ever been abstracted from the vessel. All that Sir A. B. Faulkner, the principal medical officer of the forces in Malta at the time, and who had made it his business to inquire into the circumstances upon the spot, ventured to say was, that he thought “it an event not improbable that some of the family might have got goods from the vessel”. The story was, however, believed by the quarantine authorities, and has been more than once repeated in print. It should, however, be known, that Dr. Calvert, physician of the forces, who was then in Malta, and who subsequently communicated a detailed account of the pestilence to the Medico-Chirurgical Society, regarded it as wholly groundless. “It

is next to an impossibility", says he, "that it could have been brought in by clandestine intercourse. The crew of the infected ship was securely locked up in the lazaret; guards were placed upon the ship itself as long as it continued in the harbour; while every suspected person was seized and carried to the lazaret. But all was to no purpose: the disease seemed to laugh at their exertions, while it jumped from house to house, and from street to street. Those who had no communication together, as well as those who had, fell alike victims to its fury. Nothing could bring to light the way in which the infection was brought. Surely, if any evidence had been forthcoming, it would not have been kept back, when a free pardon was offered to the delinquents, besides a reward of a thousand scudis; or, if this was not sufficient, the dreadful anathemas that issued from the church could not have failed to produce confession."* The late Dr. Hennen, too, when medical inspector at Malta, after having examined with the utmost care all the official documents on the subject in the archives of the island, and collected the evidence of surviving residents who could give any information, came to the conclusion that the story about the smuggled linen was not to be credited; and Dr. John Davy, who subsequently occupied the same post, and whose attention was specially called to the results of the quarantine establishment, states, in his interesting work on Malta and the Ionian Islands, that the mode in which the pestilence was introduced "is still unexplained in a satisfactory manner".

I must now request you to accompany me to the little island of Gozo, distant about one mile from Malta. It had remained quite healthy throughout the dreadful visitation of the latter, in consequence, it was believed at the time, of

* Trans. Med. Chir. Soc., vol. vi, p. 56.

all intercommunication having been subjected to the most vigilant and rigorous quarantine. Great, therefore, was the surprise, when a man died suddenly in Gozo, with suspicious symptoms, in the last week of February 1814. His daughter sickened a few days afterwards; she also died; and, within a few days, several inhabitants of the village where they resided were attacked. The following explanation of the mode in which the disease was thought to have been introduced has been given. The man first attacked had shortly before come from Malta, bringing with him a box of new wearing apparel, which, it was alleged, he had concealed from the knowledge of the expurgators, by having buried it some months previously, when the plague existed in his neighbourhood. It had thus escaped proper purification. Sir T. Maitland, the Governor of Malta, in his official dispatch to the Colonial Minister on the subject, after recapitulating all the circumstances connected with the appearance of the disease in Gozo, expresses his opinion thus: "Although I should not be able to prove it in law, yet I have a perfect moral conviction that it was carried into the island of Gozo in the following manner"—viz., that as now described. Sir A. B. Faulkner appears to have had some doubts upon the subject, for he says: "Whether the above account of the box be strictly authentic or not, it is certain that the plague broke out immediately in the family after the arrival of their relative" from Malta. Dr. Calvert says: "A man indeed did go from this neighbourhood (near Casal Curmi) to Gozo, and was the first in that island who fell a sacrifice to the disease; but, as to his digging up a box, this was an idle report, and could not be substantiated, as I was confidently assured from the best authority."

Fortunately, the disease did not spread much, and soon ceased, after carrying off about sixty or seventy persons.

From Malta and Gozo, I now pass to the Ionian Islands, where the pestilence made its appearance at the end of the following year, 1815. Throughout the whole of that year, it had continued from the previous one in different parts of Albania, on the coast of Dalmatia, and along the shores of the Gulf of Lepanto. Ample warning had thus been given, that the dreaded foe was not far distant; and, indeed, Mr. Tully, one of the quarantine medical officers in Corfu, had been sent by the British government to Greece, with the view of gaining the most exact information. Moreover, the experience of the recent disastrous visitation of Malta had served to increase the vigilance of all the health authorities. As Mr. Tully has written a minute history of the disease in the Ionian Islands, we are enabled to follow it step by step. The place first attacked was the malarious district of Leftimo, in Corfu. Mr. Tully was at once dispatched thither, to organize measures for arresting the disease. But with these we have not at present to do. As to the origin or mode of introduction of the disease, this was then, and for a long time afterwards, quite inscrutable. The residents attributed it to the agency of an evil spirit; in other words, to endemic or indigenous causes; and Mr. Tully himself, in one passage of his work, states that he shared the opinion of those who believed that it was generated on the spot. It would seem, however, from the rest of his narrative, that, to use his own words, it "was ultimately ascertained, by the most undoubted proofs, to have been introduced through the medium of infected goods, which, by a strange combination, had remained on the island, under lock and key, for a considerable time." The goods alluded to consisted of a box, containing an opera hat, shirts, and a quantity of new silk handkerchiefs, with several copper kitchen utensils, which a smuggler was said to have left in Leftimo a year and a half before the appearance of the plague there, but

was only opened shortly before the first cases occurred. Such is the alleged mode in which the disease managed to evade the quarantine at Corfu. It continued in the island until the May or June of 1816, when Cephalonia, another of the Ionian group, began to be infected. Mr. Tully was of opinion that it was introduced there by some men who had come from the Albanian coast, where the pestilence had now existed for eighteen months and upwards. They had been detained in quarantine for seven days, and had remained quite well all the time. But it was afterwards alleged that one of the party had brought with him some clothes, which he had stolen from two Turks, who had died. The story is, at best, a very lame one; nor was Mr. Tully himself quite satisfied about it. A more important fact is, that, while the plague existed in one part of the island, a most deadly form of endemic fever, with very similar symptoms, prevailed among the troops recently arrived from England in another.

It does not appear that any other of the Ionian islands, save Corfu and Cephalonia, were visited by the pestilence. The immunity of Santa Maura is the more remarkable, as it lies between Cephalonia and that part of the Albanian coast whence the disease was supposed to have been derived.*

Since 1816, the plague has not appeared, as far as I am aware, in any of the British possessions in the

* A recent intelligent writer, who was detained for a week in quarantine at Santa Maura, upon landing from Albania, although that country was in perfect health at the time, describes the lazaret in which he was confined as the most miserable shed imaginable. "In short," says he, "during the whole range of my travels in Asia and Europe, I never met with the equal of this for the utter wretchedness of its accommodation and the insalubrity of the situation." The result of the sufferings he experienced during his detention was a severe attack of fever. (*Spencer's Travels in European Turkey, etc.*, 1851.)

This is but an instance of what is continually taking place in many of the lazarets in the East. It is surely a disgrace that such an enormity should exist in a British colony at all events, in the present day.

Mediterranean, except a few imported isolated cases in the lazaret at Malta. To these I would now invite your attention for a few moments. Fortunately, the records of the quarantine establishment there, since the island came into the possession of Britain at the beginning of the present century, enable us to ascertain the truth. It appears that no vessel having plague on board arrived in Malta harbour, and that no case of the disease occurred in the lazaret, from that period down to 1813. Since the cessation of the pestilence in that year to 1845, twelve vessels either actually infected or suspected have arrived, and about fifty cases of what has been regarded as plague—although in many of them the characteristic symptoms of the disease were absent, and they would have been recorded as cases of petechial typhus, had they not occurred in individuals from plague countries—have been treated in the lazaret. Now, it is an extremely interesting fact that of all the persons engaged in attending upon these sick, or who had been put on board the infected vessels as health guardians (and the number of these persons must have considerably exceeded a hundred) only four were attacked with any illness, and but one died. Two of the four men had been put on board a foul ship from Alexandria in 1821; they soon recovered. The other two cases occurred in men who had volunteered their services to be confined in the lazaret with a crowd of poor filthy Moors, on their way from Egypt to the Barbary coast.* It was one of these cases which proved fatal. The complete im-

* The experience of the lazaret at Marseilles accords in a striking manner with that of Malta. No infected vessel had arrived there, and no case of plague had been seen in the lazaret from 1796 down to 1819. Between this year and 1846, only two infected vessels arrived; one in 1825, and the other in 1837. The entire number of cases received into and treated in the lazaret, does not appear to have exceeded four or five; and the only instance of sickness among the attendants and employés of the quarantine establishment occurred in a man who had been put on board an infected vessel as health guardian.

munity of all the regular officers connected with the lazaret thus seems to show that there is little or nothing to be dreaded from the infection of plague, when patients are kept in clean, airy apartments. How different are the results, when the sick are compelled to remain in confined crowded places, as on board of a foul ship, for example! A vessel arrived at Zante, in June 1819, from Tunis, where the plague existed at the time of her sailing. There was no actual sickness on board when she arrived; but, as there was not a suitable lazaret ashore, she, with her crew of eight persons, was placed in strict quarantine in the harbour, having a health guardian on board to prevent all communication with the land. Within the next nine days, no fewer than seven of the crew, and the health officer, were attacked with a malignant fever, accompanied with bubos and carbuncles; every one of the cases terminated fatally. Only one of the unfortunate crew survived. Great credit was given at the time to the quarantine authorities that the fever did not spread to the shore!

I must not forget to mention that, among the many hundred men who have been employed during the present century in the lazarets of Malta and Marseilles (those of Genoa and other Italian ports may be added) in expurgating, as it is called, the bales of cotton and other articles of merchandize in vessels from Egypt and Turkey, there is not a single instance of one of them having ever been attacked. This, with a host of other most interesting facts respecting the true history of plague, was first made known in the Parliamentary bluebook on Quarantine, in 1843, and in the admirable Report of the French Academy published in 1845. Before the appearance of these important documents, the utmost ignorance prevailed. The experience of the French and Italian physicians, and of our own countryman, my late lamented friend, Dr. Laidlaw, who witnessed the severe

Egyptian epidemics of 1834 and 1837, has effected an entire revolution in medical opinion upon the subject, by proving the utter fallacy of the old idea, that it is chiefly, if not altogether, by direct contact with the sick or with *fomites*, *i.e.*, articles imagined to be infected, that the plague is liable to be communicated, while atmospheric contamination has nothing to do with the matter. Upon this most absurd belief, the machinery of quarantine regulations has been mainly planned. We now know that the plague, in respect of the circumstances which affect or favour its development and spread, is altogether similar to typhus in our own country. The same measures of prevention and repression are therefore required in both instances. Since the appearance of the French Report, the relations of the plague to quarantine have excited much attention in this and in foreign countries. The publication of the first Report of the General Board of Health, in 1849, gave fresh impulse to inquiry. Our distinguished corresponding member, Professor Sigmund of Vienna, has for many years past done excellent service to the cause of enlightenment and truth by his numerous writings. Dr. Sigmund's authority is the more important, from his personal knowledge of the pestilence in the Danubian provinces at different periods from 1828 to 1837, and his thorough acquaintance with the state of almost all the lazarets on the continent. The results of his observations during his mission to Turkey and Egypt, on which he was lately sent by the Austrian government, are contained in his very valuable work on Quarantine Reform published at Vienna in 1850. It is much to be regretted that our own Government has not followed the example set by France, Austria, and Russia—that of sending competent medical men to those countries where the plague is endemic, or which have been most frequently the scene of its visitations, to collect reliable information upon its history, and

to ascertain the actual results which have attended the quarantine and other precautionary measures hitherto resorted to in the cause of public health. Foreign countries charge us with saying much and doing little, except for our own immediate benefit and profit; and unhappily there seems to be too much ground for the charge. In a mere commercial view, no country is so deeply interested in the discovery of the truth and the right application of sound conclusions in practice, as our own.

I have next to consider the relations of quarantine to yellow fever. Various circumstances within the last few years,—more especially the case of H.M.S. *Eclair*, the recent publication of an Official Report on the disease by the General Board of Health, and the still more recent occurrences connected with the arrival of the West India mail steamers at Southampton—serve to give much interest, at the present time, to this part of my inquiry.

Fortunately, there is not any lack of evidence upon the subject; and although, as usual, there has been on most occasions no little discrepancy of statements, not to say of opinion as to the bearing of the statements, it will be easy to steer clear of controversy by appealing, almost exclusively, to the testimony of those writers, who have been the most zealous upholders of quarantine as a trustworthy defence against the invasion of the pestilence under consideration.

I select the visitations of Gibraltar, as affording perhaps the best means of testing the point. Since the beginning of the present century, Gibraltar has been five times the scene of epidemic attacks of yellow fever; viz:—in 1804, 1810, 1813, 1814, and 1828. These successive occasions present a singularly favourable opportunity for careful investigation; and as the 'Rock' is all but separated from the mainland of Spain—being connected with it only

by a narrow sandy isthmus which is easily watched—it may be regarded, for our purpose, as strictly insular, with every facility for complete isolation and rigorous quarantine. During the first three years of the century, yellow fever had prevailed in several towns on the southern shores of Spain, especially in Cadiz, Malaga, Alicant, and Carthagenæ. There was a recurrence of it in the following year.* In consequence of the great dread of the disease at Gibraltar (which had hitherto escaped), a most stringent quarantine had been perseveringly kept up against all arrivals from the neighbouring infected or suspected ports. Sir William Pym was then the quarantine officer of the harbour. In the month of July, he left his post on leave of absence, and did not return till the middle of October, when he found that yellow fever had fairly broken out in the town. The earliest suspicious cases had been observed about the beginning of September, in a notoriously filthy and unhealthy spot on the Rock; and to this spot the disease was for some time confined. The disease then rapidly spread, and eventually caused an immense loss of life. In less than three months, 6000 persons, out of a population, including the troops, not exceeding 16,000, perished. By the end of November, the pestilence had greatly abated; and it ceased entirely before the end of the year. As to the manner in which the pestilence has been alleged by some parties to have eluded the vigilance of the quarantine establishment, the following explanation is proposed by Sir William Pym,—not however, be it remarked, as the result of his own personal inquiries on the spot, but merely on the oral authority of one of

* It may be worthy of notice, as indicating a wide spread sickness in distant parts of the world, that in 1804 the yellow fever was extremely prevalent in the West Indies, and caused very great mortality among our fleet, etc. Between seven and eight hundred died of it in the naval hospitals of Jamaica and Antigua alone, during this year.—Sir G. Blane's *Observations*.

the medical officers of the artillery, forming part of the garrison :

“A shopkeeper, named Santos (who resided in Boyd’s Buildings), arrived from Cadiz on the 28th of August, 1804, and was taken ill on the 29th ; he had lodged in a house at Cadiz, where some persons died of the then prevailing fever. Mrs. Fenton (wife to bombardier Fenton, of the Royal Artillery) was the second person attacked ; she was taken ill on the 3rd of September. Her husband and a child of the name of Roland were taken ill on the 8th, and died on the 12th. Mrs. Boyd, who had visited Mrs. Fenton, was taken ill on the 13th, and died on the 19th ; her husband was taken ill on the 14th, and died on the 16th. All those families were neighbours. The disease was confined for some time to this particular part of the town, and to those who had intercourse with them.”

Such a loose unconnected statement as this can scarcely be received as evidence to prove anything beyond the alleged date of the first case, and the circumstance of the disease being limited for some time to the locality where it first appeared, and which is known to have been the most filthy and insalubrious on the ‘Rock’. No intercommunication, it will be observed, between the first and second cases is even so much as mentioned ; the connexion of the one with the other is merely guessed at. Unless medical evidence on so important a point of inquiry as that of the introduction of a pestilence be different from such a specimen as this, I fear that it will never command public confidence or respect.

Fortunately, there is another historian of this epidemic, Sir J. Fellowes, who was at Gibraltar during the greater part of its prevalence. Sir James, it is to be remembered, was a most zealous upholder of the contagion of yellow fever, and of the necessity of strict quarantine measures for its exclusion. His testimony is, therefore, the more valu-

able. Now, from his work, it clearly appears that there was no recognised or known yellow fever in Cadiz either at the time when the man Santos was there or when he left it; and moreover, it is certain that he obtained a passport from the British Consul there, before he went on board the vessel in which he took his passage for Gibraltar. The vessel too, it seems, remained quite free from sickness. All, therefore, that can be made out is simply that a man, arriving in apparently good health, at the usual sickly season—in a year, too, characterised by remarkable atmospheric distemperature—went to reside in a confined and crowded house in a notoriously filthy locality of a very unwholesome garrison town, and that, within a few days subsequently, he had an attack of fever from which he recovered; also, that other cases of fever occurred immediately afterwards in the immediate neighbourhood of the said locality.

It must not, moreover, be omitted to be mentioned that Sir James Fellowes had pretty strong grounds for believing that a fatal case of fever had occurred ten days before the man Santos' arrival, in the person of a smuggler from Malaga, who (if the authenticity of the case is to be admitted) must also have managed to have evaded the regulations of the port. Whatever view be taken, it is, at all events, quite obvious that the quarantine precautions failed in giving that security to the town which it was their object to impart.

Dr. Nooth, who acted as health officer of the harbour during the temporary absence of Sir Wm. Pym, as well as many other medical practitioners in Gibraltar at the time, and of the ships of war in the bay, were of opinion that the disease was of local development, and that foreign importation had nothing to do with it. It should always be borne in mind that there was not, perhaps, a more unwholesome garrison town in the British dominions than Gibraltar was

then, and continued to be for many years afterwards. The unnecessary sacrifice of life among the troops there, not to mention the civil population, during the first fifteen years of the present century, must have been enormous.

After the cessation of the severe visitation of 1804, the Rock remained free from the pestilence in an epidemic form for the next five years and a half, although occasional cases of the ordinary endemic fever of the place, accompanied with a dark yellow suffusion of the surface and sometimes also with black vomit, occurred in most years, even when the garrison was declared to be healthy. During the whole of this time, the Spanish ports, which had suffered so severely during the first four years of the century, were equally exempt. This cessation or lull in the course of pestilential visitations is a very suggestive and significant fact in epidemiology; and the fact is the more important as regards our present inquiry, as, during the very same period that the yellow fever disappeared from the southern shores of Spain, not only (as already mentioned) was epidemic plague absent from Egypt and Turkey, but there was also a very remarkable diminution of typhus fever in England at the same time. Whether there be any connexion between these coincident occurrences in distant countries, is a question of the utmost interest, but one as yet nearly quite unexplored.

In the summer of 1810, yellow fever re-appeared in most of the Spanish seaports which had been previously affected; nor did Gibraltar escape. The atmospheric peculiarities of the season were very similar to those which had been observed in 1804. Upon this occasion, it was believed that the disease was imported from Carthagená, as it was thought to have been on the former occasion from Cadiz. The facts related by Sir W. Pym, who was the quarantine officer of the port at the time, are these. Four transports, with de-

serters from the French army, arrived from Carthage on the 19th of September. One man had already died from the fever on board one of the vessels, and there were several others seriously ill. The transports were anchored at least half a mile from the shore, and kept under the strictest quarantine. Sir W. Pym applied to the Governor to send them off to Minorca, as there was a lazaretto on shore there, and there was not one at Gibraltar. But this severe measure, very fortunately, could not be carried into effect. Sir W.'s narrative proceeds: "During the time that the disease had been going on on board the transports in the bay, the garrison continued in perfect health till the 20th of October, when, in consequence, as I must suppose, of a breach of quarantine regulations (which, however, could not be detected), a Minorcan family, in the south district, belonging to the dockyard, was attacked with the disease." A story was afterwards circulated, that some intercommunication had taken place between the person first attacked and the transports; but it could not be substantiated; and, as Sir W. Pym himself candidly admits that the pestilence found its way into Gibraltar through some undiscovered channel, while a most rigid quarantine was maintained all the while under his own directions, it is scarcely necessary to dwell any longer on the subject. Most of the medical practitioners on the Rock considered it to be of local and indigenous origin. It will be observed, too, that the fever again appeared about the same time of the year; and Sir W. Burnett, who was then principal medical officer of the Mediterranean fleet, mentions that, after very heavy rains in September, which had brought down a prodigious quantity of putrid decomposing matter from the upper parts of the town to the beach, the weather had set in very warm, with a prevalence of the oppressive easterly wind. Dr. Hennen states that, in the months of July and August,

bilious remittent fever was more than usually prevalent in the town, and that the type of the disease became more malignant and fatal in September.

It may not be undeserving of passing notice, that some of the physicians in Carthagená alleged that their epidemic in 1810 was brought to them from Gibraltar, while the quarantine authorities of the Rock attributed their visitation to their Spanish neighbours. This sort of mutual incrimination is far from being infrequent in the history of quarantine.

The next time that yellow fever broke out in Gibraltar was in September 1813—the year, it will be remembered, of the plague in Malta. This epidemic proved much more fatal than the preceding one. Sir W. Pym, who was still at the head of the quarantine department there, states that “it was again traced to importation” *—“that the individuals who brought the disease into the garrison were ascertained”—“that one of them was ill when he arrived”—“that the disease was communicated to the persons residing in the same house, and speedily on both sides of the street in which the house was situated”. Unfortunately, he has omitted to give any particulars respecting these several allegations; nor does he state who were the parties that brought the disease, or whence they came, or when they arrived. We are necessitated, therefore, to look elsewhere for information as to the origin of this epidemic; and, happily, there is good evidence at hand. That most truthful writer, Dr. Hennen, who, when principal medical officer of the garrison, examined with great care all the official documents in the public archives touching the previous epidemics, states that cases of the disease had occurred a

* It deserves to be noticed that, in consequence of the known presence of the plague in Malta this year, the vigilance of the quarantine authorities at Gibraltar was even greater than usual.

couple of months prior to the date assigned to its appearance by Sir W. Pym. "One neighbourhood", he says, "viz., *Boyd's Buildings*, was, as usual, the theatre where the disease made its early appearance in the town; and, on the 6th of July, Mr. Frazer met with a case of highly suspicious fever, which proved rapidly fatal: there is little doubt that it was a genuine instance of that fever which afterwards committed such ravages." The accuracy of this important statement is verified by Sir W. Burnett and by Mr. Amiel; who, with all other writers on this epidemic, have alluded in the most emphatic manner to the notoriously unwholesome condition of the town of Gibraltar at the time, from the excessive crowding of the population, and the horribly filthy state of the lanes and houses, aggravated, as on former occasions, by the continued prevalence of easterly winds.

It is scarcely requisite to specify the stories that have been related by those who seem to imagine that, whenever a disease, which is only of occasional occurrence, appears in a place, it must necessarily have been introduced by some person or another, forgetting all the time that the atmosphere is the readiest vehicle of all. One of the rumours was, that the pestilence had been brought from Cadiz, by a vessel which arrived in the bay on the 11th of August: but, upon referring to Sir James Fellowes's history of the fever of that year in Cadiz, where he was the principal medical officer of the British garrison at the time, it appears that the earliest recognised cases there were not observed before the beginning of September. His words are: "Early in September, I heard that a suspicious case of fever had occurred in the well known *Barrio de Sta. Maria*"; the very locality in Cadiz where the disease first showed itself in 1800, and again in 1804. Sir James does not so much as even hint the idea that the disease had been this year imported into

Cadiz *ab extra*. Moreover, Mr. Frazer, who was at the head of the medical staff in Gibraltar at the time, candidly admitted, notwithstanding his decided opinion as to the contagiousness of the disease, that he had great doubts as to its importation in 1813.

It was upon the cessation of this epidemic, that the series of queries, which elicited so large an amount of valuable information respecting the sanitary state of Gibraltar, was addressed by the medical department of the army to the medical practitioners, civil as well as military, on the Rock.

In the following year, during the autumnal season, there was a fresh outbreak of the disease. It has never been alleged, as far as I know, that, upon this occasion, importation from abroad had any share in its development. The early cases appeared in the filthy, crowded localities, affected in former years.

After 1814, Gibraltar remained exempt from any epidemic visitation of yellow fever till 1828, a period of fourteen years; although sporadic cases, having all the characters of the true pestilence, occurred now and then in the autumn months. It was in 1828 that the plague prevailed in various parts of Greece, and in Wallachia, Moldavia, and other countries in the north of European Turkey. The Russian army, engaged at the time in war with the Turks, experienced disastrous losses from the ravages of the disease. At Gibraltar, the yellow fever appeared about the same season of the year as upon all the former visitations—a circumstance that is highly suggestive in an epidemiological point of view. The earliest cases occurred about the beginning of August. Dr. Hennen was the principal medical officer of the garrison at the time; he was also health officer of the port. Unfortunately for medical science, he fell a victim himself to the fever. He left, however, very ample notes respecting the circumstances

connected with its development; and his son, who edited the valuable work on the *Topography of the Mediterranean*, informs us that his father had quite satisfied himself that the disease could not be traced to importation. Sir Wm. Pym (who then occupied the post which he now fills) was sent out by the Colonial Secretary of the day, Sir George Murray, to examine into the history of the epidemic, at the head of a commission appointed for the purpose. He appears to have come to the same conclusion, if we may judge from the following statement in his book respecting the vessel which was at first suspected to have brought the pestilence from Havanna;—"I think it right", says Sir W., "to state, that there was no evidence to convict her, and that I stated my opinion generally that she ought not to have been under suspicion, as she underwent the regular period of quarantine, and was released therefrom in the regular way, with the approbation of the Inspector of Health in the quarantine department, and by the authority of the Lieutenant-Governor."

We have thus seen that, during little more than the first quarter of the present century, Gibraltar was five times the scene of epidemic yellow fever, notwithstanding the utmost vigilance of the quarantine department there, and the stringency, not to say severity, of the precautions taken to exclude the disease. That the most rigid measures were enforced, will be pretty manifest from the following particulars, related by Sir James Fellowes.

In Jan. 1811, two English transports, with between four and five hundred German recruits on board from Carthagen, were kept under quarantine for upwards of a month in the bay, without being allowed to communicate with the land. It does not appear that there was any actual disease on board; but they had come from a suspected port. They were then sent on to Cadiz, at that time in the possession of the English

army. On their arrival there, although the men were still free from sickness, they were not allowed to be landed at once ; and as, unfortunately, the weather became very tempestuous, the soldiers were obliged to keep below in the between decks, most of the time. " When the weather moderated, every assistance was afforded them ; but it proved that, during the few days that the hatches were covered over in consequence of the heavy rains, a complete typhus fever* had been formed ; that the men (who appeared to be well while they had been kept on deck constantly, and the fresh air had been allowed to pass through the ship) were falling down with a malignant disorder, the germs of which, it was evident, had been brought by them from Carthage, and had exploded into fever in the vitiated air by which they were surrounded in the close and crowded between decks."

There were upwards of one hundred already attacked. Prompt steps were at once taken by Sir J. Fellowes to separate the healthy from the sick. Four hundred, after due ablutions and change of dresses, were landed and sent to a temporary hospital, a mile from the town ; while one transport was entirely evacuated, and after being thoroughly cleansed, ventilated, and fumigated, all the sick were removed into it. Eventually, all the sick were brought ashore. Due precautions were taken to prevent communication between the sick of the troops in the garrison and the inhabitants of the town ; and although a good many deaths had taken place in the hospital, and more than two hundred in all had been attacked with this "highly contagious disorder", it at length ceased, without any detriment to the public health, either of the other shipping in the bay, or of the population on shore.

* From other statements in the narrative, it is obvious that the disease was genuine yellow fever.

From Gibraltar we now pass on for a few moments to the rocky island of Ascension, in the Atlantic Ocean, about seven or eight hundred miles from the coast of Africa. Its latitude is about 8° south of the equator, and its longitude is $14^{\circ} 28'$ west. It is resorted to by shipping for refreshment and watering ; but the island itself is entirely unproductive. Our ships of war upon the African station, when they have become sickly, often visit it. In 1823, soon after the arrival from Sierra Leone of the *Bann* frigate, which had lost many of her crew during the voyage, yellow fever broke out in the small garrison, and committed considerable ravages, As no quarantine restrictions had been adopted towards the ship, it has been generally believed that the disease on shore was directly introduced by the *Bann*. Sir William Burnett, who was sent out by the Admiralty to examine into the particulars of the case, and afterwards published an exceedingly interesting narrative on the subject, leaned to this view of the question ; but he did not hesitate to avow, at the same time, that the evidence was not without some defective links. The circumstances were, however, so suspicious that, in future, ships arriving at Ascension with malignant African fever on board were directed to be detained for some time in quarantine, before having free communication with the garrison. Notwithstanding this precaution, there was a partial outbreak of the disease among them in 1838, several weeks after the arrival of the *Bonetta* in a sickly state from the African coast. The surgeon of the garrison regarded the distemper as of local origin ; and Dr. Bryson, (in whose valuable work the particulars will be found), while he is of opinion that it was imported, nevertheless admits the impossibility of tracing the mode of its introduction, after all the pains he had taken to discover it.

The mention of the African station in connexion with

yellow fever and quarantine, naturally brings to our minds the sad case of the *Eclair* in 1845, in as far, at least, as its history bears upon our present subject. It will be remembered that, in consequence of the crew becoming very sickly at Sierra Leone, it was deemed advisable to leave the coast and go to Boa Vista, one of the Cape de Verde islands; and that, while there, her sick were landed upon a small islet in the harbour, but that the disease nevertheless continued to rage with great severity. The result was that after a short stay all were reembarked, and the *Eclair* proceeded on to England, where she arrived at the Motherbank, after a run of fifteen days from Boa Vista, on the 28th September. Already upwards of one half of the crew had perished since the commencement of the sickness in July, and every day added fresh victims to the list. It is needless to say that the utmost alarm and depression existed among all on board. The surviving medical officer urged the immediate landing of the crew, as the only means of arresting the terrible ravages of death; and Sir John Richardson, the physician of Haslar Hospital, expressed his readiness to receive them into the wards of that noble institution,—an advice that was cordially seconded by Sir William Burnett. Had this step been taken, much distress would have been spared, a heavy expense avoided, and, what is of far greater consequence, several valuable lives might have been saved. But, unhappily, the fears of our quarantine authorities prevailed over their judgment. The unfortunate remnant of the crew were doomed to rigid confinement within the walls of the pest-smitten ship; and this, too, in sight of the shores of their own country. After remaining three or four days in close quarantine at the Motherbank, the *Eclair* was ordered round to Stangate Creek, before either the sick or the unattacked were removed from her, but not till many fresh attacks and several deaths had occurred. She was not

released from quarantine till the end of October, or five weeks after her arrival in England. It is altogether painful to look back upon the sad history of this vessel. The serious errors that were committed with respect to the management of the sick at Boa Vista, were only outdone by those that were perpetrated after her arrival off our own coast. The case made a deep impression on the mind of the medical public ; and it was hoped that a more judicious practice would in future be adopted by our quarantine authorities, in the event of a similar occurrence.

The proceedings which have recently taken place at Southampton, in reference to the mail steamers arriving from the West Indies, seem to indicate that the system to be pursued is essentially the same, although some of the details may be modified. It is, indeed, not easy to ascertain the principles upon which the course now adopted is based. The mail bags are landed *instantly*, while the passengers and crew are detained on board. Pratique is at once given, although men may be dying of the disease on board at the time, provided only their seizure took place six days (ten were at first deemed necessary) before arrival. A health officer goes on board an infected ship, and returns on shore himself, while he leaves the ship and all on board (the mail bags always excepted) in quarantine. At one time, not only the bedding of the sick, but everything which may have come in contact with them, is recommended to be burned ; and then the corpses of persons, who have died on board of casual diseases, have been ordered to be taken out several miles to sea and buried there, before the vessel is permitted to come into port. Surely, such steps as these can serve but to spread alarm and bewilder the public mind, while they can give no real protection to the public health.* And be

* Besides the precautionary measures alluded to above, it has been stated in the public prints that an order was issued by the Admiralty, prohibiting

it remembered that, at the very moment when all this was going on towards the mail steamers at Southampton, the authorities at Port Royal, Jamaica, were receiving without delay or hesitation the sick from H.M.S. *Highflyer* into the naval hospital there ;—that the wards of the public hospital at Kingston were open to the sick from the ships in the harbour ;—and that, at Barbadoes, the suffering crew of H.M.S. *Dauntless* were at once landed and conveyed to the military hospital. With such facts before us, is it not high time that our quarantine system be looked into, with the view not only of bringing its regulations into harmony with the results of well attested experience, but also of establishing something like uniformity in its requirements ?

It remains now to invite your attention to the relation between quarantine and the Asiatic cholera.

The whole history of this formidable pestilence is so interesting and instructive on all points of epidemiological inquiry, that it must ever occupy a very prominent place in every attempt to ascertain the laws which influence the development and diffusion of wide spreading diseases. No epidemic, moreover, has been so minutely and extensively observed, and of none have we such varied and thoroughly trustworthy records. We can trace its career almost step by step, and with something of the connected sequence of an historic narrative, from the time when it first—after having been for ages, for all that we know to the contrary, limited to one district of Asia, viz., Hindostan—began to assume the character of a great migratory pestilence, and go forth,

the reception on board of any of the West India mail steamers, on their homeward bound voyage, of yellow fever invalids, or of any distressed British subjects supposed to be labouring under, or recovering from, attacks of the disease. The cruelty of such an order is strongly commented on by Dr. Cummins, surgeon of the *Medway*, in the *Lancet* of May 28, 1853. If such an order has really been issued, it has not, I am assured by Sir William Burnett, proceeded from the Admiralty.

at the bidding of Almighty Power, upon its mission of warning and judgment to the ends of the earth. Its course and progress can be followed on the map as we follow the track of any of those hordes of the human race which, breaking loose from their place of long abode in some remote corner of the East, spread themselves of old over the face of the European continent. We can mark the advances of the invading foe from country to country ; we can tell how long it was upon its successive marches ; the dates of its arrival in different parts, the rapidity of its movements, the length of its stay, the places which it ravaged, and the very districts in each place upon which its chief fury fell. We know the means that were taken in every country that was invaded to avert the stroke, to keep the enemy out, or to resist its progress and mitigate its ravages ; and we know, too, the amount of success or benefit which attended the efforts that were made. We know that the Russian government in 1831, having tried quarantine, and other like measures, to protect different parts of its dominions, speedily found their utter inefficacy, and abandoned all attempts of the sort ; that the Austrian Emperor formally declared that his government “ had committed an error in adopting the vexatious and worse than useless quarantine and cordon regulations against cholera”, frankly admitting that it did so before the nature of the disease was rightly understood ; that Prussia, too, having in vain tried the same expedients, was forced to give them up ; that in our own country measures of the most extraordinary stringency to prevent the introduction, and to arrest the spread of the pestilence, were at first recommended and attempted to be carried out, and that they proved so utterly valueless that they were promptly discontinued, and the government of the day intimated, in the speech delivered from the throne, more than incredulity as to their use or expediency ; that

the French Academy of Medicine formally declared their opinion to the same effect; and that transatlantic experience, both in the United States and in Canada in 1832, testified to a similar result. We know that, in the following year, the disease found its way into different ports of Spain, notwithstanding a rigorous quarantine; that, in 1834, it eluded the vigilance of the health officers at Gibraltar, as yellow fever had done in former years; also at Stockholm and other ports in Sweden, whose former immunity had been attributed to the stringent precautions of defence which had been taken; that, two years subsequently, Genoa, with its well appointed lazaretto and numerous quarantine staff, failed in its attempt at exclusion; and that Naples and Rome were equally forced to acknowledge the impotence of all their efforts. Nor was Malta more fortunate. Hitherto it had escaped, in consequence, many persons believed, of its insular position, and the strictness and efficiency of its quarantine establishment; and its exemption at a time when the pestilence was in Egypt on its one hand, and in Gibraltar and the south of Spain on its other, might certainly, with some show of reason, lead those, who form their opinions of epidemic diseases from the observation of what is going on in one or two limited localities, to this conclusion. But dismal experience now baffled the fond expectation, and proved the insecurity of the trusted means of defence.

Such were the lessons taught by the first world-wide migration of Asiatic cholera. After 1837, the pestilence ceased from the face of Europe for the next ten or eleven years—although scattered cases occurred every now and then in the various countries which had been affected, and a certain choleraic impress, so to speak, on the character of febrile and other diseases continued to be frequently observed.

The dark cloud once more appeared in the eastern hori-

zon in 1845. Ere long, it became larger and more threatening, and steadily advanced in its march of destruction westward, following pretty nearly the track of its former career, and setting at defiance all mechanical attempts at exclusion where these were again attempted. Again did the quarantine authorities of this country issue some detentive regulations against vessels arriving from infected or suspected parts on the continent; but these, as you will probably all remember, were promptly abrogated, upon the recommendation of the General Board of Health, then recently instituted. The policy of this step was fully recognised by the London College of Physicians, whose well considered opinion stands in the following words:—"Cholera appears to have been very rarely communicated by personal intercourse; and all attempts to stay its progress by cordons or quarantine have failed. From these circumstances, the committee, without expressing any positive opinion with respect to its contagious or non-contagious nature, agree in drawing this practical conclusion, that in a district where cholera prevails, no appreciable increase of danger is incurred by ministering to persons affected with it, and no safety afforded to the community by the isolation of the sick." The Report of the Commissioners of Health in Ireland on the cholera epidemic of 1849-50 proclaims the same very important practical conclusions; and the medical authorities in Scotland have, I believe, emphatically recorded their opinions to a like effect. After such concurrence of judgment among the medical profession in this country, it is unnecessary to allude to that of our brethren abroad. It is all but unanimous; except, perhaps, in Spain and the Italian States, where other motives, besides those of truth and conviction, are well known to influence the judgment of officials upon such matters. Nor is it undeserving of notice that, although these countries profess to place the greatest reliance on

quarantine measures, and certainly carry them out with the greatest rigour, the experience of the recent epidemic has again shown their inefficacy against its invasion.* Malta, which, although a British island, may be regarded as truly Italian as regards her quarantine establishment, was again visited with cholera in 1850.

As far as I am aware, it has not been alleged by any person that it was then imported by shipping. Nor have the endeavours of the Spanish *guardas* to keep out the pestilence from Cuba, where the quarantine regulations are of the utmost stringency, been more successful. This was the only island in the West Indies that suffered during the first epidemic in 1834. In 1850, the enemy again found its way in by some channel that has never been discovered; and you will perhaps remember that, in the paper which I had the honour of reading before this society last year, I showed that the development of the pestilence in Jamaica towards the end of the same year could certainly not be traced to any neglect or violation of the quarantine, to whose agency the immunity of the island during the former epidemic had been ascribed.

Notwithstanding these facts, such is the dread of this plague in countries which have hitherto escaped its visitation, and such has hitherto, from long habit, been the vague and general belief that new diseases may be kept out by a system of rigorous medical police (just as interdicted articles of merchandise may be excluded by custom-house officers and coast guards, if these men will but do their duty), that the most extraordinary measures have been resorted to, in different places, within the last year or two for the purpose of presumed self defence. For example, two

* Professor Sigmund informs us that, in 1849, the disease made its appearance in Naples, Brindisi, Leghorn, and Genoa, in all of which places quarantine was maintained against its introduction; while Civita Vecchia, where no quarantine existed, escaped altogether.

years ago, at Demarara, a quarantine of forty days was imposed upon one of our ships of war, crowded with troops too at the time, simply on the ground that she had come from Kingston in Jamaica, although no disease existed in that town at the date of her departure, nor had a single case of sickness occurred on board during the voyage. This was, certainly, a precaution with a vengeance; and might, I need not say, have led to the most disastrous consequences to the unfortunate *detenus*, had not the captain wisely determined to go to another colony, where he might communicate with the shore, until the appointed time had expired for the landing of the troops at Demarara.

Something of the same sort recently occurred also at the island of Mauritius; so that you see what views are being still entertained, and acted upon too, by some of our own countrymen abroad. Let us not, therefore, boast too much of our superior enlightenment in matters such as that now under consideration, or be so prompt, as we are apt to be, to rail at the ignorant obstinacy and blind prejudices of foreign states, in refusing to go along with us in effecting the reform of various practices, however opposed these practices may be to the conclusions of scientific research and the acknowledged results of experience. Let it be remembered that the inconsistencies of our own Government have been often so flagrant, that foreigners may well call upon us to look at home, instead of setting ourselves up as their guides and instructors. They may remind us that, after two formal declarations of the inefficacy of quarantine to avert the cholera, an order was issued, no farther back than last September, from our Council office, reimposing what was called a "Quarantine of Observation" in our own harbours on vessels, on board which was "any person or persons actually suffering from cholera, or who had been suffering from that disease within the five days previous to

the arrival of the vessel in port";—such persons to be detained on board the vessel, and the vessel to be kept in quarantine "for such period as the medical officer employed to visit the sick might judge necessary for the security or preservation of the health of the community on shore."

In drawing these remarks to a close, I cannot but again strongly commend the subject of quarantine to the searching inquiry of the medical profession. That the system hitherto pursued stands in need of a thorough revision, and of some important changes, will not, I think, be questioned by any one. I have already occupied too much of the time of the society to dwell upon these points at present; and it is the less necessary to do so, as I have explained my views at some length in the Report on the Cholera in Jamaica and on the sanitary condition and wants of that island, addressed by me in the course of last year to the Colonial Minister.

BY THE SAME AUTHOR.

QUARANTINE AND THE PLAGUE.

"A very valuable pamphlet, giving an excellent *resumé* of the facts and arguments of the case."—*Dr. Bowring, House of Commons, March 18th, 1847.*

"They would beg to impress the whole bearings of the subject upon their lordships' attention; and among other documents of authority, they would recommend to their notice the Report of the Royal Academy of Medicine of France, with the facts as published by Dr. Milroy.—*First Report on Quarantine by the General Board of Health, 1849.*

THE CHOLERA NOT TO BE ARRESTED BY QUARANTINE.

"It contains an excellent concise history of the cholera epidemic."—*Dr Graves' Clinical Lectures.*

"A very excellent pamphlet on cholera."—*Dr. Bascome on Epidemic Pestilences.*

"An der wissenschaftlichen Verhandlung über die Pest und Quarantäne Frage hat sich vorzugsweise Dr. Gavin Milroy betheiligt, auf dessen pamphlets ('*Quarantine and the Plague*,' 1846, und '*Cholera not to be arrested by Quarantine*,' 1847) wir unsere Berufsgenossen recht sehr hinweisen."—*Die Quarantäne-Reform und die Pestfrage, von Karl Ludwig Sigmund. Wien, 1850.*

BY THE SAME AUTHOR

QUARANTINE AND THE FLAG

A very valuable pamphlet, giving an account of the quarantine of the coast of the United States of America, from 1793 to 1841.

It contains a very interesting and complete history of the subject, from the earliest times, and contains a full account of the quarantine of the coast of the United States of America, from 1793 to 1841.

THE CHOLERA NOT TO BE ARRESTED BY QUARANTINE

"It contains an excellent and complete history of the cholera epidemic."—The Quaker, Colonial Review.

"A very excellent pamphlet on cholera."—The Quaker, Colonial Review.

"An excellent pamphlet, giving an account of the cholera epidemic, and the measures taken to prevent its spread."—The Quaker, Colonial Review.