

Observations on quarantine : being the substance of a lecture, delivered at the Liverpool Lyceum, in October, 1824 / by Charles Maclean.

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Publication/Creation

Liverpool : R. Rockliff, 1824.

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from the Author

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OBSERVATIONS

ON

Quarantine :

BEING

THE SUBSTANCE OF A LECTURE,

DELIVERED AT THE

Liverpool Lyceum,

In October, 1824,

BY CHARLES MACLEAN, M. D.

COMMISSIONED BY THE SPANISH GOVERNMENT TO INVESTIGATE THE SICKNESS OF BARCELONA, IN MDCCCXXI ;
AUTHOR OF "RESEARCHES IN THE LEVANT CONCERNING THE PLAGUE," AND OF "EVILS OF QUARANTINE LAWS,"
&c. &c. &c.

Printed at the Request of the

LIVERPOOL MEDITERRANEAN ASSOCIATION.

LIVERPOOL :

SOLD BY R. ROCKLIFF, DALE STREET,
AND THE OTHER BOOKSELLERS.

1824.

H. Rockliff, Printer, Dale Street.

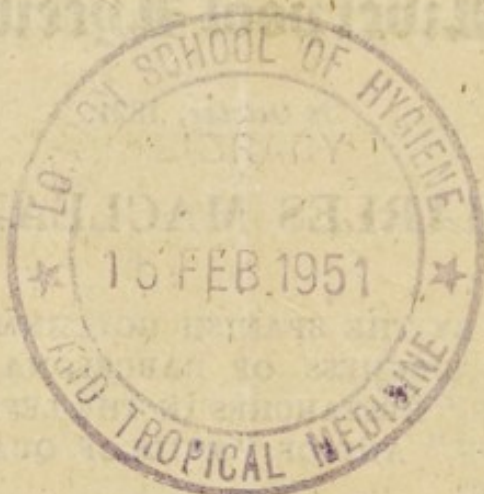
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OBSERVATIONS

ON THE

THE SUBSTANCE OF A LECTURE

DELIVERED AT THE



BY

10 FEB 1951

SCHOOL OF HYGIENE AND TROPICAL MEDICINE

A LECTURE
ON THE
QUARANTINE LAWS,
&c. &c.

THE subject, upon which I shall have the honor to offer some observations to your notice, is one of extraordinary interest and importance ; for the operation of the quarantine laws, as I have shewn in various writings, which are before the public, is injurious, in a very high degree, to commerce, navigation, and manufactures.

The quarantine regulations, purporting to be *for the preservation of the public health*, are founded on the assumption, or belief, that epidemic diseases depend upon a specific contagion.

According to the presumed analogy between the supposed contagions of pestilences, and the known *viruses* of diseases of undoubtedly contagious properties, the specific *virus* of each epidemic would, if there were any truth in the doctrine of pestilential contagion, differ of course from that of every other. The unknown contagions of plague, yellow fever, typhus, cholera morbus, and dysentery, for

instance, would differ from each other, as widely as the known contagions of small-pox and measles.

It will be proper here to define what I understand by contagious, and what by epidemic diseases. A contagious disease is one which can only be propagated in a certain succession from person to person, and is of a specific character. An epidemic disease is, on the contrary, one which is produced by causes capable of acting simultaneously on the whole, or any given portion of a community; of which causes a specific contagion never forms a part. They are of great diversity of appearance, and in their highest degrees are called pestilences.

It was to prevent the importation of pestilential contagion, or of the different supposed specific *viruses* of epidemics, that quarantine restrictions were instituted.

Their objects are epidemic and pestilential diseases generally, of which plague, yellow fever, typhus, cholera morbus, and dysentery, may be reckoned the chief; but their operation has principally been directed against the supposed contagions of plague and yellow fever.

The non-existence of such a *virus* I have repeatedly shewn, both by facts common to pestilences, and proper to particular epidemics. In respect to plague especially, a very remarkable and conclusive instance of intercourse without the production of disease, occurred during my experiments at the Pest Hospital, near the Seven Towers at Constantinople, in 1815. Of about twenty persons, all in close communication with the sick, one only was affected with the malady. This person was myself. The only difference between us, in our relations with the sick, was, that those who remained in health, all lived and slept

amongst them, whilst I occupied a distant part of the building, visiting them once every two hours throughout the day. The proof is here complete. It is as nineteen to one against the existence of contagion in plague. In commenting upon this fact, the advocates of pestilential contagion have invariably dwelt with exultation on the circumstance of my having been myself seized with the malady, as if that alone were any proof of its being the result of contagion, whilst they have passed over in silence the exemption from sickness of the nineteen persons, who escaped, even under circumstances of closer intercourse. On the candour of this proceeding, I leave the public to form their own judgment. I may also remark, that, in the difference of exposure of the different sides of the hospital, and of moral causes, together with my being a stranger to the climate, will be found a satisfactory explanation of the causes of sickness operating more powerfully upon me, than they did upon those inmates of the hospital, who remained in health. But, if even the circumstance did not admit of explanation, according to the doctrine of the atmosphere, and of vicissitudes of temperature, it would by no means follow that we must admit the existence of contagion, on an evidence as one to nineteen. On the contrary, whatever may be decided to have been the real cause of sickness in this case, contagion is clearly disproved.

But what were the facts as applicable to myself? The aspect of my apartment was north-east, the noxious wind in that quarter, at that season of the year (August,) blowing too, in this instance, over a piece of marshy ground within two hundred paces; whilst the attendants and other inmates of the Hospital, together with the patients, resided

in the south-west side of the square, sheltered by the opposite side of the building. Under similar circumstances of exposure, anxiety, and privations, sickness, in respect to myself, would have resulted in any climate. And what was the nature of this attack? It was neither more nor less than fever, and treated successfully as such, which did not at any period excite apprehension, and was never, in my own opinion, of doubtful issue. Were I now obliged to choose whether I should have what is called the plague of the Levant, or the typhus of Batavia or Bengal, both of which I have personally experienced, or yellow fever, I should unhesitatingly prefer the first. That disease, abstracted from all adventitious causes of aggravation, I even deem very little different from, or severer in degree than the ordinary typhus of this and other northern countries. If patients labouring under typhus in England were neglected, like plague patients in the Levant, I have no doubt but the mortality among them would be quite as great.

This fact is a direct, an appropriate, and alone a sufficient proof of the non-existence of contagion in plague, superseding all evidence of a less direct or subordinate kind. But, in my evidence before the Committee of the House of Commons on the validity of the doctrine of contagion in the plague, in 1819, I also adduced other facts, each of which, taken separately, is convincing, whilst, collectively, they are irresistible: such, for instance, are the wearing of the clothes of persons, who have died of the plague, without the disease following; its commencement and cessation, in an epidemic form, at certain determinate periods; and the total exemption from the malady of certain countries, as Persia, adjacent to, and having continual intercourse with

the Turkish dominions, whilst in other countries more remote, and having less communication, as some parts of the Russian territory, it occasionally prevails: none of which circumstances could happen, if the plague depended upon a specific contagion. Could a knowledge of these facts have been immediately widely diffused, general conviction would have of course speedily followed. But the means of publicity were deficient; and the subject itself was not at first felt to be of much general interest. Thus every advantage may be said to have been on the side of the established delusion. The records, however, of the proceedings of 1819, fortunately remain; and the proofs then established by direct facts, are now definitively confirmed by evidence of the results of the operation of the quarantine laws themselves, and by the contradictory testimony of the partisans of that system.

Let us enquire then, from the actual operation of these laws, and upon the evidence principally of the contagionists themselves, whether such restrictions are in point of fact necessary. I shall examine the subject, under the two heads of Bills of Health, and of Quarantine and Lazarettos, being the means employed in this country with a view to prevent the importation of the supposed contagion of pestilence.

Bills of health are documents from our Consuls abroad, to ships sailing from the places subject to their consular jurisdiction, certifying the state, as to presumed contagious epidemics, of these places at the time of their departure. Did pestilential contagion undoubtedly exist, bills of health, as we shall presently see, would be no criterion whatever of the state of merchandize, with respect to that agent.

We shall suppose two ships to load with clean cargoes, in a period of health. One happens to sail a day or two before the other. A single case of plague in the mean time occurs in the port or city, obliging the detained ship, although she had no communication with the shore, to sail with a foul bill. (It can scarcely be necessary to observe that a foul bill imports the presence, and a clean bill the absence of pestilence, at the period of her sailing, in the sea-port from which a vessel departs.) Here it must be strikingly apparent that the supposed danger must be equal in both cases. But what is the practical effect? One ship is immediately released; and the other forced to undergo the whole of the expurgatory process, and the rigour of the full period of quarantine.

Again: two ships load with foul cargoes, during pestilence. One sails thirty days after the plague has ceased, with a foul bill of health; the other waits ten days more, in order to be entitled to a clean bill. The ship with a foul bill will naturally be treated as vessels in such a case are supposed to require. But how is it with the ship with a clean bill of health? Her cargo was taken on board at the same period as that of the other; and would, if such a thing there were, be completely saturated with plague *virus*. But the captain, determined to avoid the expence and detention attendant on a foul bill of health, waits ten days longer, and obtains a clean one; and in fact brings his contaminated cargo at once into the market.

I shall suppose a third case: a ship, which had loaded with a foul cargo, during pestilence, sails with a clean bill of health forty days after its termination. Another ship, which had loaded with a clean cargo, during these forty

days, being detained only a few hours, and a single case of plague being reported before the other ship is out of sight, is obliged to sail with a foul bill, or to wait for an uncertain period. The former vessel arrives in England with a clean bill of health, and, as in the case above, with a contaminated cargo, which is immediately brought into the market, and avoids all the detention and expence attendant on a foul bill of health ; whereas the other vessel, which has on board an uncontaminated cargo, is treated with all the rigour of the quarantine laws.

Besides the circumstances, which must inevitably happen, in the course of events, to disarrange the system of bills of health, the foundation of these documents is altogether so uncertain, depending upon the interest or caprice of those who usually report to the Foreign Consuls the state of the public health, as to pestilence, as corroborated by the evidence of several of the witnesses examined by the Committee of the House of Commons of 1824, that, could they ever be a sure criterion, it is manifest, that, from this circumstance alone, no reliance whatever could be placed upon their authenticity. In their most authentic state, indeed, they would be so far from being any sure criterion of the condition of a cargo, as to pestilential contagion, did such an agent exist, that the cargoes of ships with foul bills would frequently be the least dangerous, as the cargoes of ships with clean bills would frequently be the most dangerous to the public health.

Taking for granted, for a moment, the correctness of the received doctrines, and assuming that the degrees of susceptibility of all articles, as laid down in the quarantine laws of the kingdom, are founded upon certain ascertained

data, let us, upon these principles, reason upon the subject. In cargoes from Turkey generally, there will of course be a great many of the articles enumerated in the first class, as being the most susceptible of imbibing contagion. These cargoes are necessarily composed of the produce or manufacture of various parts of the country, packed and shipped at various periods, some of these periods being pestilential and some not. A ship, therefore, sailing with a clean bill of health, might have her cargo foul, as having been packed, and shipped during the prevalence of plague; whilst a ship sailing with a foul bill of health might have her cargo clean, as having been packed and shipped previous to the commencement of pestilence. This would necessarily frequently happen, supposing always the doctrine of pestilential contagion to be true; or rather it would be the most common course of things: for it could not be prevented by any practicable vigilance. Let us suppose cotton to be packed in the interior of Egypt or of Turkey, by persons having the plague upon them; and this cotton to be shipped at Alexandria or Smyrna, with clean bills of health, the usual period of forty days from the cessation of the plague, conferring this privilege, having elapsed. It is contended, by medical men, that plague *virus* may remain in cotton for an indefinite period. But there is not any one conversant with the trade of Turkey and of Egypt, who can deny that this case very frequently happens. And hence it is plain, that cotton would often be shipped from those countries, full of contagious *virus*, if such a thing there were, and furnished too with a clean bill of health. These documents, therefore, as I proposed to shew, would be no true criterion of the state of the mer-

chandise imported, in respect to contagion, if such an agent existed; but, on the contrary, clean bills of health would frequently cover foul, and foul bills of health would frequently accompany clean merchandise.

If the cotton thus imported had been really impregnated with a specific *virus*, capable of propagating plague, what must have been the consequences, after its arrival in England? Must not its appropriate disease necessarily have been first communicated to the persons employed to open the goods for the purpose of expurgation, afterwards to the workmen in the manufactories, and finally to the public at large? All this, and much more, must necessarily have repeatedly happened, had there been any truth in the doctrine of pestilential contagion. It would unavoidably happen under the most correct and perfect system of expurgation; but it would happen still more readily, where goods are invariably aired but imperfectly, or not at all; of which I shall here adduce two very striking examples.

In the evidence of Mr. Sanders, superintendant of quarantine at Standgate Creek, before the Committee of the House of Commons, in 1824, we find the following account of the practice at that station: "Are there any of the first class goods," he is asked, "ever left without the probationary airing? Yes.—Is it not as necessary that the whole should be aired as any part? So it would appear; but in the case we had within these few days of a ship from Alexandria, with a thousand bales of cotton, it would have been impossible to air those within fifteen days upon deck." (p. 45.) Imperfect airing, we find, is not peculiar to the case of cotton from Alexandria, but is common to all goods with clean bills of health; and I have shewn, that, in point

of safety, there can be no real difference between clean and foul bills of health. "The bales of Cotton," he is asked, "are cut open? They are. And the cotton is aired upon the deck? Yes; the cotton is ripped open from one end to the other, and *some* of the interior removed. Is the whole of the interior of the cotton opened to the air? *Not with a clean bill of health.*" (p. 41.)

It will scarcely be contended, by the advocates of pestilential contagion, that our Irish neighbours are less susceptible than ourselves, in respect to that supposed *virus*. But let us see what is the practice at the quarantine station in Ireland. Mr. James M'Neil, superintendant of quarantine at Carlingford, in reply to some questions from the Committee of the House of Commons, of 1824, states that, "There is no floating lazarette, nor any lazarette on shore at Carlingford. There is no other place to air goods than the deck of the vessel in which they come. In the last three years there have been forty-two vessels. They never do more than hoist the bags up on the deck, *as many as they can get at near the hatches*. There is no means of examining or airing the cargo with a foul bill of health. Believes the bags have never been opened. The captains have always stated to him that it was impossible to do it. Has never heard of any sickness at Carlingford. There have been arrivals from Smyrna, and he believes with hides and skins from Africa. There is no physician within ten or twelve miles. Vessels with foul bills of health, he understands, have repeatedly arrived at Carlingford. *In point of fact, a bale of cotton is not opened at any time*. There has sometimes been much cotton and rags." Hence it is evident, that, in Ireland, cotton is sent into circula-

tion amongst the manufacturers, without ever having been aired or opened.

By the able evidence of Mr. Briggs, before the Committee of 1824, further light is thrown upon this part of the subject. He is asked by the Committee, "What interval is there between the packing the cotton and shipping it?" To which he replies: "That is very uncertain; it may be a month, or it may be six months; but as soon as the crop is brought in, it is packed *in the neighbourhood of Cairo* and brought down to the Nile. Then it is possible, that, at the time of packing the cotton, there may be a plague in the country, and at the time of shipping it there may be none; in that case, would the ship exporting the cotton bring a clean or a foul bill of health? Forty days after the last case (of plague) has occurred, vessels are entitled to clean bills of health!" (p. 25.)

Here, then, we have a confirmation of the case of cotton packed in one of the principal seats of plague, and at a period of pestilence, according to the received doctrine saturated of course with contagion, shipped either with clean or with foul bills of health, as it might happen, and, upon its arrival in Britain, after having undergone a very imperfect airing at Standgate Creek, or no airing at all at Carlingford, destined to be distributed to our manufactories!

Let us next enquire into the necessity and operation of quarantine and lazarettos.

When we reflect that eight hundred and fifty-seven ships or vessels, from ninety-one places, near and distant, in all the quarters of the globe, were last year considered proper objects of detention, under the quarantine laws, under various degrees of suspicion of contamination; and that a

proportional number has been annually detained, under similar circumstances, for upwards of a century, we are immediately prompted to enquire, whether all the contagion on board of the twenty or thirty thousand ships that must have been thus detained has not left a single trace, in the record of a single case of sickness or of death, behind it; and, if not, our next enquiry is, how long this detention is to continue as an experiment unproductive of any thing but mischief? By the official reports from Rochester, Portsmouth, Falmouth, Milford, Bristol, Liverpool and Hull, received by the Committee of the House of Commons, appointed to enquire into the validity of the doctrine of contagion in the plague, in 1819, it appears that, from the most remote periods of which there are any records, no case of plague has occurred at any of these ports. (Min. of Evid. 1819, p. 101.) In the evidence of 1819, (p. 15.) Dr. Thomas Foster states, that "he could never find any evidence of a plague case existing any where here (in England)." Dr. James Johnson "has never known or heard of a plague case on board ships arriving at lazarettos in Great Britain." (p. 19.) Dr. William Gladstone "has never heard of a plague case having arrived at or been seen in any lazaretto in Great Britain." (p. 24.) John Green, Esq. "has never known any person who handled the goods in quarantine in England to be infected." (p. 39.) Dr. John M'Leod "has never seen or heard of any thing like the plague in Great Britain, (meaning of course since 1665, as afterwards expressed)." (p. 42.) Sir Arthur Brooke Falkner, M. D. "has never heard of plague, as imported into England, since 1665." (p. 52.) Sir James M'Gregor, M. D. "has never heard of any ex-

purgators of goods in this country being afflicted with plague." (p. 61.) Dr. Charles Dalston Nevinson states that "there is not to his knowledge any verified case of plague in England, since 1665." (p. 72.) Dr. Algernon Frampton "has no knowledge of any disease under the denomination of plague, in England, since the year 1665." (p. 74.) Dr. John Mitchell "has never heard of plague in England since 1665." Being asked, "If infection had arrived at any of the quarantine establishments, it is probable that some of the importers of goods must have taken the plague?" he replies: "If it was infectious, like the small-pox, they must. Does not suppose the plague of 1665 to have been imported." Being asked, "Do you consider the fact of the plague not having appeared at the quarantine establishments for 100 years, to be any sufficient reason to infer from thence, that the plague was not imported?" he replies: "There is the strongest reason to believe, that, if in the course of 100 years it has not been imported, it is incapable of being imported." (pp. 93, 94.)

On this subject, Mr. Sanders, superintendant of quarantine in Standgate Creek, gives the following evidence before the Committee of 1824: "Every illness, however slight, is reported and brought under his notice. Does not recollect any cases of persons taken ill, or actually ill when they arrived. Does not recollect an instance, in which the expurgators, who are the persons who examine the goods, have ever been taken ill in consequence of such examination. During the fourteen years that he has been superintendant, does not recollect an instance. Believes there was, in one instance, a box of apparel opened, and one of the persons, who were opening it, felt a giddiness in his

head, but it went off in the course of an hour ; and during the forty days quarantine, there was nothing occurred that might not have occurred without the opening of that box. It did not affect both the guardians ; therefore he did not attribute it to that box. No other symptoms followed.” (p. 44.)

Mr. Nichols “has never heard of a single case of the appearance of plague since the establishment has been formed, neither on board ship, nor on board the lazaretto, nor among the people that are employed in unpacking and repacking the goods.” (p. 20.)

Mr. Maude “has never heard of any case of infection arising in the lazaretto in the airing of goods. Never knew of any expurgators, who put their arms up them, being affected.” (p. 36.)

Sir Gilbert Blane states, that “no instance of infection has ever occurred in England since 1665.” (p. 48.) Being asked, in reference to a former question : “If no instance has occurred of any such expurgator being infected, there can be but little risk of communication of infection, and therefore little benefit in that mode of airing, which frequently materially damages the goods ?” he replies, “I should conceive very little benefit.” (p. 54.)

Dr. Pym “knows of no vessel in which the plague has occurred coming to England.” (p. 67.) Being asked, “Should you not infer, that, if in the course of a century and a half no circumstance of the plague being imported has occurred, it is not likely that it can be imported ?” he replies, “It seems to be very improbable certainly from that circumstance.” (p. 69.)

Ralph Green, Esq. inspector of hospitals, “is not aware

that he has ever heard of any instance in which the expurgators, or any of the persons employed in packing or removing the goods in this country, have been affected." (p. 92.)

Mr. W. Matthias, superintendant of quarantine at Milford Haven, "has never known any instance of sickness or disease appearing among the persons concerned in unpacking or packing." (p. 99.) "Never had any indisposition occur at Milford. Finds men perfectly willing to undertake the office of expurgators. Has never found any unwillingness to perform the duty." (p. 101.)

Dr. Newberry, medical superintendant of quarantine at Standgate Creek, "has never known any instance of the appearance or symptoms of the disease called plague among those who have been employed in unpacking a vessel." (p. 102.)

Dr. Granville, being asked, "Have you ever heard of any infection appearing in the lazarettes of England?" replies, "I can neither say yea nor nay to that question. I think I am as authorised to say there has, as that there has not. In the first place, there have been vessels which were ordered to be sunk or burnt, proving the affirmative. In the second place, there is not a register or a journal kept by any one of the superintendants adverted to in the act and orders in council, *for a sufficient number of years*; and the answers sent by the persons consulted on this subject refer to *so short a period of time*, that the question, whether the plague has appeared since 1665, cannot be answered decisively in the absence of any thing like the negative documents, therefore cannot well be supported. This case is one of doubt.—Have you ever heard of any

instance of infection in any lazarette in England, of expurgators thrusting their arms into the packages? I have no objection to answering that I have not heard of any; but I object to the impression that answer may make, to its being supposed that because I have not heard of the thing, it has therefore not existed, the documents *not going sufficiently far back to authorise any such conclusion*.—Do you not think it much the interest of the officers of these establishments, in order to prove the necessity of the establishments, to bring forward the instances, if they have ever occurred? If they have no register to refer to as to what occurred to their predecessors, they may not be able to bring forward such instances, supposing them to have occurred.—It being the duty of the superintendant on the spot to ascertain, and he being able to point out none, is it not to be presumed that there is none? If that be his official answer, I have no hesitation in saying he ought to be believed; but I would take it to refer only to his own personal experience, unless he can prove from documents that it has not occurred at any period previously.—If no case of *indisposition*, or even of *head-ache*, has occurred, what should you say? *The answers relate to such short periods of time, that I must confine myself to those periods also !!*" (Min. of Evid. 1824, p. 80.) This is something like the lawyer, who contended there must have been witches, or there would not have been laws against witchcraft.

It would be quite superfluous to offer a single comment upon the palpable pertinacity of this last witness. The mass of evidence here adduced, shewing the impossibility of the existence of pestilential contagion in goods from the Levant, if it has ever been equalled, has certainly never

been surpassed in consistency and effect, upon any occasion. It appears from the unequivocal and unanimous testimony of witnesses, the most immediately connected with our lazaretto establishments, and of respectable medical men, that the expurgators of goods in the lazarettos of the United Kingdom, who, if these goods had been impregnated with contagion, could not have remained free from disease, prove to be by far the most healthy persons in the community, no instance being recorded even of indisposition or head-ache among them, unless we admit the solitary case of momentary giddiness, stated by Mr. Sanders, to be sickness. Really it seems as if all men, desirous of enjoying uninterruptedly a superior degree of health, should become candidates for the office of expurgator of what are deemed pestilential goods, capable of propagating contagion in the lazarettos.

Thus it stands demonstrated, that, in point of fact, no pestilential contagion has ever arrived at our lazarettos, from the Levant or elsewhere, from their first establishment to the present time. But, did such an agent exist, it would have been quite impossible that it should not frequently have been so imported, or rather that it should not have been in a constant course of importation; and if it had been so imported, it is equally impossible that it should not as often have affected, first the expurgators of goods in the lazarettos, and afterwards the community at large. It is proved, by the most ample and incontrovertible evidence that is, perhaps, recorded upon any subject, that not a single case of plague, either in or out of the quarantine establishment, has existed in this country for 159 years; i. e. not only during the 104 years that quarantine and la-

zaretos have been established, but during the 55 years which preceded, when there were no quarantine laws. The last plague which existed in England, 159 years ago, or that of 1665, although undoubtedly the same disease that now prevails under that name in the Levant, was no more imported from Turkey, than the yellow fever of Spain has been imported from America; or, to speak less incorrectly, the *cause* of these diseases has not been so imported: for there is abundant evidence, that plague frequently prevailed in England, in the thirteenth and fourteenth centuries, when there was no intercourse direct or indirect between it and Turkey, and that yellow fever prevailed in Spain centuries before the discovery of America by Columbus, as related by the historian Campmany. These diseases we know may be again produced by the causes which have formerly produced them, whenever these causes concur in sufficient force. But, if they depended upon a specific contagion, as that agent does not require the concurrence of other causes of disease to produce its specific effect, they would invariably take place as often as the contagious *virus* was applied. If contagion were the cause of plague in Turkey, it must, in the ordinary process of things, have been in an almost constant course of transmission to England, as well as to other nations. It could not possibly have been 159 years absent from this kingdom, prevailing annually as it does in some part or parts of Turkey, Egypt, or Barbary, with all of which countries we have constant communication. It must be quite obvious to every observer that a specific contagion can have no limitation, in respect to countries. It cannot possess any stationary or permanent head quarters, from which to make occasional

sallies to distant parts of the world, but must, when shipped in goods, proceed to the destined port, and there inevitably produce its appropriate effects.

But, considering the subject under another point of view, let us inquire, if pestilential contagion did exist, and were capable of being retained in goods, *for years, or any indefinite period*, whether any advantage could reasonably be expected to be derived from a quarantine of *twenty, forty, sixty, or any number of days, that should not exceed in duration the indefinite number here assumed*, whatever that may be? Whether a detention of this kind must not be wholly inefficient for its proposed ends, and a perfectly gratuitous injury to commercial operations? Upon this point of doctrine, Dr. Pym “thinks the contagion (of plague) may be enveloped in goods, especially cotton, *for a considerable time, of which it is impossible to judge.*” (Min. of Evid. 1819, p. 56.) Yet, in 1824, it is recommended by Dr. Pym, that, even in the case of vessels with foul bills of health, the probationary airings should be discontinued, that quarantine should be reduced from sixty days, including probationary airings, to thirty-five days, and that passengers, who have heretofore been detained as long as the ships, should have a very short quarantine, if any! How can “*thirty-five days* of quarantine be a sufficient precaution” against the spreading of a contagion, which, according to this witness himself, may be enveloped in goods, for an indefinite period?

Dr. Granville, in his evidence before a Committee of the House of Commons, on the validity of the doctrine of contagion in the plague, in 1819, “ascribes our not having the plague in England for 154 years to quarantine regu-

lations." (p. 29.) But, if quarantine has prevented its importation, it must have been shipped. Yet the same witness (p. 33 of the same evidence) says, "The only way he can account for the plague not having taken place during the last 154 years, is, that *it was never shipped from the Levant.*" My opinion, it is well known, is as to the fact quite in accordance with this last part of Dr. Granville's evidence, with this considerable difference, however, in respect to the principle, that the only way in which I can account for its never having been shipped, is, that it does not exist. This witness "does not admit that if the disease be shipped, any circumstances will prevent its spreading." (1819, p. 33) Had it at any time been shipped, no expurgator of goods could, upon his own shewing, have escaped. But it has been proved, by the evidences of 1819, and of 1824, that no expurgator of goods, in any of the lazarettos of England, has ever been affected. Consequently, according to himself, it could not have been shipped, and, therefore, could not have been prevented by quarantine from being imported. And if it has never been shipped on board of any of the thirty thousand vessels, which have performed quarantine in this country for the last hundred years, must it not require great scepticism not to be persuaded that it never can be shipped? This witness, in the evidence of 1819 (p. 32.) says, that "the contagious matter of the plague may remain in goods, in a state to communicate the disorder, *for many months;*" and (p. 33.) that "neither 154 years, nor six or seven centuries can give a hope that it (the contagion of plague) cannot exist in Britain!" In 1824, he says, "taking a passage from Smyrna of twenty days, when contagion existed in the

place, and supposing no accident to have occurred during that passage, he should consider forty days more to be quite sufficient, including the probationary airings." (p. 86.) Now, if contagion can remain in goods "for many months," and if an interval of 154 years, or six or seven centuries, can be no guarantee that it will not be imported, upon what grounds does this witness, in his evidence of 1824, recommend quarantine on ships with foul bills of health to be diminished from sixty to forty days, including probationary airings; whilst, if his own principles were correct, it ought to be interminably lengthened?

Next follows the evidence of Ralph Green, Esq. inspector of hospitals, who says, he "should be very sorry to suggest any thing upon the subject, with a view of, or tending to lessen precautionary means being rigidly observed;" (Min. of Evid. p. 89.) and Dr. Newberry, medical superintendant at Standgate Creek, who considers "the existing precautions well suited to the end in view." (p. 101.) These two last witnesses are perfectly satisfied with the regulations as they are; and wish for no change. But, as I shall presently shew, they would, in this, if there were any truth in the doctrine of pestilential contagion, be only somewhat less inconsistent than the other medical witnesses.

Sir Gilbert Blane, in his evidence, also states that he "does not think any part (of the quarantine regulations) could be dispensed with." (p. 47.) He deems probationary airings useful. (p. 54.) Yet, "considering the period from October to March to be *less susceptible* than the other months of the year, he would be for *greatly abridging* quarantine *for the accommodation of commerce*, and, *if*

it were not for timidity and some share of responsibility lighting on his head, he should say, that, in the susceptible months also, it might be very safely abridged ;” (p. 52.) although he had previously stated, as we have just seen, that, in his opinion, *no* part of the quarantine laws could be dispensed with !!

Thus it appears that two of these witnesses, Drs. Pym and Granville, in proposing a curtailment of quarantine regulations, are acting in direct contradiction to the version of the doctrine of pestilential contagion, which they themselves profess to entertain ; and that they, as well as the three other medical witnesses, in not recommending that quarantine should be lengthened in duration, and increased in rigour, are acting in equal contradiction to the version of that doctrine transmitted to us by the elder contagionists, who may be regarded as the fathers of the system. Fracastorius, Forestus, Benedictus, Diemerbroek, and Mead, are at least entitled to be considered as equal in authority with the five medical witnesses who have been examined before the Committee. And what is the version of the doctrine of pestilential contagion, which they have transmitted to us ? From their writings, we learn that a pestilence has been produced, by a contagion, which had lain in a feather bed *for seven years* ; and another by a contagion which had lain in rags *for fourteen years*. A detailed account of these, and of similar ridiculous narratives, will be found in my *Researches in the Levant concerning the Plague*. Here, we have two periods assigned, that are, at any rate, specific—*seven years for feathers*, and *fourteen years for rags*, indicating also specific periods for quarantine ; not like the vague and indefinite

periods of Dr. Granville of "*many months,*" and of Dr. Pym of "*a considerable time, of which it is impossible to judge,*" leaving us in a state of utter uncertainty respecting the length of quarantine that ought, upon their own principles, to be imposed. It does not appear whether Sir Gilbert Blane, Dr. Newberry, and Mr. Green, adopt the shorter, or the longer of these periods, or any intermediate one. But, since they are believers in pestilential contagion at all, it is certain, that, whatever version of the doctrine they follow, they are inconsistent, in not considering an extension of duration, and an increase of rigour, of quarantine regulations necessary; seeing that there cannot be any contagion, which will not remain latent for months, or years, in merchandise, requiring an infinitely longer period of purification than the longest at present assigned to cargoes of goods. It appears unquestionable, that, although they were themselves sufficiently inconsistent in respect to the duration they allotted for quarantine, the versions of the elder contagionists, of the doctrine of pestilential contagion, are both more explicit and less unreasonable than those of their successors. The statement is certainly more explicit, that a contagion may remain "in feather beds for seven years," and "in rags for fourteen years," than that it may remain "in goods generally for many months," or "for a considerable time, of which it is impossible to judge." It is also more reasonable; for as we find the small pox and vaccine viruses, after being transmitted to the East or West Indies, or the Mediterranean, produce their appropriate maladies after several years, so a virus still more powerful, as the supposed contagion of plague is presumed to be, might be expected

to remain in feathers, rags, or cotton, seven, fourteen, twenty-one, or almost any number of years, that it might continue undisturbed. And if this were the case, how could any expurgator of feathers, rags, or cotton escape? And if the experience of 104 years will not prove the validity of those doctrines, what is to prove it? The conclusion from the whole of this evidence,—the best that could possibly be produced,—and as good as ever bore upon any case, perfectly confirms the truth of the principles for which I have so long been contending, that the cause of plague cannot be imported, and that that cause cannot therefore be contagion. Under any of the versions of the doctrine of pestilential contagion, which have been cited, the shortest quarantine that would ensure safety, would be one of “many months” duration. And how are we to interpret “many months?” It cannot be less than from six to twelve months. But this would not be, by any means, an adequate protection, under the other modern version of “*a considerable time, of which it is impossible to judge;*” nor under the more ancient ones of “*seven years for feathers*” and “*fourteen years for rags.*” Taking this doctrine to the extent that it fairly admits of, no quarantine could be deemed efficient that was not of the duration of years. A quarantine of twenty, thirty, forty, or sixty days, would be a mere mockery—a farce, under the shortest period that pestilential contagion is supposed capable of remaining in goods.

The five persons, whose evidence I have here investigated, constitute the whole of the medical witnesses examined by the Committee of the House of Commons in 1824. We shall presently see the principle upon which they were

selected. We have seen wherein each has differed from himself!! I shall now examine some points, wherein these witnesses differ from each other.

Dr. Pym "is of opinion that probationary airings may be discontinued." (p. 62.) Sir Gilbert Blane "considers probationary airings useful." (p. 54.) Dr. Newberry's "settled opinion is, that probationary airings *are the best security we have.*" (p. 54.) On this subject, Mr. Sanders says, that "It has always been considered by medical men that great reliance is to be placed upon probationary airing. So far as he might humbly offer an opinion, considers it indispensable; and I may appeal," says he, "to Dr. Pym, who, when he visited the station, *directed that I should see that carefully done.*" (p. 59.)

Sir Gilbert Blane says, "Considering the period from October to March to be less susceptible than the other months of the year, I would be for greatly abridging quarantine *for the accommodation of commerce, and if it were not for timidity, and some share of responsibility lighting on his head, he should say that, in the susceptible months also, it might be very safely abridged.*" (p. 52.) Dr. Pym "should place no dependence upon the reduction of time proposed by Sir Gilbert Blane during six months of the year." (p. 66.) Ralph Green, Esq. "would not recommend a difference of precautions in the winter, and in the summer. Would not trust to any thing but the strict enforcement of quarantine regulations." (p. 93.)

Sir Gilbert Blane "attributes the decrease of plague in Europe to the decreased susceptibility of the European world." (p. 52.) But Mr. Green, "in accounting for the

rare occurrence of plague in England, attributes *nothing* to decreased susceptibility of the people." (p. 94.)

Dr. Granville says, that "after two or more sulphureous baths, and leaving his clothes behind, a person from any of the ports of Turkey, or the West Coast of Barbary, would be quite innoxious." (p. 77.) Mr. Green "thinks there would be risk in releasing persons under foul bills of health, after fumigation and baths." (p. 94.)

Dr. Pym "is of opinion that ships with clean bills of health need not put any part of their cargoes on board the lazarette; and even with ships with foul bills of health, he would allow passengers to have a very short quarantine, *if any*." (p. 60.) Mr. Green "should be sorry to suggest any thing upon the subject, with a view of or tending to prevent precautionary means being rigidly observed." (p. 89.) "Thinks it most prudent as to foul bills *to retain things as they are*, and would recommend a detention of *twenty* days, in the case of *clean* bills." (p. 95.)

It is obvious how little deserving of credit such evidence must be; and that, in the recommendations of the Committee, who wisely determined, as far as their opinion of the force of public prejudice would allow them, to keep pace with or rather to precede the intelligence of the age, it has been in fact wholly disregarded. The majority of the medical witnesses were for retaining probationary airings; but the Committee have recommended them to be discontinued. The medical men who were most in favour of the reduction of quarantine, talked of forty or thirty-five days as the minimum, on ships with foul bills of health; but the Committee have recommended that it should be reduced to twenty-one days, including probationary airings.

It is obvious, then, that, in not recommending the entire abolition of quarantine, the Committee were guided, not by any regard to the opinion of the physicians, but to the supposed force of public prejudice in favour of that institution; for, that the Committee themselves were almost, if not wholly divested of these prejudices, is strongly evinced by the language of the first paragraph, as well as by the whole tenor of the Report :

“The influence,” they say, “which this law is *supposed* to have in the protection of the public health, *its bearing on some of our strongest prejudices*, and its embracing the various precautions which have been long *deemed* our safeguards against the introduction of contagious diseases, from whatever part of the world the danger may be apprehended, renders every recommendation that may affect it, a matter at once of general interest and peculiar delicacy. On the one hand, care is to be taken, that in the attempt to relieve commerce from burdens and inconveniences which press upon it, and to afford it the utmost freedom of which it is susceptible, we do not expose the country to the most formidable risk. On the other hand, that neither ancient prejudice, nor an excess of anxiety to avert *possible* danger, should induce the continuance of restrictions *inessential to their object*, and should thus deny to the trade any of those facilities which, consistently with every prudential regard to considerations of protection and safety, it may be permitted to enjoy.”

The Committee then enter into a detail of their proceedings, as follows :

“In the commencement of their enquiry, your Com-

mittee thought it right to call for the report of a select Committee, which was appointed in 1819, to consider the validity of the doctrine of contagion in the plague, and the evidence on which their report was founded. At that period, the long received opinion that the plague was a contagious disease, liable to be conveyed from infected countries, and communicated by means of persons and articles of merchandise, had recently been called in question by some persons of the medical profession, *with such effect, as to induce the House to institute an inquiry into the subject, by means of a select Committee.*"

Being myself the only person, who, at that or at any other time, did, with effect, call in question the doctrine of pestilential contagion, it is evident that my labours alone can be here alluded to. The evidence which I adduced before the select Committee of the House of Commons appointed to inquire into the validity of the doctrine of contagion in the plague, in 1819, together with the facts and arguments which are contained in my works published at various periods, afford ample or rather superabundant materials of conviction. They constitute the undoubted foundation of all the oscillation, or palpable changes of opinion, which have since been manifested on this subject. The instance of contact upon a large scale, without the propagation of disease, which happened under my personal observation, at the lazarette near the Seven Towers, at Constantinople, as stated at the commencement of this lecture, is a demonstration at once appropriate, singular, and irrefragable. The doctrine of pestilential contagion, was, on that occasion, not the less refuted, that the correctness of the refutation continues still to be denied by a

considerable proportion of the members of the medical faculty. It is not a technical question, but one of which every person of common sense and of ordinary education is as competent to judge as any physician. Accordingly, the Spanish Cortes did, in 1822, by a considerable majority, and in direct opposition to the unanimous opinion of all the physicians, who were members of their own body, being nine in number, as well as to the known belief of ninety-nine in the hundred of all the physicians of Spain, reject the project of a code of sanitary laws, which had been carefully prepared by three successive committees or commissions of public health. It was therefore not surprising that the Committee on the foreign trade of the kingdom, in 1824, should not have felt a formal renewal of the investigation on the validity of the doctrine of contagion to be necessary :

“Your Committee, after considering that report, (of 1819,) are disposed so far to concur in the conclusion stated in it, as not to feel a renewal of the investigation on the validity of the doctrine of contagion to be necessary ; and are satisfied by the proceedings then taken, that whatever difference of opinion may exist, in respect to danger to be apprehended from the propagation of the plague in this country by persons or merchandise, enough of doubt remains to make it a measure of more hazard than it would be expedient to incur, *to abandon at once the whole system of precaution which has been hitherto adopted.*”

This paragraph shews the extent of the conviction of the Committee to have been so great, that, but for apprehension of being thought to do too much by abandoning

at once the whole system of precaution which had been hitherto adopted, they would have proceeded to the total abolition of quarantine; and although they profess not to feel it necessary formally to renew the investigation on the validity of the doctrine of contagion, yet the effect of the proceedings instituted, was virtually to renew that enquiry; and the evidence of the partisans of that doctrine, as I have already fully shewn, has irrevocably confirmed the previous discussion of the question against themselves.

“*Assuming*, then, that *some* system of precaution is to be maintained, the enquiry of your Committee was directed to ascertain whether the established system was one that admitted of improvement.”

Thus hampered by prejudice, instead of enquiring whether the evil, for which quarantine is the presumed remedy, does really exist, or whether the remedy be, in point of fact, efficient for its proposed ends, they feel it necessary to assume *the existence of the evil*, and *the efficiency of the remedy*, and then to set about enquiring *how much of the remedy might be dispensed with for the benefit of commerce*.

“Your Committee feel that they (the burthens and inconveniences complained of by the mercantile and shipping interests) are of considerable magnitude, and that some relief from them would be not only a great boon to the trade on which they generally operate, but seems necessary as well to the preservation of a part of it, as to afford encouragement to a new and improving branch of commerce, likely to become highly valuable to our manufactures. They allude to that which promises to be produced in consequence of the increased cultivation of Cotton in Egypt, the export of which

to this country first commenced about two years ago, and has so rapidly grown, that the amount of fifty thousand bags is expected to be imported in the present year. From hence the manufacturers of this article will probably derive, in future, a large proportion of their supply; the interest therefore of our national industry, in one of its most productive branches, unites itself with that of the ship owners and merchants, in making it a matter of importance to extend to the importations from Egypt every facility of which they are capable, without too much relaxing in the attention due to the security and health of the United Kingdom." (Report, p. 7.)

That the quarantine laws press singularly hard, in their effect upon the price of the raw material of cotton, is most certain. It is not too much to say, with the prospect which now presents of the increased culture of that article in Egypt, that the abolition of these restrictions would considerably diminish the price to the manufacturer. At present their effect is to impose upon cotton an amount of charges, after arriving at the quarantine establishment, at Milford Haven, considerably exceeding, as I am informed, the half of the total amount of charges incurred in the transmission from Egypt to England. The idea continues to be entertained that France may compete with us in the manufacture of cotton. If our quarantine laws impose a tax of ten per cent. on raw cotton, or, in other words, increase the price to the manufacturer to that extent, is it not evident that we pay a premium of ten per cent. to excite that competition? And would there be any longer danger of competition, if the premium were discontinued? Whilst this premium, or any part of it, is maintained, just in that

ratio shall we be giving a bounty to excite competition on the part of the continental manufacturer.

The Report afterwards proceeds thus :

“ With a view to determining to what extent the increased facilities to that and every other branch of commerce affected by these laws may be with safety and prudence afforded, your Committee have called before them several medical men of eminence, whose opinions appeared the best calculated to assist them in pursuing the object of their enquiry, and coming to a satisfactory conclusion. In making their selection, the House will observe they have confined themselves to those whose attention had not only been directed to this subject, but whose opinions were understood to be in favour of the received doctrine of contagion ; their reason for this was, that it being their object to ascertain the degree of relaxation in the present regulations that might be *safely* adopted, *consistently with the existence of danger*, no advantage could arise from having recourse to the opinions of those who entirely disbelieved the possibility of contagion, and considered every precaution against it misplaced and unnecessary.” (Rep. p. 8.)

Although, in ordinary cases, it might appear to be *prima facie* an unpromising experiment to attempt to obtain the truth by examining evidence on one side of a question only, I am not sure whether the Committee, by the selection which they made, upon this occasion, have not succeeded better in bringing to light the absurdities of the doctrine of pestilential contagion, than if they had chosen, in equal numbers, medical men of opposite opinions upon the question at issue. “ In the opinions delivered by the medical men who have been examined,” say the Committee,

“*there has appeared some variety as to particular points.*” (p. 8.) But, upon a closer investigation of their evidence than was practicable for the Committee in the course of their labours, we perceive that *there has been no general agreement whatever among them upon any single point.* How could such a complete diversity of opinion prevail, among medical men, respecting what they affect to consider a matter of fact?

The existence of contagion in small-pox is a fact admitted by every one. If persons affected with that disease were employed to pack cotton in Egypt, the contagion would inevitably be communicated to that cotton, and from the cotton to the expurgators of goods at the lazarettos of England, if these persons should not have already had the disease. Respecting this there could not be two opinions. Here then is exhibited the true view of contagion. And no one can doubt that practical proof would be afforded, by its spreading, as often as the circumstances stated should take place.—And if this would necessarily happen frequently in respect to small-pox, how much more frequently would it happen, in respect to a contagion of much higher intensity, as the supposed contagion of plague is presumed to be, and with regard to a disease which is capable of affecting the same person repeatedly, could communities survive such ordeals?

But notwithstanding the great disadvantages of this evidence, and the strength of public prejudice upon this subject, the report of the Committee must be considered highly satisfactory. The principal results of their labours have been the recommendation of the total abolition of the quarantine duty of 7s. 6d. and 15s. per ton on vessels from

Turkey, &c. and of quarantine on all ships with clean bills of health, even as to enumerated articles, together with a curtailment of quarantine on ships with foul bills of health, from 60 to 21 days, the period of probationary airings included. And may we not reasonably hope, that, when the subject comes to be discussed in parliament, with the additional illustrations of the absurdities and evils of the system, which are now brought forward, the legislature will feel themselves warranted in enacting its immediate abolition, or, at any rate, in referring it to no distant period?

Let us now take a summary view of the conclusions at which we have arrived from the premises which have been stated. It has been shewn that no reliance whatever could be placed on bills of health as indicators of the state of cargoes, with respect to pestilential contagion, did such an agent exist; that clean bills would frequently be accompanied by contaminated cargoes, and foul bills with clean cargoes; that, under both, the periods of quarantine being totally disproportionate to the reputed duration of contagion in goods, contaminated goods would be continually brought into the kingdom and sent into consumption almost immediately. From all which it follows that that part of the quarantine laws, which consists of bills of health, is a precaution existing only in name.

With respect to quarantine and lazarettos, we have seen, by the practice of Standgate Creek, that goods are not generally aired with clean bills of health, although, as I have shewn, there is no difference in point of danger between them and foul bills; and by the practice at Carlingford in Ireland, that even cargoes with foul bills of health are never aired at all,—that, “*in point of fact, a bale of*

cotton is not opened at any time." Thus cargoes are sent into consumption almost in the state in which they arrive from the Levant.

But, notwithstanding this total absence of any airing that could be deemed efficient, no contagion has ever been imported, in any one of the thirty thousand vessels, which have done quarantine in England, for the last 104 years, nor in any vessel for 55 years preceding, when no quarantine existed. Neither on board a ship, nor in a lazarette, nor among the people employed in unpacking and repacking the goods, has any appearance of plague ever occurred. But, if pestilential contagion had been shipped, it must have been imported, and if it had been imported, it is self-evident that quarantine could not have prevented the crews, the expurgators, and the packers of goods, in the lazarettos, from being affected. That it has not affected any of the persons mentioned is sufficient proof that it has not been imported or shipped; and that it has not been imported or shipped is sufficient proof of its non-existence; for no specific contagion can be in active operation for centuries in any country, without being shipped in goods, which are capable of imbibing it, to every country with which it has any commercial intercourse.

Upon what principle, then, it may be asked, is any portion of the quarantine laws to be allowed to continue, at an expence, in direct charges, of about £30,000. a year, in Great Britain only? Is it on the evidence of the medical men examined by the Committee? Impossible. That has been shewn to be inconsistent, absurd, and contradictory. Is it from apprehended danger of sickness and deaths from pestilential contagion to be communicated by

goods or merchandise? It has been proved that none have ever occurred. It must be, then, in deference to the long-established prejudices of the community. But how far such prejudices ought to be allowed to influence the decision of a question of such vital importance to the state, becomes a fit subject for enquiry. We have seen prejudices almost equally strong combated by the liberal and enlightened policy of the present day, in the warehousing bill, the reciprocity duties bill, the silk trade bill, the exportation of machinery bill, and the artificers' emigration bill. In the progress of these measures, we have seen a series of opposition offered to each, on the part of those, whose prejudices supported indiscriminately the old order of things. The ruin of the shipping, commercial, and manufacturing interests, were all prognosticated in their turn. But there is no one capable of taking an extended view of the practical effect of these bills, who can entertain a doubt but that the community at large has already derived, and will continue, in an increasing ratio, to derive essential benefit from their operation.

FINIS.

