A BRIEF SKETCH

OF

THE PROGRESS OF OPINION

ON THE SUBJECT OF

CONTAGION;

WITH SOME REMARKS ON

QUARANTINE.

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ON CONTAGION,

&c.

As the Laws of Quarantine are again under the consideration of Parliament, it is of importance to ask what are the additional facts that have thrown new light on the subject of contagion, and rigorously to examine the grounds on which the alterations of the law are proposed. It is asserted that neither the Plague nor Typus fever are contagious; nay, even that the Plague constantly exists in London, for that Typhus fever is often attended here with buboes and carbuncles: in short, that the two diseases are different degrees only of the same fever, and that both are occasioned by the malignant influence of the atmosphere. False as these assertions are, they have not even the merit of novelty to recommend them. More than a hundred years ago one of the best medical writers on the Plague expresses himself in the following words—speaking of the causes which spread that disease, he says, "This is done by contagion. Those who are strangers to the full power of this, that is, those who do not understand how subtile it is, and how widely the distemper may be spread by infection, ascribe the rise of it wholly to the malignant quality of the air, in all places wherever it happens; and on the other hand, some have thought that the consideration of the infectious nature of the disease must exclude all regard to the influence of the air; whereas the contagion accompanying the disease, and the disposition of the air to promote the contagion, ought equally to be considered; both being necessary to give the distemper full force." —*Dr. Mead on the Plague*, p. 41.

Again, when describing the circumstances which attended the introduction of the Plague into Marseilles, he observes, "Possibly there might be some fever of extraordinary malignity in Marseilles, such as is commonly called *Pestilential*, before the arrival of these goods. But no such fever has any indisputable right to the title of *Pestilence*, as I have before shown—on the contrary, these two, the real Pestilence and such Pestilential Fevers, must carefully be distinguished, if we design to avoid all mistake in reasoning on these subjects. Some such fever of uncommon malignity, I say,

might perhaps be in Marseilles before the arrival of these goods. There might likewise be an instance or two of fevers attended with eruptions bearing some resemblance to those of the plague; for such I myself have sometimes seen here in London." p. 55.

In this cautious manner does this learned and judicious physician express himself; but the advocates of these old and exploded doctrines are quite surprised that any one in the present day should maintain the contagious nature of the Plague, which they contend rests on very doubtful authority, quite different from the clear and indisputable evidence that establishes the infection[1] of other well-known contagious diseases. "No one," say they, "can doubt, no one ever did doubt, that the small-pox is contagious."—*Westminster Review, No. V.* p. 147.

The truth is, the small-pox had been accurately described and most judiciously treated by some of our best medical writers and able practitioners long before it was suspected to be contagious. And this instance may serve as an example of the bold and confident tone assumed by the supporters of these unwarrantable and dangerous opinions. So far from the small-pox, the measles, and scarlet fever being always known to be occasioned each by a peculiar contagion, it is notorious that at first they were all confounded together, and not one of them imagined to be infectious. As I am not aware that the history of the origin and progress of the notion of contagion has ever been made the subject of any medical inquiry, it may be curious to trace the first dawn of suspicion in the minds of some of the early writers on these diseases, to watch the tardy developement of the truth, until finally, in the systems of modern nosology, the expression "*febris contagiosa*" was introduced into the definitions of all our most formidable eruptive complaints.

However surprising the oversight may appear, yet it will be seen that the ingenuity of the human mind was exercised in devising every possible explanation, before it was driven to admit (by the simple expression of an ultimate fact, *viz.* that a disease was propagated by contagion) its inability otherwise to account for the extensive ravages of many of our epidemics.

Rhazes, the oldest writer on the small-pox, says, "that the blood of youth is converted into that of manhood, as Must is changed into Wine, and that the symptoms of small-pox are the phenomena of that fermentation."

If we look carefully over the description given of the same disease by Sydenham, we shall find no hint whatever thathe, discerning as he was, thought it was communicated from one

[1] The terms contagion and infection are used synonymously.

person to another; and yet, notwithstanding this most important omission, Boerhaave says, that Sydenham had given so full and true an account of the small-pox, that after ten times reading it, he thought he could say little more about it.

What the essence of the small-pox is, Sydenham confesses he does not know, but thinks it an inflammation of the blood and humors, yet of a different kind from other inflammation.—When the disease is epidemic, it sometimes appears as early as the month of January, "*Integras familias contagio suo afflantes*," sparing no one, of whatever age, unless he had previously had the disease. In reading the older writers, we must be careful not to be misled by the use of the word contagion, for in this passage it conveys no idea similar to that which we attach to it at present, and had no reference whatever to the communicating of the disease from one person to another. For Sydenham employs the same expressions when speaking of the epidemic catarrhs of the year 1675, which, he says, scarce suffered any one to escape, of whatever age or constitution he might be, and seized whole families at once.

About this time another eminent writer, Willis, made a nearer approach to the truth, but still he considered contagion as one only of the causes of the small-pox, which, according to him, arose from three; and to the infection of another person he assigned no pre-eminence over the others. The two other causes, were a "disposition of the air," and an immoderate disturbance of the blood and juices; in proof of which, he says that he had known some persons who, solely from excess in diet or violent exercise, had fallen ill of this distemper, though no one in the neighborhood was laboring under it—*cum præterea nemo circumcirca in tota regione ægrotavit.—De Febrib.* Cap. XV.

The opinion of Morton, another contemporary writer on this subject, is obscurely worded; he says that the cause of small-pox is an active poison, either engendered within or admitted from without by contagion; but this can scarcely be understood as clearly expressing his belief that it was caught from another person. The word contagion seems by these authors to have been often used to denote the malignant state of the atmosphere which they imagined produced epidemic diseases.—There is a very distinct avowal of the infectious nature of small-pox in a *Treatise on Inoculation*, published 1727.[1]

"The small-pox," says this author, "is either epidemic, depending on a particular constitution of the air, or contagious,

[1] Dissertatio in Inoculationis Variolarum Methodum, à Jacobo à Castro.

communicated by morbific effluvia, which arise from another person, affected with the same disease."

The experiment of inoculation, which evidently originated in the knowlege of the contagion of the disease in another country, must have put the fact beyond all doubt here in England; and it is singular that, after such a discovery, the influence of the atmosphere should continue to be put on the same footing, in point of efficacy, with the infection of another person.

With respect to scarlet fever, so far was Sydenham from considering it contagious, that he says he looked on the disease, which according to him generally made its appearance in autumn, as nothing more than a moderate effervescence of the blood, arising from the heat of the preceding summer.

The observation which he could not avoid making, that at that time it attacked "*integras familias*," did not suggest any suspicion of its being communicated from one to another.

Of the measles he says, *Infantes plerumque aggreditur omnesque adeo ex illis, iisdem mœniis conclusos.* But he says nothing of a peculiar infection, and indeed was of opinion that the measles in its nature resembled the small-pox. In his description of the measles which prevailed in 1674, he relates his attendance on the family of the Countess of Salisbury, one of whose children was ill of that complaint, and soon after the rest, to the number of five or six, were attacked; but he makes no comment on the circumstance.

Morton prudently observes in his account of the measles, that in pronouncing an opinion on the probable nature of the fever, before the appearance of the eruption, the physician should inquire whether the patient has previously had the measles, (for he had never in his whole practice known more than one boy seized with the disease a second time,) whether the constitution of air, or to use his own words, *an constitutio aëris præsens sit morbillosa, an æger nuperrime consuetudine ac familiaritate, morbillosorum usus fuerit.*

And here again it must be observed, that an equal agency in the production of the complaint was attributed to the atmosphere as to the contact or approach of a person laboring under the same disease. So far were these writers from the detection of the simple truth, that in all cases these diseases were occasioned by contagion alone, and became epidemic when the state of the air, or various other circumstances, predisposed those who had not previously had them to receive the infection.

A few years after the writers whom I have quoted above, Boerhaave expresses himself, in his Aphorisms, in the following

words: "The small-pox, though epidemical, is caught by contagion, communicated by another who has first labored under it."

"*Malum hoc, licet epidemicum, contagio suscipitur communicato ab homine, qui prius laboravit, &c.*"—Aphor. 1382.

To this exposition of the truth, the discoveries of modern days, and the advancement of medical knowlege, have nothing to add, though it has required many years to subjoin to the catalogue of contagious diseases, the measles, the hooping cough, scarlet fever, Egyptian ophthalmia, and perhaps influenza.

Within the last very few years, we have witnessed the establishment of the fact of the infection of the purulent ophthalmia of Egypt; which though at first attributed to many other causes, as the combined influence of heat and light, burning sand continually raised by the wind, the heavy dews of night that occur in that climate, is now known to be propagated by contagion, and was certainly brought into England by our troops on their return from Egypt. This ophthalmia is probably only communicated by contact, as would appear from the excellent description given of it by Mr. M'Gregor, as it occurred in the Royal Military Asylum at Chelsea.

The unavoidable inference from the foregoing observations is, that the notion of contagion is not a natural one which obviously suggests itself to the mind, but is, on the contrary, the result of the reiterated observation of facts which admit of no other explanation.

Now if the diseases of which I have spoken were known for so many years, and were minutely described by some of our most eminent medical writers, before they were clearly made out to be propagated each solely by a specific contagion, it is scarcely reasonable to expect that we should hastily abandon the OLD idea, that the Plague depends on a similar cause.

Without citing the so often repeated quotations from Thucydides, Aristotle, and Galen, it may be sufficient to state, that the belief in the infectious nature of the Plague dates from the highest period. The evidence on which this belief was founded was so strong and convincing, that it forced itself early on the minds of men, and the ancients were unanimously of this opinion; how indeed could they avoid it, when they saw "the people taking the infection by their attendance on each other?"—*Thucydides.*

Sydenham himself, who laid more stress on the malignant influence of the atmosphere than any one else, observes, in his treatise on the Plague of 1665 and 1666, "But besides the constitution of the air, as a more general cause, there must be

another previous circumstance to produce the Plague, *viz.* the receiving the effluvia or seminium from an infected person, either immediately by contact, or mediately by pestilential matter conveyed from some other place."

It is no argument to say, that there are persons who, from some fortunate inaptitude to take infection at some particular time, have been exposed to the influence of the contagion of the plague, and yet have escaped unhurt; the same is true of the small-pox, the measles, and scarlet fever. For it is well known to medical men that children will occasionally resist the most free and unreserved exposure to the infection of these different diseases, and will at other times most unexpectedly catch them, without its being possible to trace the source of the infection. Nay, it is a well authenticated fact, that a prisoner shall appear at the bar of a court of justice, himself free from the symptoms of fever, and yet infecting all around him, from the contagion with which his clothes were saturated.

On the other hand, Dr. Mead observes, "that a bale of goods, which shall have imbibed the contagious aura when packed up in Turkey, or any remote parts, when unpacked here, may chance to meet with so healthful a temperament of our air, that it shall not do much hurt." For, as he shrewdly remarks, "to breed a distemper, and to give force to it when bred, are two different things." But it would be extremely imprudent to calculate on the chance of such an immunity. Is it to be supposed that so many countries should agree in the use of the precautions of Quarantine without weighty reasons? Do the Frank inhabitants of Constantinople, during the Plague, shut themselves up in their houses, without any necessity? and is their safety from its attacks not to be attributed to these measures of prudence?

The evidence on which the various accounts of the importation of the Plague into different countries of Europe from the East rest, is as conclusive as that of any other well-authenticated historical facts, and it will require something more than mere bold assertion to shake our confidence in such testimony.

When Dr. M'Lean was asked by the select committee, which was appointed in 1819, to examine into the validity of the doctrine of contagion in the Plague, if he considered the Plague as not contagious?—He answered, Yes.

Explain how you caught the fever?—By the air.

It is very difficult to obtain from the advocates of the doctrine of non-contagion, any definite explanation of what they consider to be the nature of that malignant state of the air, or epidemic constitution of the atmosphere, that gives rise to the Plague. According to them it is neither extreme heat, nor extreme cold, nor dry-

ness, nor moisture, nor is it any great change from one of these conditions to another; for in India, where these vicissitudes are most remarkable, Plague has never been known to exist. Dr. Mitchell replies to the question, How do you account for the revival of the Plague at stated times, in Turkey for instance?

"The chief exciting cause seems to be the particular state of the air, and winds blowing from certain quarters, from the *south*."

In answer to the question—

In what manner do you account for an epidemic disorder being prevented by simply shutting a house in an infectious place?—Dr. M'Lean says, "According to his ideas of the subject, the benefit to be derived from shutting up must entirely depend on the air in which the house is situated, and the other conveniences enjoyed, and its degree of elevation from the ground. On those circumstances principally, and on shutting the windows at the most dangerous periods of the day, so as not to allow a thorough draft of air, during the pestilential season in the town, depends the prevention, not of contagion, but of the entrance of the pestilential blasts which cause the malady."[1]

Now it may be worth while to inquire what is the exact situation of those Frank inhabitants of Constantinople, who, during the height of the Plague in that city, shut themselves up, and adopt the precautions of a voluntary quarantine; and I will select the residence of the British Embassy, which is usually called the English Palace, as an example. It is situated in Pera, and stands in the centre of a large garden, which is surrounded by high walls. It immediately adjoins a Turkish cemetery, where multitudes are buried daily, during the season of pestilence. All the windows of the apartments usually inhabited look to the *south* and south-west; they are almost always kept open, and the freest ventilation constantly maintained. The inmates of the palace take exercise in the garden, which is of several acres extent, at all hours, and expose themselves without the slightest reserve to every change of temperature; in short, the only precaution they adopt, is to remain within their walls, and avoid the possibility of touching any one infected with the Plague.

If it were possible that the disease should be excited by the air, what could save the English residents from its attacks?—They are as much exposed to the influence of the atmosphere, particularly to the pestilential blasts from the South, as if they were walking the streets of Constantinople, and yet they uniformly escape. But it may be observed that the wind here blows generally from the east or west, that is up or down the channel of the Bosphorus; and

[1] Minutes of Evidence before the Select Committee.

when it sets in from the West, which is often the case, the gales are charged with the effluvia from the city of Constantinople. Nor is the assertion true, that the Turks themselves have no idea of the infectious nature of the Plague; many of them believe it to be so, and the most enlightened of them all, the Pasha of Egypt, adopts a quarantine for his own security. When the Plague is at Cairo, he either retires to a garden situated about two leagues from the city, and surrounds himself by his troops, or he shuts himself up in a fortress on the other side of the Nile at Gizeh. It is not my intention to enumerate the various Plagues that have at different times made their appearance in Europe, but the features of the following story are so striking, and all the particulars are detailed with so much circumstantiality, that it carries with it an irresistible conviction of its truth. It is an account given by Mead of the introduction of the Plague into the Peak of Derbyshire; and whether we consider the remoteness of the spot from the original source of infection, the distinctness of the channel by which the contagion was conveyed, or the judicious and effectual means adopted to put a stop to the progress of the disease, the relation cannot fail to be thought interesting.

"The Plague," says he, "was likewise at Eham (Eyam), in the Peak of Derbyshire, being brought thither by means of a box sent from London to a tailor in that village, containing some materials relating to his trade. There being several incidents in this latter instance that will not only serve to establish in particular the precepts I have been giving in relation to goods, but likewise all the rest of the directions that have been set down for stopping the progress of the Plague from one town to another, I shall finish this chapter with a particular relation of what passed in that place. A servant, who opened the aforesaid box, complaining that the goods were damp, was ordered to dry them at the fire; but in doing it, was seized with the Plague, and died: the same misfortune extended itself to all the rest of the family, except the tailor's wife, who alone survived. From hence the distemper spread about, and destroyed in that village, and the rest of the parish, though a small one, between two and three hundred persons. But notwithstanding this so great violence of the disease, it was restrained from reaching beyond that parish by the care of the rector; from whose son, and another worthy gentleman, I have the relation. This clergyman advised, that the sick should be removed into huts, or barracks, built on the common; and procuring by the interest of the then Earl of Devonshire, that the people should be well furnished with provisions, he took effectual care that no one should go out of the parish, and by this means he protected his neighbors

from infection with complete success."—*Mead on the Plague*, p. 149.

The name of the clergyman spoken of by Mead was Mompesson, and the following particulars of him are extracted from the European Magazine, July, 1793.

"Mr. Mompesson, who appears to have been an ailing man, never caught the Plague, and was enabled, during the whole time of the calamity, to perform the functions of the Physician, the Priest, and the Legislator of his afflicted parish, assisting the sick with his medicines, his advice, and his prayers.—This fatal disease visited seventy-six families, out of which two hundred and fifty-nine persons died. The churchyard not being able to contain the bodies of those who perished by the Plague, many persons were buried in the hills and the fields adjoining. Many of the tombstones erected to their memory are still visible. The Plague broke out in the spring 1666, and ceased at the beginning of October, in the same year.—To prevent the contagion from spreading into the neighborhood of Eyam, the Earl of Devonshire, then resident at Chatsworth, six or seven miles from Eyam, caused provisions and the necessaries of life to be placed on the hills at regular times, and at appointed places, to which the inhabitants resorted, and carried them off with them. By the persuasion and authority of the excellent rector, the inhabitants were prevailed on to remain within a certain district."

The same magazine contains three original letters of Mr. Mompesson, written during the time of the Plague, which were sent to the editor by a gentleman of Eyam, and which contain a very affecting account of his own domestic calamities; for though his children were sent away, his wife remained with him, caught the disease, and died of it. She is buried in the churchyard, and a monument with a Latin inscription erected to her memory.

The fact of the introduction of the Plague into Rome, in 1656, from Naples, by clothes and other wares, appears to be well authenticated. At Marseilles, in 1720, the contagion was brought by a vessel from the Levant, one of the crew of which first had the distemper; next those who attended on the infected cargo while in Quarantine, and soon after the surgeon who examined the bodies of those persons who died of the disease.

The particulars of the commencement of the Plague at Messina, in 1743, are as follows.

A Genoese ship arrives from Patrass, in the Morea, laden with cotton—a sailor dies on board—the ship is put in quarantine—but the cotton is privately landed—the master and some of the sailors die three days after—the vessel is burnt, but the goods are con-

cealed and publicly sold—the Plague appears, and spreads through the city.

In 1769 a war broke out between the Russians and Turks. On the following year, the Turks brought the Plague into Wallachia and Moldavia, and many Russians died of it at Yassy, the capital of the latter province.—The succeeding summer the pestilence extended into Poland, and reached Kiow, and towards the end of November, 1770, it made its appearance in Moscow.—Much doubt was entertained at first as to the nature of the fever, and there were many consultations of the physicians on the subject of the public health—but the disease continued to extend its ravages, and spared no part of the city, except the Imperial Foundling Hospital, which contained about one thousand children and four hundred adults; and this exemption was solely the result of interdicting all communication with the neighboring houses.

In the late Plague at Malta, in 1813, a ship arrived from Alexandria with the Plague on board, and very soon after the disease appeared on the island. Now to say nothing of the coincidence of the arrival of the vessel from Egypt and the appearance of the Plague in Malta, the very channel by which the contagion was conveyed from the infected ship in the harbor into the town of Valetta, was as distinctly pointed out as the desire of concealment, and the nature of so illegal and clandestine an intercourse, would permit.

It is quite idle to say, that all these accounts are fabulous, or that the minds of those who related them were so warped and perverted by preconceived notions and unfounded prejudices, as to have been rendered incapable of observation.

The fallacy of those who support such opinions consists in their confounding the contagion itself with the different causes which spread and give effect to it; in other words, with those agencies which render the infection epidemic. There can be no doubt that sudden and extreme vicissitudes of temperature, deficiency of nourishment, depression of the mind, are causes which induce debility, and predispose the body to yield to infection, when applied. There may also be some condition of the atmosphere which favors the diffusion of contagion, even more than the obvious causes above enumerated, which is not appreciable by any of our senses, and may always elude discovery, and refuse the precision of accurate definition.

How the several infections first originated has often been made a question, but in the present state of our knowlege we must content ourselves with saying, that they seem to have existed anterior to any tradition or historical record, and to have been perpetuated from age to age and from year to year, to have been con-

fined in the first instance to some remote district, and to have been gradually disseminated over the greatest part of the world by war, conquests, political revolutions, commercial intercourse, or even by the accidental visits of travellers.

That there was a time when none of them existed no one can deny, and that therefore it is not absolutely impossible that what is called, in medical language, a Sporadic case, that is, one in which no trace of contagion can be detected, may again occur; but such an instance would be a phenomenon that none of us are likely to witness. It is sufficient for all practical purposes to consider every case of small-pox, measles, scarlet fever, &c., as propagated by an infection derived from others.

It has been a question whether the Plague is caused by contact alone, or whether, like most other contagious diseases, it can be communicated at short distances by the breath or exhalations of an infected person. This is a point, I believe, not yet clearly ascertained; but I recollect some few years ago, when at Constantinople, I asked a most intelligent English physician settled there what his opinion on that subject was, and his reply was as follows. "I have often seen persons ill of the Plague, and though I should have no objection whatever to be in the same room with them, I should prefer being to windward of the patient."

The Plague, like Typhus fever, may attack a person more than once. By this, I do not mean that a second attack of the Plague should be considered, like a second attack of the small-pox, as an exception to a general rule, but that the first seizure offers no security against another. I have known, and have heard in the East, of persons having more than once suffered from the Plague.

If it be thought that the foregoing observations contain little or nothing novel, that the details given of the Plague, and the arguments advanced in support of the old established opinion that it is contagious, are repetitions only of what has been so often urged before, the only apology I have to offer is, that the subject is a most important one; on which no decision ought to be taken without maturely considering whether the laws which have hitherto regulated our intercourse with the East were really established at first in consequence of unfounded prejudice and groundless terror, or that we do not reasonably attribute our freedom from the visitations of the Plague to the restrictions of Quarantine.

If the object of the proposed alterations in the law of Quarantine be to relieve commerce from certain troublesome and expensive restrictions, the change in public opinion, and the adoption of the notion that the Plague is not contagious, must be general and simultaneous throughout Europe; for if it be confined to England, the immediate result will be, that in the ports of Italy, France, and

Spain, every English vessel will be put in Quarantine.—In the year 1818, I landed from Constantinople at the Lazaret of Marseilles, and during my detention there of thirty days, a ship arrived from Malta, an island at that time enjoying perfect health. The authorities, however, at Marseilles, had received information that the Lord High Commissioner, General Maitland, had a short time before, on his return from Corfu (where there was some suspicion of the Plague), stepped on shore at Malta, without submitting himself to the regulations imposed on all other vessels from the same quarter: in consequence, the ship from Malta was ordered to perform a Quarantine of fifteen days; and I talked with some of the passengers on board, who grievously complained on being compelled to suffer for the irregular conduct of the Governor of the Island.

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