one of the features of inflammation, so that we naturally look for benefit from medicines which are known to exert a sedative influence. Opium has long been much used in the treatment of inflammation, and confidence in it as an auxiliary to other measures, is felt by surgeons of the present day, perhaps, to a greater extent than by their predecessors. It is well combined with mercury, assisting that medicine, and at the same time producing its own effect. It is a most serviceable adjunct to venesection, quieting the nervous system when the circulatory forces have been reduced by bleeding, and controlling the reaction which is likely to follow after the loss of blood. It is especially indicated when the symptoms of irritability and restlessness predominate, and in delicate asthenic persons, where blood-letting and other active treatment are forbidden. It is further indicated when the part affected, from its particular position or function, is kept in continual action by the irritation caused by inflammation. Thus a dose of opium allays the frequent and urgent desire to void the urine which accompanies inflammation of the bladder, and which necessarily aggravates the disorder.

The administration of opium is often attended with much relief when inflammation is passing on to ulceration and mortification, in cases of phagedenic ulceration of the throat in debilitated persons, and in senile gangrene, and in a great number of painful inflammatory affections, attended with restlessness and want of sleep.

I will here make three remarks by way of caution to you in the administration of opium. 1st. Beware of giving it when the sensibilities of the nervous centres are beginning to fail, in consequence of imperfect aeration of the blood, congestion of the brain, or other cause; under such circumstances, it will be most likely to hasten the patient's death. 2ndly. You should not forget that it is a most alluring medicine to the patient, who, having learnt its agreeable, sedative, and comforting influence under your direction, will have great difficulty in resisting the temptation to continue it. A great number of confirmed opium-eaters have contracted the habit in consequence of the drug having been prescribed to them as a remedy for the cure of some disease. And, 3rdly, the sensibilities of the patient seem to be increased, and his ability to endure pain lessened, by its employment. I have been struck by this effect of opium in several cases which have fallen under my notice, and it has made me unwilling to commence its use unless there be some clear prospect of curative influence on the disease. The sufferings of a patient with stone are, I believe, in the long run, aggravated by it, and in malignant diseases we resort to it as the least of two evils, conscious that we can continue to procure relief from pain only by progressively increasing the dose.

THE

CONTAGION OF ASIATIC CHOLERA.*

By E. O. SPOONER, Esq., Blandford.

I have already alluded to the variola ovina, as offering an example of the progress of a disease notoriously contagious, and presenting analogies which it will be desirable to examine, in elucidation of the cholera importation. Flocks of sheep do not migrate and commingle to the same extent as human beings; contagions, therefore, do not spread among neighbouring flocks with the same rapidity as cholera marches from town to town. An Act of Parliament was passed last session, 11 and 12 Vict., cap. 105 and 107, for prohibiting the further importation of cattle affected with this disease. Inspectors of foreign cattle have been appointed at our chief ports, and these animals are now subject to quarantine. The diseased sheep are required to be "seized and destroyed," with any pens, hurdles, litter, hay, straw, or other articles likely to have been infected." In 1837, Mr. Youatt, an able writer on the diseases of cattle, declared that no such disease was known in England, and he described it on the authority of the French veterinary professors, by whom it was called "Clavelée." It had been noticed by them as early as 1747. The free importation of sheep under the new tariff brought it into this island; *a restricted commerce kept it out of this country for a hundred years*, during which time it had manifested itself pretty generally on the continent of Europe, and had often thinned the flocks of France. For a long time in the Hamburgh market a separate place had been appointed for the contaminated sheep. Inoculation of the sheep has been employed in France very successfully, with an average mortality of one in four hundred. *No foreign sheep are now to be introduced without a warrant from a veterinary surgeon.* Had such precautions been observed on the first adoption of free importations, many of our agriculturists would have been preserved from immense losses which they have already sustained from this contagious epizootic. The disease, however, is now introduced into *many of the counties of England*, and it spreads into places where communication cannot be fully traced, the atmosphere appearing to be the vehicle of infection. It has been well observed, that if the quarantine laws are to be abolished, let the experiment be tried *in corpore vili*: we have it seems reversed the experiment. Crews sick with the cholera have been allowed free pratique, while the most stringent measures have passed the legislature to enforce quarantine on diseased cattle! We do not find our non-contagionist doctors have tried their hands upon this epizootic, or, perhaps, we should bear that contagion was an exploded doctrine, only fit for the dark ages,—that the pestilence came on the

wings of the wind, and crossed the Channel, nobody knew how,—that although it was never known in England till the new tariff, it was entirely owing to a neglect of sanitary regulations in our sheep-folds! Very learned discussions, no doubt, would clearly prove, that though it might have been first noticed in vessels arriving in our ports from abroad, it was entirely to be attributed to its particular "*penchant* for the mouths of rivers;" that it had a peculiar knack of jumping over one place and settling in another; and that after a few cases had occurred in a British port, it was quite useless to keep up quarantine regulations, which had been found ineffective on the Continent! Now, the absurdity of these positions are patent to every understanding, when applied to the variola ovina. If the cholera be a contagious disease, which every day's experience gives us more and more reason to believe, the fallacies of our Board of Health and our Sanitary Commissioners must strike the common sense of the community. *The removal of all quarantine within a few days after the first cases of cholera had occurred at Hull was soon succeeded by numerous cases in the ports of Leith and London.*

If it be objected that inferences drawn from epizootic diseases are less decisive than those derived from epidemics, let us examine the records of the small-pox in man. In the metropolis we have already alluded to the evidence of Dr. Gregory, but in places of less population we can easily track its steps. About four months ago, a case of small-pox, which had been treated in St. George's Hospital, was sent, after recovery, into the country. It had been a severe case of the confluent form, but the whole surface of the body had been covered, and a new skin had been formed. The young patient had been convalescent a fortnight; his clothes were supposed to have been purified, and the physician who attended assured him that it was quite safe for him to return to his family in the country. No case of small-pox had occurred in the parish of Spetisbury for fifteen years. Within a week after his arrival his elder brother sickened of the small-pox; it was severe and confluent, but he recovered. His younger brother took the disease a fortnight afterwards; it was distinct and mild. All three had been previously vaccinated. By strict measures of quarantine, and by vaccinating the children of the village, and re-vaccinating the adults who lived near, we succeeded in arresting the disease. Had these been cases of cholera instead of small-pox, it might, perhaps, have been denied that the St. George's case produced the other two cases; it might have been said separation of the sick for six weeks, which we adopted for the rest of the community, was an unnecessary measure, and that the disease being very capricious, died out of its own accord.

Now, I have a very strong objection to the use of such an unphilosophical word as "*capricious*,"

as belonging to any disease. It is always in the mouths of the non-contagionists, because they cannot account for many of the phenomena of cholera without supposing the malady capricious, as if the poison of contagions followed any other than natural and regular laws. The caprice only exists in the understanding of those who use the term. The pathological laws of cholera are as definite as those of the Medes and Persians. It is sometimes called, too, a "*mysterious disease*," and we confess that it must be a very great mystery to all those who deny the existence of contagion. But, the mystery to me is, that after so much has been written, and so much observed, people should yet imagine there is any mystery at all about it. Why, if the cholera is a mystery, the plague is a mystery, the small-pox a mystery. We shall never know under what peculiar organic or inorganic conditions the poison of small-pox originated, though mankind have studied it for the last eight hundred years, but we know some of its laws which are of great utility in preserving us from its ravages, and the most important laws upon which all our prophylactic powers have been based are its laws of contagion.

The malignant scarlet fever in all probability was the plague of Athens, described by Thucydides. The records of early pestilences are, however, very meagre and imperfect. The small-pox and measles were no doubt much more formidable in the invasions of new countries, as modern history has taught us. The American Indian tribes have sometimes perished by thousands, when the epidemics of civilized nations have introduced among them the contagious poison of various diseases of the civilized world. "Yet, (says Dr. Odier,) at some periods small-pox and plague carry off hundreds: at others, children whom we inoculated, have gone out every day, even after the eruption had broken out;—they have been in the streets and public walks;—they have communicated freely with other children susceptible of the infection, and not only the small-pox did not spread, but there did not occur, to my knowledge, any distinct instance of communication of the disease from one individual to another, in the streets or promenades." *Yet the small-pox spreads only by contagion.* Dr. Haygarth, in his "*Enquiry how to Prevent the Small-pox*," has given us an accurate account of this epidemic in Chester, in 1777:—"At the beginning," says he, "two or three families were seized, not immediate neighbours, but in the same quarter of the town. Afterwards, the poor children in several parts of the town were attacked at a considerable distance—in some places half a mile—from each other." Yet many portions of all the large streets were not infected in November, (the epidemic began in May,) but so late as December and January the distemper returned to attack many who had escaped when it was in their neighbourhood some months before. In the middle of the city, in one street,

(King-street,) of twenty-four who never had passed through the distemper, only two, both in the same house, were attacked. During the summer and autumn of 1777, while this epidemic was general in Chester, many of the surrounding villages, (as Christleton, Barrow, Tarvin, &c., and some larger towns,—as Nantwich, Neston, &c.,) were visited by the small-pox in one or more families; yet *the distemper did not spread generally through any of these towns.*" We ask, have not such irregularities occurred in cholera? Do they prove the non-infectious character of cholera, when the same circumstances attend such a notoriously infectious disease as small-pox? Positive facts of contagion are not to be laid aside for negative facts, which disturbing causes as clearly explain as they do the perturbations of Uranus. Though these puzzled the astronomers for some time, no one was bold enough to attribute them to the non-existence of the laws of gravitation. In the *Provincial Journal* of November 15th, I have related the circumstances attending the invasion of cholera in the village of Bere Regis in this county, in 1832. One solitary case from London, where cholera was raging, terminated fatally. Within a month, twelve other cases of Asiatic cholera occurred, six of which were fatal. Not a single town or village around Bere presented a case before or since that period. Such well-marked and definite instances are not to be explained away.

We will add another signal instance of contagion during the present epidemic:—A boatman on the canal, with his wife and family, returned a few weeks ago from London, where cholera was of frequent occurrence on the river. They were seized with illness on the way. One child died on the passage, and they were, all very ill when they arrived at the village of Offchurch. They were put into a room occupied by other persons. No suspicion of cholera existed. After the death of the woman and two children it was suspected that they had been poisoned and an inquest was held. The truth now became manifest, and eight other cases occurred, six of which proved fatal. Within the last fortnight four fresh cases have occurred. Now, Offchurch is a village in the very centre of England; no case of cholera had occurred in its neighbourhood until the fatal boat from London introduced it. Had such facts occurred with regard to small-pox, not the slightest doubt of contagion would have existed in any mind. The style of reasoning must be very far-fetched which refuses a parity of logic for the Asiatic cholera. We deem these instances glaring and decisive, and little short of the "*Experimentum crucis*" of Lord Bacon.

The contagion of hooping-cough is one in which the atmosphere forms the vehicle of morbid germs, but in which *no eruption like the exanthemata* exists. Within the last six months it has fallen to my lot to trace its invasion of a village in Dorsetshire, owing to the

importation of a single case from Portsmouth, and during the same period a connection of a patient of mine has carried the disease to the island of Tegriffe, where the disease *never appeared before*. Soon after the introduction of the first patient, who had the disease on board-ship, (having caught it of a sister at school in the west of England,) the whole island became the subject of this contagious epidemic. It is quite erroneous to call this disease, or scarlatina, or measles, infantile diseases; they are diseases to which all adult mankind are liable, as is clearly proved when *they attack a new community*. The adults who have gone through the disease in countries where these epidemics have long existed are contagion-proof; the children are generally the only parties left susceptible of the poison.

This should teach us a lesson with regard to cholera. If possible, those only should be employed with the sick as nurses, who have gone through the disease previously; they are generally contagion-proof.

The February number of the *Journal of Public Health*, alludes in terms of high and deserved eulogium to the efforts of the Medical Staff of the army and navy in improving the health of the soldiers and sailors, by wise sanitary regulations. We think the praise is well deserved, but on the subject of contagion there is much still to be done, as will suggest itself to anybody who peruses the following short statement of facts, which have lately come to my knowledge. Last year six hundred men, principally fresh recruits from the north of England, were ordered to Portsmouth to embark on board a transport ship for Malta, to relieve our Indian regiments. They arrived in London, but instead of being located in barracks, they were distributed by their billets into various lodgings about town. The public houses provide these temporary accommodations instead of receiving them as inmates. On the following morning the regimental roll was read over at the station; every man, to his credit, responded to the call. They went by the train to Portsmouth, and embarked the same day. Before their arrival at Malta, the small-pox and typhus fever, which a few of the men caught in one night's sojourn in London, broke out, and they were obliged to go into quarantine at Malta, where two hundred lay sick, of which number eighty men died. The commanding officer was obliged to return invalided, and two hundred men were put *hors de combat* from this one night's exposure to the infection of indiscriminate lodgings found for them in London. At their depôt in Lancashire, the men were perfectly healthy. The ship was a large and roomy one, affording the usual accommodations; and contagion alone, which might have been guarded against by the men going into healthy barracks in town, was the *sole efficient cause of this dreadful mortality*, which exceeded that of the Pauper Asylum at Tooting. We have not heard that any verdict of manslaughter has yet been

recorded against any of the Government authorities, whose want of foresight led to this sad catastrophe! Mr. Grainger would have been puzzled to find Tooting drains and Tooting starvation to account for the mortality on board this Government ship!

In an article of mine, published in the *Provincial Journal* of November 15th, 1848, it was observed:—"The mortality from yellow fever on board the *Eclair*, in one of our own roadsteads, clearly proves that the scourge of Africa can propagate itself in the temperate climate of Britain; and while we keep up an enormous expense of human life and treasure a blockading squadron along the African coast, in the vain hope of exterminating slavery by such means, it is very possible, at some future period, the fever of the Niger may locate itself for a while on the banks of the Thames." The last mail from the West India islands announces, in corroboration of my opinion of the danger arising from the African squadron if quarantine be abolished, the recent re-importation into Barbadoes, by a vessel from Africa, of this pestilential yellow fever, as an alarming fact. The African fever has been actually imported into this island by the very channel pointed out, and sixteen officers appear to have already fallen victims to the plague. We have not yet an accurate report of the number of the men belonging to British regiments who have been attacked and perished, but the quarantine of the *Eclair* at the Mother Bank was ridiculed by the non-contagionists, and in Barbadoes their free pratique system had its full fling, and has produced its frightful fruits. In the midst of the dying and the dead, we are told that the work of Sir William Pym, which demonstrated so conclusively the contagion of yellow fever, is read with terror and dismay, and the speculative dogmas of the non-contagionists are scattered to the winds by the force of facts patent to every understanding. No doubt we shall hear the old story of drains and swamps, and cess-pools, and dust will be thrown in the eyes of the community to prove that yellow fever has been generated in a locality where so little has been latterly known of it, that the medical officers seem to have mistaken entirely the character of the new disease, which baffled all their efforts. No isolation of the sick, no quarantine regulations, seem to have been adopted to arrest the first inroads of the invader, and the penalty of ignorance has been paid to teach (we hope,) the non-contagionists another lesson, which Sir William Pym has had great difficulty in enforcing on the authorities at home. We have no doubt the next news from the West Indies will bring us the mournful intelligence of the extension of this contagious disease, which committed such ravages in the last century that in some places the living could not bury the dead; yet Barbadoes is one of the healthiest of the West India islands.

We have been told on high authority that cholera invariably followed the fever-track; and learned

statistics designated the districts in which we were to expect it. The Registrar of Tooting, however, states that it has always been a healthy locality. Had the measles or scarlet fever broken out in an asylum where fourteen hundred pauper children were crowded together, they could not have more clearly shown their contagious properties than the Asiatic cholera has done. Twelve hours of the contagious emanations of a few cholera patients, are sufficient to infect a whole ward. *The diarrhoea is not the avant-courier, it is the cholera itself; complete separation from the non-infected, and ample space and ventilation should have been adopted on its earliest manifestation.* To suppose the drains of Tooting could have produced the disease, is manifestly absurd, as the inhabitants of the village, who were in the more immediate proximity, were, and are at this time, perfectly free from the malady. The recurrence of cases weeks after the boys had been removed into other localities, and the fatal cases among the nurses who had never been at Tooting at all, are direct proofs that contagion alone was the efficient cause. When the disease has spent its fatal influence on the more susceptible, it subsides spontaneously; and from Dr. M'Cann, at Bilston, down to Dr. Sutherland, at Glasgow, great credit is always given to those who are called to act in the last few weeks of a cholera invasion. It reminds us of the Prussian victory at Waterloo.

It is too much the fashion now-a-days to confound all distinctions in classifying diseases. The efficient cause of scarlatina and typhus is, without evidence, assumed to be identical. In earlier times small-pox and measles, and chicken-pox, were thought to be the same malady. Our modern pathologists, who took so much trouble to rectify the errors of ancient diagnosis, are now set aside as drivellers by men who deem yellow-fever, plague, typhus, and continued fever, only types of the same disease. We think the common sense of the profession will repudiate such dogmas, though stamped with the authority of our Board of Health.

We have already alluded to the fact that there are two essentially different diseases in all countries, in India as well as England, though we call one of them English and the other Asiatic cholera. If the specific name of cholera is to remain attached to the pestilential variety, the other should be called *cholteroid*, and the analogies of other diseases suggest the propriety of the distinction. Syphilis has its pseudo-syphilitic mimic in some of the forms of scrofula; there is the grocer's itch, as well as genuine psora. Febrile petechiæ somewhat resembles measles; typhus shades off into some of the forms of uninfected typhoid; variola possesses its varioloid imitations; roseola, with sore-throat, looks very much like scarlatina. We must not, however, confound these essentially different diseases, which require very different treatment, though

they possess some points of similarity. Typhoid, varioloid, scarlatinoid, and choleroïd, are available terms by which we may at the same time designate their differences as well as their resemblances. The *choleroïd* of the summer season of all countries depends on atmospheric or dietetic causes, though it may sometimes assume an epidemic and severe character, as it did in Sydenham's time. But the true pestilential cholera braves even a Russian winter, and so well-known is its grand commercial track, that its visitation is now pretty accurately predicted. *The laws of contagion alone can fully explain its calculable travelling propensities.*

We must, I fear, reasonably expect a general diffusion of the disease in the spring and summer of 1849. Its progress in Scotland has been in a far more rapid and fatal ratio than in 1832. The experience of Tooting should induce our Poor-Law Commissioners to revise all their dietaries, for the general plan sanctioned by them, of porridge and pea-soup feeding three or four times a-week, increases, as we have already shown, the susceptibilities of the pauper population. It is unfair that poor Drouet* should be made the scape-goat of such dietetic errors as have been sanctioned on high authority; and should cholera appear among the inmates of Norwood, I have no doubt we should soon find that the germs of contagion would produce their amply-developed fuel even in that establishment. The abolition of the whole system of farming the poor, should be immediately insisted upon by the Poor-Law Commissioners; and if they abolished at the same time the practice of farming the medical supplies, it would be a great improvement on their system. Physic as well as food should be supplied as they are in our hospitals and dispensaries, and the skill and attention of the medical officers should alone form the basis of their remuneration.

The inconveniences of quarantine laws to a commercial nation like England, holding extensive and rapid communication with all parts of the world, have produced for many years a strong tendency to question their propriety, to obtain a modification of their stringent application, or at once to get rid of them entirely. If it be a fact that these laws have never yet been able to accomplish the object for which they were designed,—that evasions and illicit communications have generally rendered them nugatory,—that the facilities of modern travelling by sea and by land, through the application of the steam engine render them intolerable and less effective than in the earlier states of society, let the Government abolish quarantine with its eyes open, and with a full recognition of the risks we are to run. These questions ought not to weigh one *iota* in the scale when we enter upon the specific inquiry as to the contagiousness of any disease. It may be true

that quarantine laws are now no longer practicable, and yet the plague and the cholera, and the yellow fever, may be infectious. We do not wish to mix up the abolition of the quarantine system with the strictly medical enquiry; the one belongs to the sanitary police of nations, the other involves pure medical truth. Let not, however, the quarantine laws be abolished on a fictitious plea, and under false pretences. If commercial reasons are of sufficient importance to induce a great commercial people to suspend or abrogate these laws, let those reasons rest on their proper basis. We must not bend medical truth to meet the demands of modern society. On the quarantine system I have now no purpose to enter: our present enquiry is limited to the contagion of pestilential cholera; neither do I wish to mix it up with those sanitary improvements which experience has taught to be so essential to the well-being of the community. *Good drainage, ample space, fresh air, a copious supply of pure water, and the removal of all filth and impurity, the valuable and necessary conditions for the healthy physical, and moral development of man; they are sacred projects which I would not for a moment interfere with or oppose; they have an important influence on the health of man, and the course of all diseases, whether contagious or not. These objects, however, must not be advanced at the sacrifice of truth; they must not be obtained surreptitiously by false statements, erroneous inferences, or unfounded perversions of facts; it is too holy a war for such desecrated weapons. A pious fraud may suit the morality of the mediæval period: it is not justifiable in the nineteenth century.*

To sum up, then, the results of these enquiries, we are driven to the following conclusions:—That the cholera is a contagious disease;—that the morbid germ has a period of incubation, varying from three days to a fortnight;—that the milder diarrhœa which, *pari passu*, accompanies the severe form of cholera, is a variety of the same essential disease;—that the emanations from the bodies of the affected, whether in the stage of diarrhœa, collapse, or consecutive fever, are productive of the genuine Asiatic cholera;—that the arrest of diarrhœa, though it does not always prevent cases from running into collapse, is of the utmost importance in mitigating the severity of the disease, and should be considered as the first stage of cholera, to be met by the most prompt medical interference, and careful watching;—that the susceptibility of receiving the disease, in the severest form, is very much lessened by regular, solid, and wholesome diet, partaking in a suitable proportion of animal food, and moderation in the use of stimulants;—that the contamination of fœcal evacuations being the most fertile source of the disease, demands the most cleanly sanitary arrangements; (the exuvæ of the skin in small-pox and scarlatina, produce those special diseases alone, as the

* Since this article was in type, we learn that Mr. Drouet is seriously ill; the report of his death is contradicted.

exuvæ of the mucous membrane produce the special disease of Asiatic cholera; the ordinary results of common vegetable or animal putrefaction being quite of a different character;) that the contagion may be mitigated by the free ventilation of the sick, and the non-concentration of the poison, the purification of the clothing, bedding, and utensils of the affected, should be carefully enjoined;—that its introduction by tramps and vagrants has already, in numerous instances, propagated the disease;—that its invasion of Belfast, New York, New Orleans, and the Texas, in a less time than it has taken to reach our western ports, proves its more easy communicability by means of shipping, and its necessarily *contagious properties*.

The English word contact has nothing to do with the meaning of contagion. Contact is, mathematically, impossible; and the contagion of scarlet fever, hooping cough, &c., &c., are never connected with the idea of physical touch or contact. Neither has the term been used with such restrictions by any medical writer of the contagionist party, or by the public, or by the Legislature. Even Virgil himself does not refer to actual contact when he says—“*Nec mala VICINI pecoris contagia lædent.*” Vicinity is quite near enough, without actual touch. Those who use contagion only in the sense of contact, must be narrow-minded classics, for no fair rules of criticism can justify the exclusive meaning which they would attach to the term contagion.

The history of “Asiatic Cholera” now reaches a period of thirty-two years. *We have no record of any epidemic which could continue in existence in successive years over the various climates of the globe for so long a period, without the ever-living and active principle of contagion as its efficient cause.* No atmospheric cause could have continued in existence so permanently and unchangeably as to produce the same identical disease in all the countries it has visited. Even now many insular situations have been left entirely unvisited. No cause of telluric or magnetic origin could have given birth to such a roving pestilence. We are driven, *par voie d'exclusion*, to the one cause of contagion, and till that is generally acknowledged and fairly met, we are like sailors navigating without a compass. Boards of Health are, indeed, truly enough described by Lord Carlisle, as only Boards of Works, and those works are of a very questionable and blind description. Their first fundamental principle of non-contagion is erroneous; no wonder they flounder on as the registrars of a mortality far greater than their predecessors. The philosophical historian, Gibbon, takes the same view of contagion as the poet Virgil. The graphic description which he gives of the plague in the time of Justinian may be quoted as a beacon for modern times. “Contagion is the inseparable symptom of the plague, which, by mutual respiration, is transfused from the infected persons to the lungs of those who

approach them. While philosophers believe and tremble, it is singular that the existence of a real danger should have been denied by a people most prone to vain and imaginary terrors; yet the fellow-citizens of Procopius were satisfied by *some short and partial experience*, that the infection could not be gained by the closet conversation, and this *persuasion might support the assiduity of friends or physicians* in the care of the sick, whom *inhuman* prudence would have condemned to solitude and despair. But the *fatal security*, like the predestination of the Turks, must have aided the *progress of the contagion*, and those *salutary precautions* to which Europe is indebted for her safety were unknown to the government of Justinian. No restraints were imposed on the free and frequent intercourse of the Roman provinces; from Persia to France the nations were mingled and infected by wars and emigrations, and the pestilential odour which lurks in a bale of cotton was imported by the abuse of trade into the most distant regions. The mode of its propagation is explained by the remark of Procopius himself, that *it always spread from the sea-coast to the inland country*; the most sequestered islands and mountains were successively visited; the places which had escaped the fury of its passage were alone exposed to the contagion of the ensuing year. The winds might diffuse the subtle venom, but unless the atmosphere be previously disposed for its reception, the plague would soon expire in the cold and temperate climates of the earth. Such was the universal corruption of the air, that the pestilence which burst forth in the fifteenth year of Justinian, was not checked or alleviated by any difference of the seasons. In time its first malignancy was abated and dispersed: the disease alternately languished and revived; but it was not till the end of a calamitous period of fifty-two years that mankind recovered their health or the air resumed its pure and salubrious quality. No facts have been preserved to sustain an account or even a conjecture of the numbers that perished in this extraordinary mortality. I only find that in three months five, and at length ten thousand persons perished each day at Constantinople,—that many cities of the East were left vacant, and that in several districts in Italy, the harvest and the vintage were left withered on the ground.”

In conclusion, then, I would seriously advise the lay-members of our Board of Health, to associate with their body some of those members of the medical profession who recognize the principle of contagion as the efficient cause of cholera. Fundamental errors have been already committed, as the statistics of the progress of cholera during the last four months clearly prove. Let it not be recorded against them at the end of the year, that the ultimate mortality has exceeded by one-fourth that of the last invasion. Sanitary laws are better understood than they were in 1832. The

removal of the potato as a general article of food has thrown our population upon the healthier cereals for their sustenance; and the resources of medicine have been replenished with new agents available to meet the evil, while the general recognition of the disease in its early and premonitory symptoms, offers a fairer opportunity for the employment of those resources which are not only within our reach, but are proved to be so efficient in the first stage. All these circumstances combine to render our defences against the foe more definite and more complete. The contagious principle of the epidemic being authoritatively denied by our Board of Health, must influence the practice of a large portion of the misguided community, and the means of arresting and destroying that contagion, cannot be enforced by men who "discredit the once-prevalent opinion, that the cholera is in itself contagious." Here is the weak point of our citadel of defence;—here is the Trojan horse which lets in the armed enemy into our besieged towns. The confidence of the profession is already shaken in our Board of Health, and should a far more fearful mortality await us, a verdict of "manslaughter" may at some future period be recorded against a body who have failed in pointing out the first fundamental law of a disease, which the last Board of Health, under the presidency of Sir Henry Hallford, did not fail to recognize and act upon.

ON OLEAGINOUS ALIMENTS IN TUBERCULAR PHTHISIS.

TO THE EDITOR OF THE PROVINCIAL MEDICAL AND SURGICAL JOURNAL.

SIR,

As one of the readers of your valuable Journal, and a sincere admirer of the intellect and research displayed by the talented authors of papers contained there, and in the "Transactions of the Provincial Medical and Surgical Association," I take the liberty to offer a few remarks on the concluding portion of Dr. Shearman's elaborate paper "On the Treatment of some of the Principal Diseases of the Chest," and published in the last part of the "Transactions." This I do from no desire to depreciate the merits of that justly prized essay, but solely for the sake of eliciting opinion upon the subject.

At page 42, Dr. Shearman states, that in the treatment of phthisis pulmonalis, "the imperfect nutrition will be best overcome by an easily digestible and nutritious diet; milk substances abounding in *oleaginous*, rather than albuminous principles," &c. &c. The boasted good effects of naphtha, he says, are attributable to its powers of allaying the irritability of the stomach, and thus enabling the patient to take nourishment. In following the second indication, cod-liver oil rectified is a most valuable remedy. Again, at page 44, he says,—“In attending to the second indication, those

aliments should be *avoided* which tend to increase the supply of *hydro-carbon* to the blood, such as animal food abounding with *fat*, alcohol, &c. &c., and the principal meals should be made from lean meat, and other *albuminous* and *fibrinous* articles," &c.; and he further adds, "that phthisical patients who take a large quantity of cod-liver oil almost invariably become stouter under its use; that it is, doubtless, a tonic, and deobstruent, from containing iodine and bromine, and conveys nourishment to the system in such a form as not to excite;" and he asks, "Can it supply *hydro-carbon* to the blood in a better form than other aliments do, so as to require less oxygen to keep up animal heat?" He also states that "cod-liver oil deprived of its stearin possesses a solvent power over the fat of tubercular deposits, and that this is the opinion of Drs. Bennett and Williams."

It occurs to me that there exists a decided contradiction (perhaps it is a misprint,) in the assertions contained in these passages I have quoted; for, first, we employ substances abounding in oleaginous, rather than albuminous, principles, (and here cod-liver oil does not seem out of place;) but, secondly, why avoid aliments which tend to increase the supply of hydro-carbon, such as animal food abounding with fat, if we are still to employ, as an article of aliment or medicine, cod-liver oil, a hydro-carbon, and with a view to furnish this very substance more completely to the blood? Can it be possible that we are directed in the second instance to avoid fat meat, because tubercular matter is here considered to resemble the stearin in its chemical properties, so that olein thus deprived of this principle can meet in the lungs tubercular matter and dissolve it? If so, I think this theory had better be stated plainly by all who entertain it. Does the matter of tubercle then resemble stearin chemically? If so, why give, in the first instance, oleaginous diet, by which, I understand, meats and soups, abounding in fat, with stearin in abundance? Why thus endeavour to make the body fat, why not rather emaciate the subject of our experiment, rather than thus designedly throw obstacles in the way of the solvent action of our remedy; and again, if stearin and tubercle be in any way analogous substances, our proceeding thus should generate tubercles, and all those who live on the fattest food should have most tubercle. I need scarcely say that such is contrary to all facts and experience. Moreover, the advocates of this solvent theory should select, not cod-liver oil, but much thinner oils, and such as are much more free from stearin.

I thought it had been a fact already established by experience, that neither iodine nor bromine, employed in any doses, large or small, seemed to affect remedially the matter of pulmonary tubercle. Can the infinitesimal quantities of these substances contained in cod-liver effect a reverse of this experience? If so, then let the homoeopaths rejoice, for theirs will be a triumph indeed. And lastly, we cannot but remember, how confidently it was asserted not long since, that pyro-acetic spirit (a hydro-carbon,) possessed the happy property of dissolving perfectly the matter of tubercle, both as it existed within the body, during life, and when removed after death; but has this not been proved by experience to