

Remarks on diphtheria, chiefly with reference to its contagious, epidemic, and fatal character : and to its supposed connexion with the cattle plague, and with a certain state of the weather founded on the details of several recent cases / by T.W. Belcher.

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ART. XVI.—*Remarks on Diphtheria, chiefly with reference to its Contagious, Epidemic, and Fatal Character; and to its Supposed Connexion with the Cattle Plague, and with a Certain State of the Weather; founded on the Details of Several Recent Cases.* By T. W. BELCHER, M.A. and M.D., Dublin; Fellow and Censor of the Royal College of Physicians in Ireland; Physician to the Dublin Dispensary for Skin Diseases; and sometime Physician to the Cork Fever Hospital.^b

THE following observations are laid before the profession, not because of their originality, for no claim is here made to anything of the kind, but solely because of the practical importance of any well ascertained facts respecting so fatal a disease as diphtheria.

The fact, often noted by observers, that the more fatal varieties of this disease are not commonly met with in hospitals renders it of greater moment that such cases as are met with in private practice should be duly recorded.

CASE I.—A lad, aged about fourteen, a boarder in a large school in this city, was attacked, shortly before Christmas, 1865, with an

^a This forecast did prove correct, a large increase in hospital admissions taking place on the 18th and 19th of January, 1866.

^b Read before the Medical Society of the College of Physicians, Dublin, 21st February, 1866.

acute affection of the throat, accompanied by morbid exudation on the mucous membrane of the pharynx. He was attended in the first instance by Dr. Duke, of Harcourt-street, who subsequently called in Dr. Wharton in consultation. I understood Dr. Duke to say that the case presented the appearance of gangrenous ulceration, though, from the subsequent cases about to be detailed, he is now of opinion that it was one of diphtheria. It is quite possible that both opinions are correct; indeed, M. Trousseau asserts that in certain rare cases gangrene does affect the parts attacked with, what he terms, "Diphtherite." He observed this occurrence twice and states that the sphacelus was confined to a small portion of the velum palati in one case, and of the skin of the arm in the other.^a In the present case there was considerable swelling at the left side of the neck. This lad became convalescent, and was removed to Sandymount for change of air. A few days after his removal he complained of great prostration and nervous depression; head symptoms, like those of effusion of the brain in children, supervened; and despite of every care he rapidly—almost suddenly—sank, and died in what seemed to ordinary observers an unaccountable manner. There was not any *post mortem* examination of the body.

CASE II.—Shortly after the occurrence of the illness in Case I.—but some time before the death in that case—a young man, aged twenty-four, a tutor in the same school, where he spent some hours daily, though he did not reside in it, became affected in like manner. His case was pronounced to be diphtheria by one of our most eminent surgeons, who attended him. He apparently recovered, but suffered from prostration of strength. Food he could, and did take plenteously; and he talked of every passing event with his usual interest. Suddenly he one day became exhausted, and rapidly sank, to the consternation of his family, who looked on him as convalescent.

CASE III.—A lady, aged about thirty-six, the wife of the governor or principal of the school already referred to, and the mother of several children, had assiduously nursed Case I. through his illness in the school, where she also resided. After his death she continued for some days apparently well, until the 28th of December, 1865, when she complained of rigors; general febrile

^a Trousseau on Diphtherite. Sydenham Society's Memoirs on Diphtheria, p. 237.

symptoms supervened; and these were again followed by every symptom of cynanche tonsillaris. The local affection was confined to the left side of the fauces.

She was attended by Dr. Duke of Harcourt-street, and on the 30th Dec., Mr. Adams was called in in consultation. These gentlemen pronounced the case to be one of unequivocal diphtheria. I saw her, with Dr. Duke, on the same evening, and I was of a like opinion. The colour and consistence of the false membrane were of the kind usually described in books; the local affection, however, as already remarked, was confined to the left side of the fauces; the left side of the neck was swollen; and I cannot better describe the tumour than by adopting the description of a case of Dr. (now Sir Dominic) Corrigan, from a clinical lecture of his, published in the *Dublin Hospital Gazette* for 15th February, 1859:—"His neck was swollen out into oval form from anterior third of clavicle to middle of neck, the oval swelling then bending inwards . . . as it ascended, so as to leave unaffected the hollow under angle of jaw." In Dr. Corrigan's case the tumour was on both sides of the neck, but in other respects the present case corresponded exactly with his. The false membrane did not extend down the pharynx; her power of swallowing was not materially interfered with; her voice not at all affected; she complained of distress rather than pain; the pulse weak and frequent; the skin acting freely. She had been taking Dover's powders combined with nitre, wine, beef-tea, and ten drops of the tincture of the perchloride of iron every third hour, in water. At Mr. Adams' visit in the morning he had removed part of the false membrane, but in the evening the same place was covered over afresh. On the 31st of December, the tincture of iron was applied internally; the exudation had evidently extended to the nares, but not to the pharynx, so far as we could judge. After the first application of the tincture of iron she discharged her stomach, and became much prostrated. She now got plenty of brandy. The urine was copious and apparently free from lithates, but I had not an opportunity of analyzing it. The pulse became very weak and frequent; and the peculiar offensive odour from the breath was very perceptible, although I had a cold at the time. The tumour of the neck continued to increase, and I noticed over the upper lip, at the left side, a well developed patch of herpes. In the evening the disease had so far extended as to prevent her breathing through the nares. A solution had been prescribed in the afternoon for application to the false membrane; this consisted

of three drachms of hyposulphite of soda, two drachms of glycerine, and six drachms of water; to a certain extent this solution—which was recommended in the *Medical Times and Gazette* of the previous day—had proved useful. It relieved her very much, and enabled her to throw up pieces of the false membrane. It was now directed to be continued.

At 9.30, a.m. on the 1st of January, 1866, on my arrival at the house I found that she had just died. In the course of the night her brother and her nephew, two judicious medical practitioners, had come from the country to see her. They saw her about 5 or 6, a.m., and from one of them I learned that she then had thrown her head backwards—as a child does in croup—and seemed to breathe with difficulty. The difficulty of breathing did not, however, seem to be great; and so they went to bed. They again arrived at the house shortly before her death, and found her almost asphyxiated. Tracheotomy was not performed. There was not any examination of the body; but we concluded that death had resulted from extension of the false membrane into the larynx. I am informed that her pulse continued to beat strongly and regularly for three minutes after she had ceased to breathe. She had had scarlatina many years before; but, so far as I know, none of the other persons whose cases are here noted had suffered from that disease.

CASE IV.—When the lady described in Case III. got ill, her daughter, aged about seven, was sent out of the house. Almost at once she complained of illness, was brought home again, and exhibited the unmistakable signs of diphtheria. In this case, which I attended with Dr. Duke for several days, the false membrane was chiefly on the right side of the fauces; there was a tumour of the neck of the same shape as in the mother, but on the right side, while there was a well defined patch of herpes on the left side, over the upper lip. Typhoid symptoms prevailed here; and for days the child was in the balance. More than one relapse took place; and when she became almost convalescent the tumour in the neck suppurated and caused a troublesome abscess, which is now healed; although it, for some time, left her very anemic and weak. She had the peculiar odour of the breath noted in Case III. I tested her urine, and by the ordinary tests of heat and nitric acid obtained a very large quantity of albumen, nearly half in volume as compared with the volume of the urine tested.

In this case the main principle of treatment was support by food, wine, and bark, with tincture of iron applied locally, and administered internally. She had epistaxis several times, and delirium was a prominent symptom in her case. Some weeks after her apparent convalescence she exhibited signs of great physical prostration; but now (20th February) these have been overcome to a considerable extent. She has still (21st February, 1866) to contend with the effects of disordered innervation, as evidenced by injury to the powers of speech and deglutition, and defective vision.

CASE V.—When the child just referred to was removed from her father's house, she went to that of an aunt, and there slept for a night or two with her first cousin, a girl about her own age. In a few days the latter complained of sore throat and general *malaise*. I saw her; and perceiving that there was a general family panic—for the aunt had meanwhile died—I advised her removal from the house. This was done; she was well cared for; and in a few days she returned home quite well. No one else in that family got ill, so far as I know.

CASE VI.—A female servant of the lady whose death I have recorded, aged about twenty-one, got ill during the illness of her mistress, and so continued for several days after the death of the latter. I attended her also at the school with Dr. Duke. Her case was one of diphtheria, with the peculiarities of those already related. The tumour was at the left side of the neck, and the patch of herpes, which was also at the left side, was large and well defined. She used a gargle of tincture of the perchloride of iron, one part to three parts of water. This proved a most useful application, and detached the false membrane in large quantities. She recovered, but still (20th February) retains some of the most striking sequelæ of the disease; she talks “through her nose,” the irregular action of the pharyngeal muscles causing food to return through the nares. In fact her powers of speech and deglutition are seriously impaired; and with this she also labours under considerable defect in the power of vision.

CASE VII.—Immediately on the occurrence of all this illness in the one house, the head of the family had his other children removed to Sandymount, where, in about a fortnight, his son, a

lad aged about twelve, was attacked with diphtheria. In his case the tumour of the neck, and the false membrane for the most part, were on the right side; and unlike the others, there was here no appearance of herpes. Dr. Duke continued to attend him to his convalescence. He tells me he is now quite recovered.

CASE VIII.—Another child of this gentleman, a girl aged about five, contracted sore throat in the same house at Sandymount. She recovered without any symptom of diphtheria.

CASE IX.—Another daughter of the same gentleman, aged eight years, got diphtheria about a fortnight after her mother's death, in the same house at Sandymount. She was ill at the same time as her brother whose case has been referred to (Case VII.) She had not any appearance of herpes, but had the tumour at both sides of the neck. Dr. Duke attended this case to the close, and he tells me that she recovered sufficiently to be able to take daily walks. One day at the close of last month she complained of great weakness, after a short attack of diarrhea. She sank, suddenly almost, and notwithstanding every effort, she died.

CASE X.—A clergyman who was frequently in and out of the school-house during the occurrences already mentioned, became unwell; got sore throat and general *malaise*, and it was fully a fortnight ere I could say he was well. In that case there was a slight greyish, apparently vesicular, exudation on the fauces.

CASE XI.—A gentleman who came from the neighbourhood of this city to the funeral of the lady referred to in Case III. informed me that after leaving the house where she had died he at once felt ill. I found his throat slightly congested, but after the use of a gargle he quickly recovered, without any further bad results.

CASE XII.—The nurse who attended the lady that died had to leave the house with sore throat and general *malaise*. In a few days she recovered.

Nine boarders at the school to which I have referred became more or less affected with what, from the description given to me, seems to have been diphtheritic sore throat; but most of them recovered on going into the country at Christmas. Not so,

however, with one, who, I have just heard (20th February) is suffering from partial paralysis of the motor power in the upper and lower extremities, and almost total loss of vision.

Beside the above cases, Dr. Duke became unwell with sore throat, and the same happened to me. A servant of mine, who went to the house with a message from me, was similarly affected; so was a lady who called there; and lastly, the gentleman in whose family all this occurred got sore throat, but soon recovered. I myself, and most others who entered that house at this time, felt conscious of a very unpleasant smell, which immediately suggested the idea that the sewage was defective. The house, which is a very fine one, was cleaned, papered, and painted; the kitchen was investigated, and under it was found a sewer which, in the opinion of some, accounted for the smell. In that house about eighty persons had lived; and fortunately most of this illness occurred during the Christmas vacation. This smell cannot now be perceived.

On the preceding cases I may remark:—

1. That several members of the same family, with others more or less connected with them by occupation, contracted diphtheria or diseases allied thereto.

Just as when cholera is present or is approaching we find cases of diarrhea very common, and some of them not easily separated from cholera; and just as when some members of a family have scarlatina while others have sore throat only; so, to quote the words of Dr. Jenner, "One or more members of a family having exudation on to the pharyngeal mucous membrane, and others at the same time having merely inflamed throats, would be strongly presumptive evidence that the latter had diphtheria without exudation."^a

2. It may be further observed that these cases were (at first) limited to one house. Dr. Aitken has remarked a similar limitation;^b while the circumstances already detailed would point to the conclusion that not only was the disease infectious, but that the miasma generating it was localized.

I inquired of several physicians in this city at the time that these cases occurred, and I could not find that diphtheria was at all general; very far from it. One physician told me that he was

^a Diphtheria. By Wm. Jenner, M.D. P. 15. Lond. 1861.
Practice of Medicine, Vol. i. Edition, 1865.

then attending one bad case, in private; and the next thing I heard was that he himself was ill in diphtheria. Dr. (now Sir Dominic) Corrigan has remarked, in the lecture already adverted to, that an epidemic is mostly ushered in by dropping cases scattered here and there. Those who recollect the last fever and cholera epidemics in this country will bear him out in the truth of this remark; and they will also agree with me when I recall to their minds that in these epidemics some cases, to all human appearance, resulted from miasmata generated by bad sewage, while others had no possible connexion with any such cause. Just so with diphtheria; an epidemic is preceded by scattered cases. Any one may contract it; but those exposed to infection or to miasmata injurious to general health are specially susceptible of it. Since these cases occurred I have heard of others quite as scattered, but more frequent. From all this, taken into connexion with the history of epidemics, perhaps it is not rash to expect a general visitation of this disease. Whether it has any connexion with the peculiar state of the weather this Winter would be mere guessing; but I should like to ascertain how far previous epidemics of diphtheria were associated with weather such as we have had for some months past.

3. The tumours described in these cases are worthy of remark. In no case was the neck swollen, as in mumps, over the superior portion of the parotid gland; nor did the tumour involve the inferior angle of the jaw, as in scarlatina or cynanche. Dr. Corrigan noted this peculiarity, and evidently considered it to be a sign of value.

4. The occurrence of herpes in diphtheria I have not seen noted by any writer. Dr. Jenner indeed says that French writers describe an herpetic eruption on the mucous membrane of the pharynx, which may be mistaken for diphtheria. "It is commonly associated with herpes of the lip, and, as a rule, is much more painful than diphtheria, the pain being limited to a single spot in the pharynx."^a

The cases to which I refer—those of unmistakable diphtheria in which there was herpes on the lip—had no appearance whatever of herpetic eruption on the mucous membrane of the pharynx. The clergyman (Case X.) who had a vesicular exudation on the fauces had *not* herpes on the lip; and, since the above cases occurred,

^a Jenner, *op. cit.*, p. 61.

I met with another, in which a clergyman had a vesicular eruption on the pharynx preceded by partial aphonia—he had not herpes on the lip either; though in other respects his case resembled those noted by the French writers and by Dr. Jenner.

Further, a gentleman whose son was a day scholar at the school previously referred to, informed me that the latter went home with sore throat from it. This soon disappeared during the Christmas vacation, but a large patch, of what, from his description, seems to have been herpes, appeared on the forehead over the left eye.

5 The occurrence of sudden death, or what nearly amounted to it, in so many cases is worthy of note. In the cases of this kind recorded by Dr. Jenner the cause is said to be asthenia, while Dr. Aitken states that death sometimes occurs from syncope. Nearly a century ago Dr. Rutty^a remarked of an epidemic which prevailed in Ireland in 1743, when the weather was very much like ours during the last year, that it in some points resembled Fothergill's sore throat. Of the cases then occurring he thus writes:—"Their death is generally sudden, and when least expected, the pulse being good a minute before."

In the cases above detailed apparent convalescence was plainly no guarantee of safety.

6. Like other cases recorded, there has been here partial paralysis of the muscles of deglutition as well as injury to the powers of speech, vision, and generally disordered innervation.

7. The fact of the pulse beating for three minutes after breathing had ceased is not common, but that it may occur Sir Benjamin Brodie has proved in his *Lectures on Pathology* (Lecture 66).

With reference to these cases two practical questions suggest themselves: (*a*) should the false membrane be torn off; (*b*) should tracheotomy be resorted to?

(*a*) Dr. Jenner, and most other authorities, decide against tearing off the false membrane; "to do that (says Jenner) is to commit a decided blunder." They consider that mechanical irritation of this kind aggravates the disease; while the immediate reproduction of the false membrane on the abraded surface shows the operation to be of little practical value.^b It is quite a different matter to mop the diseased surface with a strong preparation such as tincture

^a Chronological History of the Weather, and Seasons, and Diseases Prevailing in Dublin. Lond., 1770.

^b In a case of putrid sore throat Fothergill notes the reproduction of the slough after mechanical separation (Works, p. 239).

of the perchloride of iron, with a view to dislodge the membrane, and so enable the medicine to have at once a local and a constitutional effect. The same end, however, will, so far as I have seen, be answered by using a strong gargle of the same tincture (see Case VI.).

(b) Whether tracheotomy, or, in the case of adults, laryngotomy should be resorted to, to prevent asphyxia, is a grave question.

If the patient die immediately after it, the physician who advised and the surgeon who performed it will scarcely be held blameless by the friends of the patient, who, even when life is fast ebbing, cling to hope. On the other hand, to save even *one* life out of many by such a means is so great a success that most persons will think it worth the venture, especially as successful cases now and then occur. In any case where there is blood-poisoning, and where the friends object to the risk, I do not think it would be wise to urge it; but if the friends of the patient accept the risk promptly, in a case where the operation would seem to indicate success, the opportunity should not be let slip. In Case III. of those now detailed I am not able to say what should have been done, as I did not see the patient during the approach of asphyxia; but from the character of the medical gentlemen who did see it, and their practice in other like cases, I conclude that it was not a case likely to be benefited by operation. The blood-poisoning was evident, and the case was a bad one from the outset.

I believe Bretonneau had a *primâ facie* case when he contended for the identity of what we now call diphtheria with croup; especially since Jenner and others have recorded cases in which the false membrane in diphtheria extended into the air passages. I do not, however, propose to raise this question at present; because, from the nature of the diphtheritic exudation and other symptoms, we are all now pretty well agreed on the important and essential differences between the two diseases; but inasmuch as I have observed in a very recent medical work—the newly abbreviated edition of Copland's Dictionary—that Bretonneau is considered to have erred in separating diphtheritis from gangrenous sore throat; while in the same article Fothergill and Huxham are stated to have described diphtheria, in 1748, thereby making it and putrid sore throat identical, I think it may not be out of place to endeavour to show that Bretonneau was right after all; and that Fothergill certainly, and Huxham probably, never described what we know by the term diphtheria. Almost up to the present hour

“Fothergill’s sore throat” and scarlatina, or cynanche maligna, have been looked on as one disease, and classed in books accordingly. Taking Fothergill’s own description, we find that the exudation, in the English epidemic of 1748, was white or ash-coloured, and then black—it sloughed away leaving gangrenous ulcers. “The redness of the skin in the face, neck, breast, and hands is another obvious and distinguishing characteristic, which in children, and young people especially, seldom fails to accompany this disorder.”^a It is scarcely necessary to say that this description will not fit diphtheria, as we see it; while it undoubtedly will fit scarlatina maligna, the cutaneous eruption of which is such as is not met with in diphtheria; although in some cases of the latter there may be slight gangrenous ulceration, as noted in Case I. Huxham noted the “gangrenous sloughs” in much the same terms as Fothergill; and had he not, in addition to the symptoms recorded by the latter, noted the formation of an exudation analogous to that in the throat on abraded surfaces on other parts of the patient’s body, it could not be said that he made even an approach to describing diphtheria. It will, perhaps, be said that he described the cutaneous diphtherite of Trousseau;^b but as he dwelt specially on the scarlatinal eruption we may safely endorse the dictum of Bretonneau, who says:—“The gangrenous sore throats observed by Huxham are also related for the most part to scarlatinal angina.”^c The exceptional cases recorded by Huxham and Fothergill may lead some to believe that diphtheria was the disease described by them, particularly as Fothergill quotes the old writers as describing his disease, while the writers of our own day quote some of these very descriptions as applicable to diphtheria; but if this lead to any logical conclusion it must be to that which now-a-days finds many advocates:—That all this class of zymotic diseases proceeds from one poison, which operates variously under varying conditions; and that these diseases are not so many separate entities “like dogs and cats,” as Miss Nightingale expresses it; but that under various names we may have essentially the same thing; some important symptoms being at one time prominent, and in their turn giving place to others. That something like diphtheria was observed at this time must be allowed;^d and

^a Fothergill’s Works, p. 225. London. 8vo. 1785.

^b Trousseau.—Sydenham Society’s Memoirs on Diphtheria.

^c Bretonneau.—*Op. supra cit.* First Memoirs.

^d Even in our own day Dr. Jenner writes of his own experiences:—“Diphtheritic inflammation of the pharynx sometimes complicates scarlet fever.”—*Op. cit.*, p. 57.

if we consider that then, as now, the cattle plague prevailed in England, and that the weather preceding or accompanying the pestilence was unusual, and not unlike what we have lately experienced, I think the coincidences are somewhat striking. In an old pamphlet, published anonymously, in London, in 1748,^a a physician writes to the Privy Council:—*An Essay concerning Pestilential Contagion, occasioned by the Distemper now raging among the Cattle, with a Method proposed to Prevent its Progress.* This essay is a curiosity in its way, and gives so much information about the progress of the cattle plague at that time, of its great cost to the country, and of the means proposed to arrest it, that it might well be written at the present day. In the course of the essay there is a concise summary of the various pestilences known to history; at the close of this the writer proceeds:—"I will conclude this part of my enquiry with an account of the *Pestilent Angina*, a distemper that raged at London, in the Winter of 1739. The best relation I could at that time procure was as follows:—It began with a slow fever, and soreness of the throat, and generally in about twenty-four hours there appear'd a small white speck or two upon the tonsils, which, if left to themselves, encreased in number, grew livid about the edges, and, running into one, formed a large slough all over those glands, and spread gradually over the uvula, and all the arch of the throat. In a few days a mortification began, and carried off the patient before danger was thought on; for neither the fever nor pain in the throat were violent all this while." This description, in which no mention of the scarlatinal eruption occurs, is obviously nearer to diphtheria than that of Fothergill. That it had a certain relationship to Fothergill's sore throat may be inferred from the fact, that the anonymous physician, just quoted, proceeds to give the descriptions of Aretæus, and also of Severinus, a Neapolitan of fame, in the seventeenth century, as applicable to *his* delineation. Fothergill quotes these identical authorities with an analogous view; and so do most of our modern writers on diphtheria. The anonymous writer, whom I have already quoted, proceeds to affirm that:—"The affinity is certainly very great between the pestilential sore throat and the present disease of the cattle;" and proceeds to give extracts from authorities in support of his view. Were this a paper on the cattle plague these extracts might be here given, but it may suffice to

^a This pamphlet may be seen in the Library of the College of Physicians, where I became acquainted with it through my official connexion with that Library.

note the important fact, that, previous to or during an epidemic, domestic animals have suffered from analogous diseases. Dr. Greenhow has fully dwelt on this in his treatise on diphtheria, pp. 118, &c.; and from the early periods of Roman History no historical statement is better established. Fothergill (writing in 1748) states that the angina maligna showed itself most frequently in Autumn, and the beginning of Winter, *i.e.*, from September to December inclusive. He also "Remarked that the Summers of 1747 and 1748 were dry, with some days, in each, uncommonly hot, for this climate—the mercury in Fahrenheit's thermometer rising in the shade, and within doors, one day to 78, and during several to 75 and 76. The Autumns of the same years were as unusually temperate and warm; the wind continuing longer in the southerly points than has often been known at this season." I believe this description will answer pretty well to that of our last Summer and Autumn; and from all these circumstances I am led to expect that diphtheria, and diseases allied to it, will very shortly become epidemic in this country.

Dr. Jenner has noted the *constitutional* nature of this disease; its tendency to attack blood relations though separated by long distances from each other.

Since writing the former part of this paper I have had further information which not only illustrates the contagious nature of this disease, but also, to some extent, confirms the doctrine of Jenner to which I have just referred.

I had occasion to visit a large town in the west of the County of Cork; and there I ascertained that while the lady referred to in Case III. was ill in this city, her nephew, a young man of about twenty-two years of age, contracted diphtheria at a distance of about 240 miles from her. They had no communication with each other, nor at that time was there any other case of diphtheria in the town of which I write. This young man recovered; but his sister, a child, who lived in the same house, contracted the disease, with symptoms precisely similar to those noted in Case III. When in imminent danger of asphyxia, tracheotomy was performed on her by one of the provincial practitioners, to whom reference has previously been made. It relieved her very much; quantities of the diseased membrane of a buff colour were voided through the aperture, but she died from asthenia in eighteen hours after the operation.

Further still.—A young lady, a cousin of these parties, living in the same town, but having no communication with them during

their illness, contracted diphtheria about the same time, and died of it. In her case the disease was presumably traceable to the fact that a niece of the lady in Case III. had left the house in this city on the occurrence of her aunt's illness and had gone home, taking with her a sore throat. She slept with the young lady of whose death I am now writing.

In both these instances the apparent propagators of the disease recovered, while those apparently taking it from them died. There were no other cases of diphtheria in that neighbourhood, save in a small island some miles off the coast of Schull, where there were five cases. Since the occurrence of the above deaths, epidemic sore throat seemed to have prevailed to some extent. Immediately on my going to the town of which mention is now made, I fell ill with ulcerated sore throat, plus an ash-coloured pharyngeal exudation, which a sound practitioner in that neighbourhood burned out in three days by applying to it a strong solution of nitrate of silver.

