Especial interest attaches to the first case, on account of the proof it gives of the great difficulties which may be vanquished by perseverance on the part of the surgeon, and determination on that of the patient. The latter quality was most conspicuous in this poor fellow, in whom repeated failures seemed to have no effect in unsettling his purpose, or shaking his confidence of ultimate success. It was interesting to observe the perfect healthiness and freedom from adhesions of the tissues around the opening, in spite of the frequent operations and the acute inflammation and effusion of urine which had followed the accident. The absence also of contraction of the urethra was another very favourable circumstance. The ultimate cause of success in Mr. Pollock's case appeared to be the division of the prepuce, and the very loose condition of the integument which was obtained by the last operative procedure, and by which the traction on the wound during erection was entirely prevented.

Original Communications.

EPIDEMIC SORE-THROAT.

By CHARLES COWDELL, M.D., Physician to the County Hospital, Dorchester.

[Continued from page 968.]

THE *Microscopic Inquiry* has been too limited in extent to be of much value, having been altogether neglected in the earlier cases, from the writer's mind being convinced as to their real nature, and it being difficult to obtain specimens from the throats of young children without such a struggle as a medical man will hesitate to inflict, even where he finds a mother that will endure it.

Neither has this narrative the advantage of many necroscopic investigations. The only two fatal cases attended by the writer were at a considerable distance; and, as they were seen in consultation, he had not the opportunity of obtaining a *post mortem* examination in either case; and his medical friend who was in attendance did not. But, though unable to give any account of *post mortem* appearances in my own cases, I have been supplied with the following account of one by Mr. Clapcott, of Evershot, the medical friend referred to in this paper as having attended so large a number of cases of scarlatina and sore-throat, and who at first considered some of his fatal cases to have been cases of diphtheria. The hospital case referred to in the note at p. 968 of last number is just recovering from probably a similar condition, the disease having extended to her larynx and trachea, just as described in many reported cases of diphtheria. The report is most interesting and important, as exhibiting another most striking feature of resemblance between these cases and those of reported diphtheria.

Three cases of scarlatina occurred in the same family, in two of which there was rash, severe throat-affection, and the regular course of symptoms of the disease. The third, Emily Tompkins, aged 5½, had severe sore-throat, with yellowish exudation on the tonsils; but she had no rash. Very soon her voice became stridulous and croupy, with great dyspnoea; and she rapidly sank.

POST MORTEM EXAMINATION. The mucous membrane covering the tonsils and palate was only slightly inflamed, with a very little exudation on the right side. The epiglottis was very much inflamed and tumefied, and covered with flakes of exudation, which, when removed, showed little ragged ulcerated spots, very perceptible with the magnifying glass. The mucous membrane of the larynx was also found much inflamed and swollen, and covered with flakes of exudation, as numerous but not so large as on the epiglottis. The swelling of the mucous membrane extended as far as the thyroid cartilage.

The *Treatment* of those cases which came early under my direction was in every instance a supporting tonic treatment with beef-tea, wine, quinine, or decoction of bark, and the application of solution of nitrate of silver (3j—3j) on a large pledget of raw cotton, so as to swab the whole surface of the fauces. Chlorate of potash was also in almost every case directed to be constantly taken by sips; a drink containing one drachm of the salt was thus consumed daily by adults, and proportionally less by children. The cases were all marked by asthenia; and all thus treated from the commencement did well. Some of the cases among the lower orders, which have ended fatally, would probably

have had a happier termination, but for the invincible reluctance of parents to compel submission in their children to the application of remedies and the administration of nourishment. Two cases, in striking contrast with each other, came under my notice, in Groups 5 and 6, fully verifying this opinion.

I have been asked on what therapeutical principle I prescribed the application of nitrate of silver to the surface of the tonsils, etc. My reply has been, that I conceive the action of this remedy to be astringent, and thus to correct the morbid condition of the capillary vessels. But, according to Wedd (*Pathological Histology*, Syd. Soc., p. 309), this remedy exerts a further beneficial influence in those affections of mucous membrane accompanied by purulent exudation, by destroying the newly formed pus-corpuscles, which, according to him, "multiply by division".

A singular circumstance has been observed in this epidemic—that it has been almost wholly confined in its attacks to women and children. The oldest male seen by the writer was 18; and, in the large number of patients affected by the throat-disease, alone or in connexion with the rash of scarlatina, referred to in Groups 4 and 5, the oldest male was 20; during the epidemic of this autumn, the oldest male was about 14.

In two patients lately seen, there was considerable affection of the larynx, without visible extension of exudation; and this extension has not appeared to me to be the cause of dyspnoea in any of my cases. This absence of exudation was found also in a case related by Dr. Watson (*Lectures*, vol. i, p. 865), in which tracheotomy was in vain performed for this affection; and in two children seen during the writing of this paper, and taken ill within an hour of each other, one had a well developed attack of the regular *exudative sore-throat*, while her little brother, aged 2½, was at the same time seized with croupy breathing voice and cough, in whose fauces there was no exudation or other visible alteration. In Dr. Semple's case it was far otherwise.

But we come now to consider for a moment what is the *Nosological Position* of the cases here reported. In the district, diphtheria is said to be prevailing; and, as already stated, this has been assigned as the cause of death in the returns made to the registrar of the district. In short, are the cases here reported cases of true *diphtheria*? or are they cases of *scarlatina sine exanthemate*? or can they be cases of "the subacute variety of pellicular inflammation of the throat" (Copland's *Dict.*, p. 1060, 26 c.)—of *diphtheria*, that is—and yet have had their origin in the poison of scarlatina, transmitted by cases of that disease affecting the throat only, and producing in others a *modified disease*?

Now, it must be admitted that, in the first three groups, no evidence of communication with persons or places affected with scarlatina was found; but then none was looked for. The importance of the subject had not then grown to the magnitude it has since attained; and no *pellicular exudation* was seen in any of them. But, in the last four groups of cases, communication with persons and localities infected is strikingly and convincingly made out; and in one case in the second group, and in two cases, at least, in Groups 5 and 6, and one in Group 7, *renal dropsy* was found to follow the *sore-throat*. Dr. Copland, in the article "Scarlatina," in his *Dictionary*, describes a variety of this disease which he designates "*scarlatina latens*"; and he says of the children thus affected: "I have been told by the parents that neither eruption nor sore-throat had been complained of previously to the appearance of the dropsy;" which, being renal dropsy, he takes as sufficient evidence of the preexistence of scarlatina. Here, however, we have narrated instances of renal dropsy, with albuminuria, in the second, fifth, sixth, and seventh groups, following sore-throat: *à fortiori*, therefore, these may be set down as cases of scarlatina. But they formed part and parcel of the cases of the epidemic sore-throat called diphtheria, and all occurred in families where the sore-throat was the only ailment of other members. Cases of this character seem to have been very rare in 1848; and Dr. Copland says of them (p. 671): "Cases of most severe fever and sore-throat, with all the indications of malignity, or putro-adyndamia, may occur, as I have observed in several cases, in persons who have already had scarlet fever; and they may thus appear in several members of the same family, probably owing to the existence of endemic contaminating causes, to which I have had occasion to impute them." In this statement of Dr. Copland we are supplied with two important circumstances, either or both of which may be the particular modifying agent or influence in the production of a

disorder unlike its parent; viz., the susceptibility to some only of the symptoms of scarlatina in a severe form, with the power to propagate the same symptoms only in others; and the probable effect of "endemic contaminating causes";—the having had scarlatina already—plus the being subjected to its poison and endemic contaminating causes at the same time; and, in Groups 5 and 6, it would seem that the latter may exist, as many of the cottages in that village are on the banks of a little stream into which their sewage is discharged. In that place, too, the sore-throat has prevailed for the last two autumns.

But let us further suppose, that the prevailing epidemic constitution, so well observed and described first by Sydenham, may be of a different character from that which has ordinarily prevailed; and it would not be difficult to suppose that even cases like that of Dr. Semple might depend on this cause—*modified scarlatina poison*. "There is no kind of fever which displays a greater diversity in its nature and complications, according to the prevailing epidemic constitution, than scarlet fever." "Some epidemics are remarkable for the number of cases in which the eruption is not observed, the disease being characterised by the other usual symptoms, especially by the sore-throat, by the appearances of the mouth and tongue, occasionally by the desquamation of the cuticle, especially in adults; and by consecutive dropsy, these cases communicating the eruptive diseases"; or, as already quoted, "and they may thus appear (*i. e.*, without eruption) in many members of the same family" (Copland.)

One word about the diagnostic sign—the pellicular or membranaceous exudation on the fauces. What is it? and what is its value? In the article "Angina Membranacea", under which title Dr. Symonds treats of this disorder in the *Library of Medicine* by Dr. Tweedie, the exudation is described as consisting of "albuminous pellicles"; and by Dr. Copland, in his article "Throat—Pellicular Inflammation of", it is defined as "an exudation of a buff or grey coloured lymph in spots or patches". These exudations, we are further informed by writers, vary in their consistence, being in some tough and membranaceous, in others soft and pultaceous. What I have examined have been rather soft and glutinous, more resembling some forms of mucus than membrane. And as it has been objected by some, that in scarlatina the appearances of exudation are limited to the tonsils, while in true diphtherite they may extend all over the fauces, I will describe only what was taken from the pharynx of a patient in Group 7—a young woman attacked since the commencement of this paper, and referred to in a note in the last number. In my first examination of her throat, I observed only a generally diffused redness; but, on a second examination, by depressing her tongue very considerably, there was seen behind and below the right tonsil, on the side of the pharynx, a yellowish white patch, a portion of which was detached by forceps, and instantly placed in the microscope; when was seen a mass of granular or globular matter, which, on the addition of acetic acid, presented good specimens of cells with one to four nuclei—good pus-cells; none of the striated appearance of mucin—none of the appearance of connective tissue. But then these pus-cells may have been formed from pellicles of albumen, although the throat-affection was quite recent; for, in works on pathological histology, we are instructed, "Pus appears to be developed from a principally albuminous exudation, which, as was first remarked by Rokitsky, is in many cases combined with one of a fibrinous nature," etc. (Wedl's *Pathol. Histol.*, p. 299.) So that what was an albuminous pellicle may become rapidly converted into a pus-clot, and the diagnostic sign disappears. And surely an epidemic constitution, capable, as we have seen, of changing so much of the character of scarlatina, is capable of causing some such change in the state of the capillaries of the fauces as shall induce an exudation of albuminous matter a little more extensive than usual, and not so quickly converted into pus, and so not so readily removed from the surface as in ordinary cases of scarlet fever.

If, however, cases of sore-throat not presenting the pellicle of Copland's *pellicular inflammation*, the membrane of Dr. Symonds' *angina membranacea*, the skin of Bretonneau's *diphtherite* or of the more modern French physicians' "*couenneuse*"—if these cases are nevertheless cases of *diphtheria*, we have a delicate piece of diagnosis to make out.

In the fifth group, there was a fatal invasion of a family by sore-throat soon after two domestics had returned to it, after being in contact with scarlet fever, and, to all appearance, having suffered from that disease in their own persons. Sore-throat spread through that large family, from one to another, till all in the house had had it, except the father and the two

youngest children. A more striking instance of proved infection seldom comes under the notice of the physician than in the chain of cases narrated in that group. An instance as convincingly proving the infectiousness of so-called *diphtheria* has very recently occurred in my own family. A little girl, my niece, returned with her grandmama from a visit to the seaside perfectly well. In about twenty-four hours, she was attacked with sore-throat, pronounced to be diphtheria, and she speedily succumbed. Her mother, who had not been from home, and was perfectly well, within a week was attacked, and nearly lost her life; and her only remaining child, who had been summoned from school to see her dying sister, was subsequently seized, but she also happily recovered. Hence it is further established, that so-called diphtheria differs not from scarlet fever in infectiousness.

Then we have before us cases of a highly infectious disease becoming epidemic, as scarlatina often does, and presenting, in many of the cases receiving this comparatively new name, the identical appearances seen in that disease; and, in several of the groups here detailed, we have this symptom followed by dropsy and peeling of the cuticle, although other cases from the same groups, when fatal, had been registered as cases of diphtheria. Surely, then, is Dr. Semple borne out in his statement that *sore-throats of various character are being reported as cases of one disease, and that disease diphtheria*; or else cases of an old disease, scarlatina, modified and made various by "endemic contaminating causes" (Copland), or by our old, but often overlooked acquaintance, "epidemic constitution" (Sydenham).

In Dr. Semple's paper on a "Case of Diphtheria", there was a statement that there was no evidence of connexion with scarlatina. In several of my groups, there was no such evidence. But can we always trace the first cases of a new invasion of scarlet fever itself to other cases of the same disease? And has not this very absence of evidence of infection, in regard to this and other diseases, opened up some of the most exciting and interesting controversies in medicine, as to the reoccurrence *de novo* of diseases, or, *per contra*, as to the necessity of infectious diseases always now proceeding from infected persons or matters? Who shall tell us how long the germs, probably organised, of the *materies morbi* of scarlet fever, may retain their activity or vitality when attached to the walls, the beds, and other furniture of houses?

One conclusion I have arrived at from these cases: that, if they have been cases of *diphtheria*, the name is only calculated to mislead the practitioner; while the alternative, that they were cases of *modified scarlatina* presents no great obstacle to be surmounted; for of the difficulty of tracing the infection in every case, I will say, in the words of one, whom the oftener I consult the more I admire and trust—Dr. Copland: "The difficulty of tracing infection to its source on all occasions, in this and in other infectious maladies, is by no means an argument against its existence; for causes are often inferred from their effects with greater certainty than from some other proofs upon which firmer reliance is often placed. . . . We know that the vitality of several kinds of seed may be preserved for many ages; and why should not the poisonous properties of an animal fluid or miasm be preserved for months, or even for years, when exclusion from the air and other circumstances favour the preservation?" (Art. "Scarlet Fever.")

Here then is a subject much needing such ventilation as the members of our Association can, many of them, assist to supply; and it is fervently hoped that some of them will come forward and furnish us with the record of their experience. Here is a complaint, which, while variously regarded in a nosological point of view, and especially while looked upon as purely inflammatory in its nature, is likely to receive at the hands of our brethren a treatment as various, and various treatments will meet with various degrees of success.

OBSERVATIONS ON CERTAIN FORMS OF DISEASE OF THE LUNGS.

By EDWARD LATHAM ORMEROD, M.D. Cantab., F.R.C.P., Physician to the Sussex County Hospital.

THE miscellaneous character of the following observations may seem to require some preface. A very few words, however, will suffice to express my purpose. While there is no need of another systematic work on diseases of the chest at the present day, did my opportunities of observation or my confidence in my own powers allow me to undertake the task; yet many