little hesitation in saying that I regard the appearances seen in some of the sections as indicative of commencing inflammation. The cell elements of the wall of the gland-ducts and of the tissue of the gland-coil and its envelope seem augmented.

To my mind, the views I have taught in this School about dysidrosis are fully vindicated by these preparations. In my *Atlas*, published in 1877, I remarked that "if the skin be examined at an early stage with a lens, in many cases it will be seen that these little pearly spots answer exactly in situation to the sweat-ducts, and indeed they are distensions of the sweat-apparatus. This has been represented in fig. 3, which was the exact appearance seen in the case, and which was most plainly put by several others beside myself. This conclusively proves that the disease is essentially a disorder of the sweat-apparatus". As to the mechanism of the production of these vesicles, I wrote as follows, in 1873. "It seems to me that there is a sudden efflux of sweat, and the flow is so rapid that it cannot escape, the whole gland is distended, at least its duct, and the fluid presses up from below only to block up the upper portion of the duct by pressing together the twists of the duct in that part of the cutis where it runs in a spiral manner. If there be sudden pressure from below, the spiral twist of the duct must greatly favour the dilatation of the duct. In sudamina, I take it, the opening is plugged by exuviae, and the sweat finds its way laterally between the horny layers of the cuticle....." I think the basis of the above explanation holds good. Dr. Crocker and I propose to work out the anatomy of dysidrosis, as far as we can, more fully, and to place on record our joint observations on the matter. I thought it well, whilst the clinical features of our recent case were fresh in your minds, to show you these specimens, and thus vindicate the correctness of my teaching on the subject during the last few years.

[The above noted points were then fully demonstrated by the specimens.]

DIPHTHERIA.

By ROBERT BELL, M.D., F.F.P.S. Glasgow,

Physician to the Glasgow Institution for Diseases of Women and Children, etc.

IN January 1876, it was my privilege to publish in the JOURNAL a short account of the plan of treating diphtheria, which I have adopted during the past few years. It is now my desire to detail the history of other cases of the disease which have passed under my notice since that date. It will be remembered that, under the treatment which was advocated, all the patients recovered, with the exception of two, who proved themselves so obstinate that any attempt to carry out my wishes was frustrated. Since the publication of the paper referred to, I have met with at least eight well marked cases of this disease, all of which recovered. I am induced to give an account of my further experience of this mode of treatment for many reasons, chief amongst these being that my medical brethren, who were in communication with me on the subject after the appearance of my former paper, may have further proof to support them in their endeavours to combat the disease by the means which have proved so successful in my hands.

Cases I and II, M. F. and A. F., sister and brother, aged 10 years and 8 years respectively, were both prostrated on the same day. The film was spreading very rapidly over the tonsils, and there was considerable fever. The throat of each patient was freely painted every two hours with the following application: glycerine of carbolic acid, the strong liquor of the perchloride of iron, and sulphurous acid, of each three drachms; and the following mixture was given: chlorate of potash, two drachms; sulphurous acid, two and a half drachms; glycerine, one ounce; and water, to four ounces: two teaspoonfuls to be taken every two hours. In this way, while the patients were awake, an antiseptic was brought into contact with the diseased surfaces every hour. Port wine, soups, and milk were also given freely. The tonsils had only been painted a few times when the film showed signs of ceasing to spread; and within four days all the diphtheritic membrane had disappeared, and, saving a considerable amount of prostration, the patients were pretty well. A course of tonic treatment, however, soon removed this debility.

Case III was confined to one member of the family, but the disease was epidemic at the time. The patient was a girl thirteen years of age. The treatment as described above was adopted, and the disease ran very much the same course as in the two first mentioned cases.

Case IV was the most intractable attack of diphtheria that I have seen. The patient was an only daughter, aged 16, and before her illness was a remarkably healthy looking girl. I saw her first on the 26th December last, and then considerable areas on both tonsils were covered with the fungoid deposit. The treatment was immediately

commenced, and most rigorously carried out; but in this instance, it seemed for some time to have no control over the disease, for the false membrane continued to spread, till on looking into the throat nothing could be seen but the diphtheritic deposit. The treatment, however, was persevered in most persistently. Unfortunately, when the disease was about its worst, I became so unwell that I could not leave my bed for a day, and a friend kindly took charge of the case for me, who saw that my instructions were most rigidly carried out. The father of the child, feeling desperate, asked to be permitted to see me in bed, to ascertain if nothing else could be done to relieve his daughter, my friend having looked upon the case as hopeless. I suggested a consultation, but the consultant said he could only confirm what my substitute had already said. Both, in fact, viewed the condition of the patient as being beyond hope of recovery. During all this time, be it remarked, the antiseptic application to the throat had the effect of preventing the poison from being absorbed into the general system, and on this account, I thought there were still reasonable grounds for hope. Having made the parents understand this, I urged them to persevere most conscientiously with the treatment, which they did; and with the assistance of my friend Dr. Brock, nothing was lost for want of a thorough application of the remedies. On January 3rd, the symptoms began to abate; and from that time, her recovery was uninterrupted.

Cases V and VI were brother and sister, the only children of the family. Their history is very similar to that of Cases I and II, and their recovery was quite as complete; though, in the girl, there still exists a great weakness of the throat, rendering her very prone to tonsillitis.

Cases VII and VIII are very recently recovered from an attack of diphtheria. They are now quite rid of the disease, but are still suffering from the resulting weakness. They are likewise brother and sister, four and six years of age. It may be interesting to note that the laundrymaid in this family had an attack of diphtheria about eighteen months ago, from which she recovered under similar treatment.

Since the above was written, another child of the same household has been attacked, but is now on a fair way to recovery.

I would remark that, in every house where the above cases occurred, the arrangements for supplying the inmates with water were defective. In every instance, the drinking-water was drawn from a cistern, which was placed above the water-closet and bath-room; and when the cisterns were examined, they were found to contain an immense accumulation of slimy matter of a green colour, which under the microscope proved to be loaded with minute organisms, the greater number of which were of the same form as blood-corpuscles, and about the size of an inch in diameter. There can be little doubt that these microscopic bodies were the germs from which the disease sprang; and there can no estimate be formed of the immense amount of preventable zymotic disease which is constantly attacking the community under similar unsanitary conditions. It behoves us, then, as custodians of the public health, to insist that such unscientific, nay criminal, modes of constructing houses be prevented.

P.S.—The above paper was written in the autumn of last year, and within the period which has elapsed since then, twelve other cases of diphtheria have come under my observation, all of whom have recovered under the same treatment. I may mention that five out of this number occurred in one family. Again the cistern-water was at fault.

EXCISION OF THE TONGUE BY IMMEDIATE LIGATION.

By WILLIAM FEARNLEY, L.R.C.S. Edin., Lerwick, Shetland.

THE publication of Mr. Lund's case of removal of the tongue by scissors induces me to publish the following case.

Christina J., of Tingwall parish, came into Lerwick to consult me regarding a sore on her tongue. She came to me on November 6th, 1875. She was then aged 66; was living with a sister older than herself; had a good family history; had enjoyed average health all her life; had never been married. I found a large "sore" on the right border of her tongue opposite to and touching the only tooth in her head: a molar in the lower jaw, with a sharp inner edge. The sore had all the characters of an epithelioma, and involved the anterior third of the posterior half of the right lateral half of the tongue, which was much indurated. The glands were, so far as I could make out, unaffected. I recommended extirpation, to which she readily consented. She, with her sister, took a suitable room in the town, and on the 9th I, with two assistants, proceeded to remove the whole organ.

She was put deeply under the influence of chloroform (given on four

(thicknesses of towel); and I seized the tongue with a pair of forceps, and transfixed the tip of it with a needle carrying a stout double thread, which was afterwards looped and given to an assistant, by which he pulled the tongue well out of the mouth. I then laterally transfixed the tongue with a blanket-pin, beginning at the right angle of the mouth and bringing it out at the left, and by this means carried the pin immediately in front of the epiglottis. I then placed a single loop of very stout whipcord around the tongue behind the pin, giving it one turn of a knot, ready to be tightened. Next, I divided the attachments of the tongue to the floor of the mouth by means of a pair of scissors, while it was being dragged well out by the looped thread—taking care to hold the face well sideways and close as possible to the pillow. Then I quickly severed the tongue with the whipcord, which cut it much as it would cut hardened butter in frosty weather.

There was very smart hæmorrhage during the time the scissors were being used, and the patient lost, as near as I could tell, about three ounces of blood. There was no further hæmorrhage after the tongue was removed—never a drop from the surface traversed by the whipcord; and no ligature, or even mopping of parts with styptic, was required. The patient remained in bed three days, and went home—on foot, I believe—on the eighth day, a distance of eleven miles.

She had eight months of comparative health, when the cancer returned, this time in the larynx, and ended her life thirteen months after the operation.

I saw, during my student-days, the late Mr. Nunneley of Leeds remove tongues by his method; and afterwards, as an Edinburgh student, I saw the procedure of the late Mr. Syme carried out. In using the *lévaseur*, surgeons use the quite unnecessary precaution of waiting each time, after giving the handle a turn, half a minute or more, thinking thereby to prevent hæmorrhage. After a thirteen years' experience of the application of torsion among the so-called lower animals, I am in a position to state that no more blood is lost after the most speedy severance of actively vascular parts by the most rapid strangulation than is lost by the measured torsion at present resorted to. Further, I have not seen, even by Mr. Syme's operation, the tongue and its attachments more completely removed than was quickly effected by my simple proceeding.

MORPHIA AND A TELL-TALE AS AIDS TO COMPRESSION IN ANEURISM.

By C. F. MAUNDER, F.R.C.S.,
Surgeon to the London Hospital.

In my Lettsonian Lectures of 1875,* I drew attention to the value of morphia as an aid to compression, as a substitute for chloroform and its attendant risks. I illustrated its use in the case of a gentleman who "dozed, took his meals, smoked his pipe, and submitted to continuous digital compression for twenty-three hours, with scarcely a complaint; and, at the expiration of this time, expressed himself as capable of enduring treatment many hours longer". The following is another example of the value of the drug.

In February 1877, Mr. —, who is now forty-two years of age, was advised that he was the subject of an aneurism of the popliteal artery. He was put to bed and treated for the first ten days with a bag of shot weighing eight pounds placed over the common femoral artery. During the next month, a tourniquet was substituted, and worn during eighteen hours out of the twenty-four over the superficial femoral artery. His health now began to fail; treatment was discontinued; and he went to his business, the tumour being smaller and pulsation less marked. During the last three months, the swelling and the pulsation had both increased, associated with pain and general discomfort about the knee.

March 29th, 1878. I found Mr. — with an aneurism of the size of a large orange occupying the upper half of the popliteal region, and bulging somewhat to the inner side of it. Continuous digital compression with a weight of ten pounds was advised, aided by morphia, if necessary.

March 30th. Mr. W. R. T. Hawkins and Mr. Albert E. Jones of the London Hospital commenced the compression treatment at 11.45 A.M., the common femoral being the artery selected; and they maintained complete occlusion of this vessel for the space of half an hour alternately. At 4 P.M., the patient suddenly complained of severe pain (distal occlusion?), commencing in the calf of the leg, and running up along the aneurism and femoral artery. A quarter of a grain of

morphia was now hypodermically injected, and relief afforded. From this time, when the gentleman compressing was relieved by his colleague, and the pressure for the moment somewhat relaxed, the force of the pulsation in the aneurism was observed to be gradually diminishing. At 8 P.M., an assistant was recruited, in order to help in the continuation of the compression through the night.

March 31st. At 2 A.M., another paroxysm of pain occurred, after which pulsation was scarcely, if at all, perceptible; and a firm swelling occupied the seat of the aneurism, the disease being practically cured. At 10 A.M., no pulsation could either be felt or seen. One or two arteries could be detected meandering the knee. Compression was continued during the day as a precautionary measure. Throughout the whole time (thirty hours), the patient lay on his back, with the thigh rotated outwards, and the leg flexed at a right angle on this. An indicator (which consisted of a penholder with a piece of paper like a flag placed between the ribs, and which marked the presence or absence of pulsation in the aneurism) was lodged like a finger-post in the flexure of the knee, and acted like a tell-tale to the compressor. Mr. — took food at intervals, and was cheerful and chatty, except when asleep. An injection of morphia was resorted to four times.

The skin over the seat of compression, which had been protected by the occasional application of French chalk, was slightly reddened only, and was the source of the least possible discomfort to the patient, who said he could have borne the treatment many hours longer.

CASE OF PARALYSIS AFTER APPLICATION OF A PLASTER BY AN UNQUALIFIED PERSON TO THE NAPE OF THE NECK.*

By E. RICE MORGAN, M.R.C.S. Eng., Morriston.

X. M., AGED 25, living at Landore, workman in a tinworks, had been suffering for about six years from a skin-affection located at the back of the neck; whether sycosis—an unusual situation I admit—or some other cutaneous disease, I am unable to say, for I did not see the man in the early stage; in fact, not until the skin-affection had been effectually got rid of. His previous history was good; he had never had paralysis of any kind before, nor could I find any traces of a specific history; and I have grounds for saying that up to October 1877 he was a strong healthy man.

When I first saw the patient in October 1877, he was in a very dangerous state. His face was very swollen and painful; his eyes were suffused; his tongue was very foul; pulse quick and compressible; throat dry and sore, accompanied by cold clammy sweats; and I came to the conclusion that he was suffering from blood-poisoning, and thought it was probably due to arsenic. At the back of the neck was a large deep slough as large as the palm of one's hand, and I then elicited that, about nine days previously, a certain unqualified practitioner had applied a plaster to the nape of his neck to cure, as he said, the skin-disease. For a few days, the prognosis was very doubtful, and, though I treated him for blood-poisoning from some metal, I was unable to obtain any portion of the said plaster to find out by analysis its ingredients.

These bad symptoms gradually gave way, but, about the tenth day, I found he had lost all motor power in the arms and legs. Sensation, however, was unimpaired; nor did he lose power of speech or consciousness, and he had control over all the sphincters. The spinal cord being, as I judged, implicated high up, I was afraid that possibly the muscles of respiration would become affected; but, fortunately for the man, this did not occur.

After careful treatment, specially with sulphate of magnesia, iodide of potassium, and cinchona, the man quickly improved. The large wound left by the plaster gradually healed; the appetite returned, and with it strength. The return of power to the muscles, however, was very gradual; and it was nearly four months before he could place his hand upon his head; but this improvement has been going on uninterruptedly. His legs, of course, have been much slower in recovering.

March 29th, 1878.—He now looks quite fat, as compared to what he was four months ago. He can take a spoon in his hands, and carry food in it to his mouth, and can give a very fair grip to one's hand. The extensors are less powerful than the flexors. The muscles of the legs during the past month have also made rapid progress; for he is now able, when sitting, to lift them up and keep them out straight for a second. When once put up to stand and allowed to lean against something, he is able to remain thus unaided. Six weeks ago,

* *Surgery of the Arteries*, pp. 25. London: Churchill.

* Read before the South Wales and Monmouthshire Branch.