table. He was nearly blind in the left eye when the right was operated on, and gradually got worse, and for years was led about blind, obstinately refusing all treatment. After I had operated upon a few patients with cocaine, I sent for S— and told him that I could remove his cataract without pain and without administering either ether or chloroform. After some demur he consented to submit, and I operated upon the 20th of last month. Iridectomy and all was completed without the slightest misadventure, the patient exclaiming, "I never felt you. I never felt you." "Why did you roll about, then?" I said. "I don't know," he replied; "but I never felt you."

The other case was that of a very delicate, nervous, and feeble woman, aged seventy-six, whose right eye had been lost by accident eight years ago, and the left had been blind from senile cataract for a year. Cocaine had been freely applied to the left eye with a view to extraction of cataract, and I requested the patient to lie down on the operating table. "You must chloroform me," she said. "It won't be necessary," I replied. "I shan't be done; I shan't be done if you don't give me the stuff," she said, getting excited. I had special reasons—into which I need not enter here—for withholding a general anæsthetic in this case, so I said, "Very well, you shall have your own way; lie down," at the same time applying an Ormsby mask without any anæsthetic to her face, directing her to breathe deeply. After a few minutes she said, "I get no forwarder." I said, "You will soon feel nothing," and directly afterwards applied the speculum. "I'm not gone!" she shouted. "Yes, you are," I said; "see, you don't feel," at the same time fixing the eyeball with forceps. She seemed literally struck dumb with amazement, made no further remark, and the cataract was extracted, iridectomy and all being performed without the slightest manifestation of pain. At the conclusion of the operation she said, "That is queer stuff. I thought one went to sleep." I replied, "I gave you only enough to send the eye to sleep, it was not necessary to do more." "Well," she said, as she was led away, "I felt no pain, that's certain."

Both these patients recovered excellent sight without subsequent pain or other bad symptom, and the former certainly could not have been operated on but for Dr. Köller's splendid discovery. I may add that I have now extracted in twenty-five cases of senile cataract, cases in which iridectomy has formed part of the operation, under the influence of cocaine, that in each case the operation has been completed without misadventure, and that all have made excellent recoveries.

I am, Sir, your obedient servant,

CHARLES BELL TAYLOR, M.D., F.R.C.S.E.,

Surgeon to the Nottingham and Midland
February, 1885. Eye Infirmary.

ANTISEPTIC SOLUTIONS OF COCAINE, ATROPINE, AND OTHER ALKALOIDS.

To the Editor of THE LANCET.

SIR,—It is quite evident that cocaine is destined to be used very extensively in all parts of the world, and therefore some attention should be given to the best means of preserving the activity of its solution. Already, too, it has been pointed out (*Dental Cosmos*, December, 1884) that after the lapse of only two weeks a fungous growth appeared in a solution, which is thought to have destroyed its efficacy. Such a result might of course be anticipated, knowing as we do how quickly such growths appear in vegetable solutions if in warm situations or exposed to the atmosphere.

More than six years ago I wished to discover what would prevent such changes taking place in atropine solutions, and I got Messrs. Corbyn and Co. to prepare for me a number of specimens of liq. atrop. sulph., P.B., each containing some antiseptic substance—amongst others thymol, camphor, salicylic acid, carbolic acid, chloroform, &c.—the ultimate result being that I found, after allowing them to stand some months, that the preparations containing camphor or thymol still remained clear, whilst fungus had started to grow in the others. Camphor being as a rule more frequently at hand, and being otherwise convenient and suitable, I decided to employ it. I have therefore, during the last five years, in my prescriptions always directed that atropine or eserine be dissolved in camphor water. Upon considering the subject again in reference to the preservation of cocaine, I referred to those of my specimens which still exist, and I found that the one which had undergone the

least apparent change is that containing thymol (half a grain to one ounce). It is still quite clear, colourless, and to the naked eye free from growth. On testing, however, its physiological effects, I find it produces no dilatation of the pupil, even after several instillations; whereas the camphorated solution (two grains of camphor to one ounce of liq. atrop. sulph.), which was made at the same time (1878), although a little turbid, is free from mycelium, and acts almost, if not quite, as quickly as if recently prepared. Having repeated the experiments with these solutions several times, and always with the same results, I conclude that, although camphor does not, in small quantities, prevent the advent of organisms in atropine solutions for an indefinite period, yet it preserves them free for one or two years, and at the same time it does not interfere with the mydriatic properties of the alkaloid. This fact will be appreciated by both surgeons and chemists; and, as it is probable that camphor will act in the same manner with solutions of other alkaloids, I would suggest that, until we have more definite knowledge, camphor in powder or as spirit of camphor be added to the solutions of cocaine. My experiments with eserine were commenced two years ago, but are not yet completed; but I may state here that, though camphor does not prevent the change of colour which nearly always takes place in its aqueous solutions, yet it is a good preservative; and that, when thymol is added, the eserine soon becomes inert. At some future time I hope to publish some observations on the preservation of both eserine and cocaine solutions, but some months must elapse before those in reference to the local anæsthetic can be of any value.

In 1881 M. Kroemer¹ pointed out that during the time he had used carbolised solutions (1 in 1000) atropine conjunctivitis, which previously had been of frequent occurrence, had not been seen in the clinic at Basle, and my own experience during the five years I have used atropine with camphor fully corroborates his statement. The solution made for me in 1878, however, with one part of carbolic acid in 500 did not long keep free from aspergillus, and I have no doubt carbolic acid is inferior to either camphor or thymol for this purpose. Judging from what I have seen, the conjunctivitis in these cases is not due to the "drops" containing too much acid, as I have failed to produce it with guttæ atropiæ to which three or four drops of dilute sulphuric acid had been added, or to any impurity of the drug, as cases occur where the irritation follows the use of a few only of the solutions prepared from the same stock and distributed widely. Nor is it due, I consider, to the visible forms of vegetable organisms, but rather to bacilli or micrococci which gain admission to some of them, and readily develop owing to the absence of any germicide, and it is therefore easy to surmise how camphor or carbolic acid is useful and necessary. Any collyrium containing camphor causes no extra pain or unpleasant sensation when applied to the conjunctiva, and as fungi after a time grow freely even in alum, borax, or zinc solutions, camphor or thymol may with advantage be added to these. In consequence of the absence of such a preparation of atropine in our Pharmacopœia, some years ago, when I prescribed gutt. atrop. sulph. with direction for it to be made with atropine and distilled water, I found subsequently on several occasions that the chemist had given liq. atrop. P.B., which, containing as it did some spirits of wine, produced considerable smarting, much to my own and the patient's annoyance. Besides the advantage to surgeons in having a solution of atropine always active and ready for use in ophthalmic cases, I might point out that even the atropine drops dispensed at hospitals, and therefore possibly made every few days, should contain some preservative.

Since writing the above I have read Mr. Fenwick's remarks in this week's LANCET, and I think he will find that ultimately the fungus will appear even in his 20 per cent. solution of cocaine, and that it is only delayed by the larger proportion of acid which the stronger solution contains.

I am, Sir, yours truly,

Tunbridge Wells, Jan. 31st, 1885.

GEORGE ABBOTT.

COCAINE IN CHRONIC CYSTITIS AND IRRITABLE BLADDER.

To the Editor of THE LANCET.

SIR,—Any suggestion on the application of the new local anæsthetic is of value. After some experience of its efficacy in rectal and urethral operations, I was induced to try it in

¹ Corr.—Blatt f. Schweiz Aerzte, xi.

those troublesome and often seemingly intractable cases of irritable bladder with spasmodic contraction of the sphincter vesicæ. The surgeon is often led to think that he is dealing with an absolute stricture, so sensitive and contracted is this portion of the canal that it hardly yields under an anæsthetic. I had made some small bougies of gelatine about three inches long, charged with one quarter of a grain of hydrochlorate of cocaine, of about the calibre of the normal urethra. These were pushed down the urethra to the irritable neck of the bladder by an ordinary elastic catheter, the result being that the patient in the first instance almost immediately expressed the opinion that he is "going to get control" over his bladder; and, secondly, that the surgeon was enabled at once to make a most thorough examination without his patient suffering any pain whatever. Of course the treatment must be continued; but in these most vexed cases, if the patient at the outset of fresh treatment experiences any relief, even for a limited time, he is on the high road to further improvement, and no doubt eventually to a cure.

Wimpole-street, Feb., 1885.

I am, Sir, yours, &c.,
EDWARD BELLAMY.

DEATH DURING ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—In your issues of Nov. 15th, 1884, and Jan. 24th of the current year two deaths during anæsthesia are recorded, the anæsthetics employed being methylene and ether respectively. In these cases a point of so much practical importance is raised that I venture to draw attention to it. A dangerous and misleading view, which the anæsthetist is apt to fall in with, is that which assumes that the danger to the patient and the degree of narcosis rise and fall *pari passu*; that the smaller the margin of vitality the less ether &c. should be given. I have often seen operations performed upon "unfavourable" cases, when the patient never became fully under, but came round time after time, the anæsthetist fearing to produce complete narcosis. But the truth is that the two "dangerous" points are the "half-under" and the "half-round" degrees of narcosis; but especially the former of these—when, that is, the energy of the respiratory and cardiac centres is lowered, whilst reflex susceptibility is not yet abolished, but rather intensified, a condition analogous to the irritability of exhaustion, when the breathing is irregular and the pulse rapid and feeble. To this succeeds, after a few inhalations, the quiet regular breathing, and fuller, slower pulse of complete narcosis. In the former condition (of semi-narcosis) any operative measure takes the patient at the greatest disadvantage. The deaths that I have seen, and some that I have read of, seem to me to have indisputably occurred during semi-narcosis, and to have followed with marked suddenness upon some operative proceeding. I have seen two deaths occur at the commencement of colotomy (a child and an old woman being the patients), both such feeble subjects that narcosis was not fully established. At the first skin incision the child's pulse ceased suddenly, almost as though it had been shot through the heart. The woman's case was strikingly similar; she had partially come round during a momentary delay in commencing, and was sick. As the first incision was made in the skin the woman gave a couple of gasps, and the pulse and breathing ceased together. In the case you record of death under methylene, narcosis was "with difficulty induced"; "the pulse was good," but "at the commencement of the operation the patient became rapidly cyanosed, and the heart's action suddenly ceased." What was the cause of death? Not some peculiar susceptibility of the system, for the patient had taken methylene on a previous occasion without difficulty; not his general condition of health, nor special cardiac condition, for both were good; evidently not the operation (division of the ulnar nerve). I think one must conclude that death was due to a fatal inhibitory impulse, excited by the incision, acting upon the heart during semi-narcosis. In the death during ether, the man "had partially come round," and the bag was put over his face without any more ether, whilst reduction of the dislocation was effected; in a minute or so he was observed to have become very pale, and the breathing very feeble; all attempts to revive him failed. Here, apparently, the shock of forcible reduction during semi-narcosis, acting upon a condition of great vital debility, was the cause of death. Apologising for occupying so much of your valuable space,

Feb. 9th, 1885.

I am, Sir, yours, &c.,

J. PHILIP GLOVER, M.B.

RALPH WALDO EMERSON.

To the Editor of THE LANCET.

SIR,—It may interest some of your readers to know that Ralph Waldo Emerson (whose biography Dr. Oliver Wendell Holmes has just written) suffered during the last ten years of his life from well-marked symptoms of aphasia. According to Mr. Conway, "There was something striking in the kind of forgetfulness by which he suffered. He remembered the realities and uses of things when he could not recall their names. He would describe what he wanted or thought of. When he could not recall a 'chair,' he could speak of that which supports the human frame; and 'the implement that cultivates the soil' must do for a 'plough.'" This account of the ailment of the great American essayist is interesting from a medical standpoint, showing, as it plainly does, how an active brain will overcome apparently insurmountable physical difficulties due to localised disease of its substance. In the present instance I take it that this result was effected by utilising circuitous efferent nerve tracts in the healthy tissue around the lesion.

I am, Sir, yours truly,

Brighton, Feb. 5th, 1885.

W. AINSLIE HOLLIS.

MANCHESTER.

(From our own Correspondent.)

THE MANCHESTER MEDICAL SOCIETY.

THIS Society has now completed its fiftieth year of existence, and at the meeting held on the 4th inst., Dr. Walter Whitehead took the chair as President for the ensuing year, in succession to Dr. Leech, who retires after having held that office for two successive years. Both financially and numerically it is in a very flourishing condition; it numbers 240 members, possesses the largest medical library in the provinces, and has had £500 bequeathed to it during the past year. It has lost two of its oldest members, Dr. Noble and Dr. Joseph Stone.

THE ROYAL INFIRMARY AND THE CORPORATION.

The dispute already noticed as having arisen between the Royal Infirmary and the Corporation, concerning the excessive charges of the former for cases of fever treated at their hospital, has resulted in the former paying in full the charges in dispute; and at the last meeting of the Infirmary Board certain proposals were brought forward and approved for submitting to the Health Committee of the Corporation: they are, briefly, that the Fever Hospital must be extended if the Corporation desire to continue the use of it; that the cost of such extension will be £20,000, of which sum the infirmary will provide about £3000, being the profit they have made by the treatment of the Corporation patients during the past three years, and that they will advance the remainder of the money as a loan to the Corporation, the latter to pay interest on such loan; that the infirmary will contribute £500 a year towards the maintenance of the hospital, the remainder to be found by the Corporation; and that the management of the hospital shall be retained by the authorities of the infirmary. These proposals have been submitted to the Health Committee, and their decision is now awaited before any further steps are taken.

SANITARY MATTERS.

At the last meeting of the City Council several matters of much sanitary interest came up for consideration. The Rivers Committee submitted a report upon their inquiries and investigation as to the best means of the disposal of sewage, with a view to the non-pollution of the river by sewage matters. The three systems of irrigation, intermittent filtration, and precipitation were described and their respective merits pointed out. The same committee are to make further inquiries and report again prior to the whole matter being gone into. Manchester has at present in operation over a very large area the pan system of closets with weekly removal, so that the problem here should present less difficulties than in towns where all sewage is turned into the sewers. The Parks Committee submitted a proposal for the purchase of a large open space in one of the suburbs, known as the Ardwick Polygon, and the Council sanctioned an expenditure of £20,000