be accepted with caution, but in the first case the consistent manner in which the patient and her friends gave the date of the onset leads me to believe in its accuracy, and in the second the good vision of the patient three weeks before her admission was proved. Lately I have seen several cases in young adults—females—in which flocculent-looking opacities in the lens have come on rapidly without any apparent changes in the choroid and vitreous; in most of them there was some disordered menstruation, but the number of cases is insufficient to determine whether this is accidental or not. I have, however, never seen a case in which the whole lens became opaque in so short a time. The second case is important as showing what disastrous results may follow a suction operation. Mr. Carter tells me that many years ago he lost an eye after this operation, and believing that he had discovered the cause in septic infection by the suction curette, he has since always disinfected the instrument immediately before use. This precaution was taken in this case, and the untoward result is probably to be attributed to the general condition of the patient. Unable to see and surrounded by strangers, with whom she was unable to exchange ideas, she sank into a moping and despondent condition, from which she could with difficulty be roused to take nourishment. The rapid onset of the cataracts points, no doubt, to malnutrition and low reparative power; but the happy result of the preceding case shows that this alone is insufficient to account for the course the case took. Possibly, if it had been possible to converse freely with the patient, some cause would have been discovered for her extremely depressed condition, which was at the time attributed to her loss of sight. The removal of lens matter by suction is an operation which is very frequently performed, but the above and the two cases recorded by Mr. Carter ("Diseases of the Eye," 1875, p. 365) are the only ones in which I am aware of any untoward results having followed when the operation has been properly performed.

NORTH STAFFORDSHIRE INFIRMARY.

THREE CASES OF EXCISION OF THE TONGUE, WITH REMARKS ON THE VARIOUS MODES OF REMOVING THE TONGUE.

(Under the care of Mr. WILLIAM DUNNETT SPANTON.)

THE best method of removing the tongue is still an open question, and appears a fair subject for discussion.

CASE 1.—Betsy D—, married, aged forty, residing in the country, was admitted in December, 1875. She was in a delicate state of health, had never been very strong, having had a family of eleven children quickly; the last child born ten months previously, and she had suckled the child most of the time. She was also suffering from more or less menorrhagia. She stated that about two months before she had first noticed a spot on the left side of the tongue like a blister. It was hard, and for many months gave no pain or trouble. At the end of a year an ulcer formed, which soon began to spread and cause pain. On examining the tongue the left side was found to be involved by a large excavated ulcer the size of a date, with hardened edges and bleeding on the slightest touch. In the right half was a nodule the size of a horse-bean, hard and tender. No enlargement of glands, speech much impaired, and there was a copious flow of muddy offensive saliva. No history of syphilis. She was under treatment for some time before admission, and was advised six months before to have the tongue removed, but some domestic circumstances caused the operation to be postponed until Dec. 23rd. Chloroform was then administered, and the patient was placed in the semi-recumbent posture, the mouth was kept open by a screw gag, a stout ligature passed through the tip of the tongue. The mucous membrane of the floor of the mouth was freely divided round the lower jaw with scissors, the genio-hyoglossus and hyoglossal muscles cut through, and separated more completely by the finger. A needle having previously been placed through the base of the tongue, the chain of an écraseur was passed round the base of the tongue as low down as possible, and behind the needle. The chain was made to cut through slowly, and apart from the bleeding caused by the division of the muscles there was no hæmorrhage. The surrounding tissues, after removal, were found soft and healthy feeling. The patient bore the opera-

tion well, after which she was enjoined not to attempt to speak. A very simple milk diet was ordered, and the mouth to be frequently washed out with a lotion of iodate of calcium (one grain to one ounce). On the following day she could swallow comfortably. There had been no hæmorrhage, and she had slept well. Pulse 80; temperature 98.6° F.

On the 27th she was progressing well; the surface of the root of the tongue was beginning to suppurate; deglutition was easy and painless. Temperature 98° F. On Jan. 1st, 1876, four days after the operation, the wound looked healthy, but granulating with slight suppuration; profuse flow of saliva; no fetor. General health much improved, and the patient anxious to be up. From that time improvement was steadily progressive; she gained flesh, and when she returned home a month afterwards was in better health and far more comfortable than she had been for eighteen months before. She could speak rather more plainly than before the operation; the copious flow of saliva continued, but was free from any peculiar offensiveness. She attended from time to time, and kept very well until she had the misfortune to become pregnant again. This was the signal for a fresh inroad of disease in the submaxillary and cervical glands, from which, soon after she had given birth to her twelfth child, she died, about eighteen months after the operation.

CASE 2.—George W—, aged fifty, living at Hanley, was admitted in December, 1878. The family history was good. He had been a smoker, but not for some years. A brownish spot on the tongue was first observed nine months previously. This gradually increased and began to ulcerate three months afterwards. On admission the right half of the tongue was covered with a foul ulcer, surrounded by infiltrated tissue, which extended towards the left side beyond the middle line. It was hard and very painful, so much so that the patient had eaten no solid food for more than three months. The submaxillary glands were slightly enlarged and tender. There was profuse offensive salivary discharge. On December 12th, at the patient's urgent request, the tongue was removed under the influence of chloroform, in the same manner as in the case above described. There was no hæmorrhage except the bleeding caused by division of the floor of the mouth, which was very trifling.

On the 14th he was free from pain, and was able to sleep naturally for the first time for many weeks. On the 22nd the slough had separated and solid food was taken, and next day he left the infirmary, the surface of the wound looking healthy; glands still enlarged but not painful.

This patient was seen from time to time at his own home, and he continued comfortable until March, 1879, when the disease extended to the fauces, and the glands of the neck became extensively implicated, and at the end of May he died, about five months after operation. Although in this case the respite was not a long one, the patient repeatedly stated that he was thankful for the operation, so great was the relief he obtained. It was infinitely more tolerable even at the last to have a swollen neck and throat rather than a loathsome mass filling up his mouth.

CASE 3.—Edward H—, aged thirty-four, living at Mow Cop, was admitted on September 12th, 1879. The family history was good. He had been a smoker many years. There was no distinct history of syphilis, though he had thirteen years before had a sight sore, which healed quickly and was never followed by any secondary symptoms. He first noticed a hard nodule in the right side of the tongue three months before admission. This soon ulcerated and caused great pain. The tongue on admission was found ulcerated over the right side for the greater part of its extent, with a hardened base; and there was a hardened nodule on the left side of the tongue. The discharge was profuse and offensive. The glands of the neck were slightly enlarged and painful. A decayed tooth was removed, and a mixture was ordered to be taken three times a day containing fifteen grains of iodide of potassium with a drachm of the solution of perchloride of mercury in decoction of yellow bark. The mouth to be washed out frequently with a lotion of chlorate of potash.

On September 27th, this treatment having produced no beneficial effect, the tongue was removed. The operation was commenced by an incision made to the extent of about two inches and a half from the right angle of the mouth across the cheek, reaching to the edge of the masseter muscle. This procedure facilitated the subsequent steps of the operation, which were the same as in the two previous cases. The cheek wound was secured by two harelip pins

and a figure-of-eight suture. There was no hæmorrhage beyond the usual small amount from the mucous membrane of the mouth at the time, but about four hours afterwards active hæmorrhage set in, causing the patient to lose about ten ounces of blood before it could be controlled. By reopening the cheek-wound the bleeding vessel was readily secured and ligatured, and there was no recurrence. The great use of the cheek-opening was then appreciated, for it would have been almost impossible to have secured the vessel without it.

On the 28th he had slept well and felt comfortable. The wound in the cheek which had been left open was reunited. The mouth was syringed out frequently with chlorate of potash lotion.

On Oct. 3rd the cheek wound was quite healed. The slough in mouth was separating. He had no pain, and took beef-tea and milk food freely.

On the 9th he spoke without pain; the slough had separated. The glands were smaller and painless.

On the 17th he returned home with the surface healed; glands were still slightly enlarged, and there was free discharge of saliva, but quite inoffensive.

On Nov. 23rd he was quite well; all swelling and pain gone.

Remarks by Mr. SPANTON.—These cases afford a fair illustration of the mode of treatment which I desire to advocate. But before entering into that question, a few remarks on the desirability of any operation at all in cases of this description may not be out of place. I have found among many surgeons a prejudice against any surgical interference. They will tell you that your patient is sure to die before long if you do operate, and under such painful conditions life is hardly worth prolonging. But what are the facts? Take an ordinary instance of cancer of the tongue, allowed to run its natural course uninfluenced by operation, and you will find in the decisive words of Mr. Erichsen (*"Science and Art of Surgery,"* vol. ii., p. 427) that "nothing can exceed the misery of the patient's death, brought about as it is by pain, hæmorrhage, and starvation." And how long does such a frightful condition of misery last? It has been found, from a large number of statistics quoted in Mr. Clarke's work (*"Diseases of the Tongue,"* p. 140), that the average duration of the disease, operated on or not, is fifty-seven weeks; the shortest, recorded at the Middlesex Hospital, being fourteen weeks, the longest extending over six years. With this distinction, however, that of those cases not operated on the average duration is only forty-two weeks, while that in which an operation has been resorted to is eighty-six weeks, the longest of these reaching to six years. Sir James Paget mentions an instance of longer immunity after operation.

In the first case I have related it is interesting to observe how pregnancy and suckling seemed to hasten the inroad of the disease, as is almost invariably the case; although theoretically one would have imagined that on the principle of starving the diseased parts, such conditions ought to have an opposite effect. It is, however, a matter of everyday observation to find pregnancy and its sequences especially powerful for evil in any devitalising disease. Having digressed so far, I come back to the question of treatment. If statistics prove anything, they assuredly go to show that in this affection a patient left alone has to look forward to possibly forty-two weeks of the most abject misery and suffering, which only those who have seen it can fairly appreciate; while on the other hand, if a complete operation be performed, our patient may fairly count on obtaining for some months at least immunity from suffering, and a life of comparative comfort. If recurrence of the disease should occur, it is usually in the glands or internal organs, and death takes place under infinitely less distressing conditions than would otherwise have been the case.

The gratitude expressed by those persons who have been relieved of the painful affection is a sufficient testimony, I think, to the desirability of removal. And inasmuch as we have to deal with a malignant, albeit localised disease, the obvious course is to remove it as speedily as possible; or, in the words of the late Mr. De Morgan, "to operate early" and "to operate thoroughly." Partial operations on the tongue, like imperfect operations for cancer elsewhere, have been almost uniformly unsatisfactory. Having decided on the removal of the organ, various methods offer themselves. My own conviction is that in this, as in most surgical procedures, the simplest measures are the best; and I cannot yet understand why it should be necessary to perform a com-

plicated operation such as I will presently describe, when a far simpler one will answer the purpose equally well.

It would be interesting, if it were possible, to compare the results of the various procedures which have been adopted. That some are attended with a high rate of mortality I am quite convinced, and to this circumstance, in great measure, we may, I think, attribute the reluctance which many surgeons entertain in advising their patients to submit to excision.

The chief plans may be divided into four groups—

1. Removal through the mouth.
2. By an opening below the chin.
3. By dividing the lower jaw.
4. By combining tracheotomy with the third method.

We will take the last of these first. It was first practised in Germany, and has been advocated recently by Mr. Arthur Barker in a paper in THE LANCET, August 16th and 23rd, 1879. Mr. Barker there states that he has been struck by the number of deaths occurring after operations on the tongue from "septic pneumonia, with, in some instances, gangrene and abscess of the lung." This he attributes to the inhalation by the patient of the "*acrid fumes given off from a quantity of putrid material in the mouth, day after day, and night after night.*" (The italics are mine.) "Irritated at first," he says, "they become, under a continuance of the supply of the poison, intensely inflamed, and rapidly run through the several stages of pneumonia and gangrene." This opinion is supported by statistics quoted from Dr. Schläpfer, who has collected fifty cases recorded in various journals, with an entire mortality of 22 per cent., of which 12 per cent. were ascribed to various forms of septic lung mischief; also by some statistics of University College Hospital, which show that of twenty-one cases operated on for epithelioma of the tongue eight died, of whom five succumbed from lung complications, a rate of mortality of 23·8 per cent. from that cause alone.

Upon premisses such as these Mr. Barker has come to the conclusion that to obviate this very high (and I should hope unusual) death-rate, the rational method is to arrange the operative procedures in such a way that all chances of septic poisoning shall be excluded. And this is how he accomplishes it, as described in his own words:—"A Trendelenburg's cannula was inserted and inflated, and subsequently the tongue was removed, after division of the lip, jaw, and soft parts, down nearly to the hyoid bone. It was removed in two transverse sweeps of the knife, cutting half of the organ at a time, to allow of each lingual artery being ligatured separately. The next day the nostrils were plugged with cotton-wool, and the mouth closed and covered with a well-fitting pad. A silver drainage tube was also adjusted in the floor of the mouth, over the end of which a rubber tube was fitted to carry off all discharge from the mouth into a basin of Condy's fluid at the bedside. He was then obliged to breathe by the tracheal opening, and by it alone. This was kept up for several days, until the stump of the tongue, &c., was comparatively clean. Later he was allowed to breathe by the nose alone (the mouth being kept still strictly closed and padded), and the tracheal wound was allowed to close. Finally, the pad was removed from the mouth." There was on two occasions some oozing, requiring the application of perchloride of iron, and there was a rise of temperature to 103°. This was considered to depend on an alveolar abscess, and relieved by extraction of some loose teeth. Convalescence was rendered tedious by exfoliation of two pieces of bone. In one case the drainage-tube was retained thirteen days.

Now, I should like to ask why at the time the patient had in his mouth a putrefying malignant sore, with poisonous breath and discharge, no pneumonic or septic symptoms occurred? And, further, why such symptoms should be looked for from a granulating surface, such as we usually have after removal of the tongue? Can anyone for a moment suppose that a fresh cut surface, and presumably a healthy one, could "exhale" such "irritating" or "acrid fumes" as would provoke pneumonia? I venture to assert that such a proposition is absurd. If "septic pneumonia" occurred, surely it would be in the way in which it usually arises after operation—i.e. from direct absorption of some morbid material into the blood. But why should such a condition be possible? Suppose the air of the ward to be in a proper condition, and you disinfect the wound in the mouth as it ought to be disinfected, and as in the cases I have recorded it was, what possibility can there be of any "acrid fumes," or

even of any putrid material which could by any means lead to blood-poisoning, or lung-poisoning either?

It seems to me that in the operation Mr. Barker has proposed he has adopted, to begin with, a practice which has, I think, been properly designated "a relic of a barbarous state of surgery" ("On a Painless Method of Excising the whole Tongue," by Richard Barwell, F.R.C.S., THE LANCET, 1879, p. 549), and he has in addition to this further complicated it by opening the trachea, so that the patient incurs great risks, altogether foreign to the operation (in the shape of acute pneumonia, &c.); and also by adding to these an unnecessary meddling and paingiving method of carrying out the daily details of treatment. What better drainage-tube can you have than the open mouth? Drainage-tubes are not always models of perfection, according to Mr. Savory; and suppose an obstructed one in such a case as this, and what will happen? The patient will of course have to retain the very material which most of us are anxious to get away, and become very certainly poisoned. There is some truth in the assertion with regard to the offensive discharge no doubt; but this is, I believe, to be attributed not to the cut surface of the tongue, but to the needless compound fracture of jaw. There I think lies the secret. Let the bone alone, and adopting Mr. Barker's theory, you will need no such cumbersome and dangerous complications as tracheotomy and its multifarious accompaniments.

This brings me to consider the next method, No. 3. The plan of dividing the lower lip and symphysis menti devised by Sédillot, and improved upon by Syme, has been almost exclusively followed by the Scotch surgeons, and to this day a large number of operators adhere to it. The words of Mr. Barwell already quoted sufficiently express its character, though there may no doubt be some cases in which it may be required. In the majority of instances, however, it would appear as unwise as it is unnecessary to divide bone with all its attendant risks, when the object can be attained equally well without. The rate of mortality attending it is high, as we might expect, and the wound of bone must be held accountable I think, for many of the cases of septic lung mischief which are reported.

In Group 2, which I need not describe, we find many advocates, notably the late Mr. Nunneley, who was content with a small opening, through which he passed the écraseur, chain or wire; and although I cannot discover any statistics of his cases, they are said to have been mostly successful. Other surgeons have followed the same method in a more or less modified fashion. Mr. Barwell claims for his modification of it (*loc. cit.*) that it is painless, as he takes care in the earlier stages of it to divide the lingual-gustatory nerves. But I fail to perceive how the preliminary incision under the chin, and the passing through of threads and wire of the écraseur into the back of the mouth, can be effected without pain, and for the rest the same claim will apply to other methods in which the lingual-gustatory nerves are divided, be the preliminary proceedings what they may.

Now, we come to the first method I named, that of excising through the mouth with or without a buccal incision. Various ways of effecting this have been practised. The knife is, as Mr. Fairlie Clarke says, "the surest and the most expeditious," but he wisely refrains from adding, the safest. It necessitates abstention from an anæsthetic, and under any circumstances is liable to be attended with dangerous hæmorrhage. (It is, of course, understood that I am not now referring to partial operations on the tongue, in which probably the knife is the most useful.) Of the galvano-cautery I have had no experience. It is said to be very good and safe, although I have lately heard of a case operated on by this method which was followed by sharp hæmorrhage, necessitating ligature of the vessels. The old plan of ligature is now almost discarded, except for disease of the anterior portion; and it seems to me the sooner it is wholly discarded the better. It is painful, it is particularly disagreeable to the patient, and almost tempts septic mischief. Then there is the écraseur, for which we are indebted to Chassaignac. With this useful instrument the organ may be safely removed with little risk of hæmorrhage, and without difficulty. In the cases recorded I have described the manner in which I used it, and it need not be repeated here. I cannot conceive anything more simple or more satisfactory. There are, however, one or two points to which I desire to call attention. In my second case I experienced some difficulty owing to the large size of the patient's tongue. It seemed, when grasped by the écraseur, to fill the mouth, and interfere with breathing.

At the same time it rendered difficult any attempt to feel or to see how the chain was working. As the result shows, this did not interfere with the success of the operation, but it led me to determine in my next case to lay open the cheek. We all know how very readily any cheek wound heals, so that there was nothing to deter one on that score. I found, as I had anticipated, that laying open the cheek enabled me to see the working of the chain during the whole time, gave room for passing in the fixing pins quite easily, and for the escape of any bleeding, &c.; and more than that, allowed free room for the patient to breathe. The operation was rendered very much easier for the operator, and I think safer for the patient. The proceeding is one I strongly recommend. The principal points are to divide the structures of the floor of the mouth freely, so as to be able to draw the tongue well forward without force; to work the écraseur chain from the front so as to divide the base as evenly as possible; to work the instrument slowly, and to administer an anæsthetic. With regard to after-treatment, it was very simple in the cases recorded. Frequent syringing or washing of the mouth with some antiseptic or disinfectant; frequent administration of milk and beef-tea, and keeping the mouth open as much as possible, but not permitting the patient to attempt to speak for a few days. In no case was there any symptom of irritation (the highest temperature was 99° F.), or the slightest approach to septic mischief, and the patients were in each instance up and about in a very few days. Would any of the other methods of treatment have yielded equally good results?

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Ununited Fracture of the Olecranon treated by Suture of the Bones.—Chromidrosis.—Stretching of Facial Nerve for Spasmodic Tic.—Excision of Breast in Intractable Eczema of the Nipple.

THE last meeting of this Society for the session was held on May 27th, J. Lister, Esq., F.R.S., President, in the chair.

Mr. MACCORMAC read notes of a case of Ununited Fracture of the Olecranon Process, in which Bony Union was obtained by Sutures of the Bones. The patient (who was exhibited) was a piano-tuner, twenty-six years of age, who four months before coming to St. Thomas's Hospital had fallen upon the right elbow, and sustained a fracture of the olecranon. When admitted the limb was wasted, especially the triceps; there was no power of active extension; the line of fracture ran across the base of the olecranon, the detached portion being separated by two inches, and fixed to the back of the humerus, the condyles of which could be felt in the gap, no uniting medium being perceptible. On Jan. 6th Mr. MacCormac made a vertical incision three inches long, exposing the fractured bone and the articulation. There was no trace of uniting material, the fractured surfaces were covered with smooth fibrous tissue, and adhesions existed between the detached process and the condyles, and also between the end of the humerus and ulna. These adhesions were dissected out, and the periosteum being reflected, a thin layer of bone was cut off with a chisel, and by means of two wire sutures through holes drilled in the bone the surfaces were brought into close apposition. The wires were twisted and cut off so as to project at the centre of the wound, which was afterwards closed with catgut sutures. The operation was performed antiseptically, the joint being washed out with carbolic solution (1 in 30) before closing the wound. The first dressing was made on the fifth day, when the wound was found to be united, except where the bone-sutures emerged, and these were removed in twenty-one days. In forty days the patient left the hospital with very good active movement at the elbow-joint, and apparently firm bony union at the seat of fracture. From first to last he had no pain or inconvenience. The wound healed without a drop of pus; the temperature occasionally rose to 99° 8'; it was otherwise normal throughout. He has now perfect power of active extension. The arm cannot be made absolutely straight, but he is able to follow his trade as well