4. A. H., aged 45. Signs definite; tubercle bacilli present.

I.	II.	III.	IV.	V.
51 per cent.	39 per cent.	8 per cent.	2 per cent.	0 per cent.

Death took place in four days after the count had been taken.

5. J. G., aged 28. Patient ill; signs definite.

I.	II.	III.	IV.	V.
6 per cent.	34 per cent.	16 per cent.	4 per cent.	0 per cent.

Death in ten days after the count.

6. B. J. G., aged 15. Signs definite and ischio-rectal abscess present, tuberculous in origin. Count taken June 14th:

I.	II.	III.	IV.	V.
33 per cent.	35 per cent.	25 per cent.	5 per cent.	2 per cent.

On September 8th patient appeared well. No temperature; abscess healed. Count gave:

I.	II.	III.	IV.	V.
12 per cent.	40 per cent.	42 per cent.	4 per cent.	2 per cent.

As the condition improved the drift to the left was not quite so marked.

The conclusions arrived at after the above observations were that in cases with an unfavourable aspect the cells with I or II or I and II nuclei were present in greater numbers than normally, and that as the improvement of the general condition takes place the drift to the left of the picture is not so marked; or in other words, the cells with I and II nuclei are not so numerous, and approach nearer the normal.

THE EPIGLOTTIC SUTURE: ITS VALUE IN INDIRECT LARYNGOSCOPY.*

By CYRIL HORSFORD, M.D., F.R.C.S.,
LONDON.

THE object of this brief communication is to draw the attention of the members of this Congress to the fact that the field of vision obtained by indirect laryngoscopy may be greatly improved by the passage of a suture through the epiglottis, and that this suture may now be rapidly and safely passed. The suture is recommended as a substitute, more efficient in all respects than the many forms of epiglottis lifters introduced to facilitate intralaryngeal inspection.

I am fully conscious of the enormous boon the direct method has become to laryngeal surgery, and many enthusiasts have entirely given up the indirect method for it. The time is therefore opportune for bringing forward a plea for the revival of the indirect method, supplemented by the suture.

The method is not new, but is a resuscitation of an old idea. I admit that in my first publication on this subject¹ I described it as original, as I could not at that time find any evidence to the contrary. Sir Felix Semon, however, drew my attention to previous work in this field when I demonstrated it at the meeting of the Laryngological Section of the Royal Society of Medicine of London in December, 1907.²

I propose to make no reference to the many varieties of instrumental epiglottic retractors which require the continuous use of the hand to hold the instrument in position. Whether that hand be one of the operator's or that of his assistant is immaterial, for such a method is obviously unsuitable or inconvenient in intralaryngeal operations.

Türk³ published in 1866 a description of two instruments which he devised for the purpose of utilizing a thread as an epiglottis lifter. With the first a small hook with a thread attached, was inserted into the epiglottis, but the thread did not penetrate the epiglottis. With the second, however, a needle and thread were passed through the epiglottis and the thread was held by an assistant. This instrument was complicated and its use extremely difficult, largely owing to the fact that local anaesthesia by cocaine was not in use at that time. He further feared that the thread would tear through the epiglottis—a complication which can only be caused by

great local unrest. It is no wonder, therefore, that the method fell into disuse. The great value of the principle was, however, recognized, and the instrument was modified and simplified by Schrötter and Tobold.⁴

Jurasz and Jelenffy⁵ recommended the suturing of the glosso-epiglottic ligament instead of the epiglottis, and by this they lifted the epiglottis. Sir Felix Semon and Sir Victor Horsley,⁶ in a series of experiments on dogs, passed a thread through the epiglottis in order to see better the interior of the larynx.

Dr. Gleitsman⁷ of New York has devised an instrument which, from the illustration, appears to be very similar in principle to my latest pattern, and he has found it of great value in rendering possible both a correct diagnosis and an intralaryngeal operation.

The idea of using an epiglottic suture first occurred to me in July, 1906, when I adopted it in order to facilitate an operation of exceptional difficulty—namely, the excision of a very tough fibrous web which united the anterior halves of the vocal cords and extended some way down into the cavity of the larynx. The epiglottis was not overhanging, but I wished to get it out of the way because I was using a sharp-pointed Heryng's knife, followed by sharp punch forceps, and it was necessary to get the best possible view. I used a pair of Spencer Wells forceps, curved at the point, with which I held a small curved and threaded needle. With the aid of the laryngeal mirror the needle was pushed through the epiglottis from before backwards, the point being then caught by the forceps and drawn through. There was not much difficulty in passing the suture and not the slightest discomfort to the patient, who had already been thoroughly cocaineized in preparation for the operation.

Fig. 1.

In the following year I used a needle-holder made to my design by Messrs. Mayer and Meltzer (see Fig. 1), its principle and use being as above described. This instrument was shown, and the method described and demonstrated on a patient, at the meeting of the Laryngological Section of the Royal Society of Medicine already referred to.² Soon after I still further simplified the method by

Fig. 2.

the suture forceps shown in Fig. 2, which was made for me by Messrs. Mayer and Meltzer. It is a modification of Kurz's forceps used for the passage of deep sutures in pelvic surgery. This instrument and its use were demonstrated at

another meeting in April, 1908.⁸ The mechanism of the catch greatly simplified the passage of the suture. Though I have used it with complete success in a large number of cases, I have again modified and simplified it, and my latest pattern, which I call the epiglottic suture forceps No. 2, is the instrument which I now

Fig. 3.

recommend (see Fig. 3); it may be obtained from Messrs. Mayer and Meltzer or H. Pfau, Berlin.

The successful use of either pattern depends, as in other intralaryngeal operations, upon the efficient preparation of the patient for local anaesthesia. Cocaine should be applied to both surfaces of the epiglottis and to the centre of the root of the tongue. It is as well also to apply a little adrenalin to the epiglottis to prevent the possibility of haemorrhage obscuring the field of operation. The needle is first threaded with a long piece of silk and placed in the proximal blade, and the whole carefully sterilized. With the aid of the laryngeal mirror, the

* Read at the Third Rhino-Laryngological Congress in Berlin, September, 1911.

forceps are introduced into the throat until the upper border of the epiglottis is seen to pass between the point of the needle and the distal blade, the blades are then firmly closed and then opened and the instrument withdrawn; it will be found that the suture has passed through the epiglottis. The ends are then brought over the centre of the tongue and gripped by a large pair of Spencer Wells or any similar forceps, and allowed to hang some distance below the jaw. The tongue is held for examination in the usual way, and it will now be seen that the epiglottis is held up against the root of the tongue by the weight of the forceps only and the intralaryngeal view greatly improved. On the occasions in which I have used this method the patients have neither strained nor coughed, and were not conscious of the presence of the suture so long as the effect of the cocaine lasted, though in some cases there were feelings of nausea, which, however, soon passed off. The use of the instrument entails no risk to the patient. The needle is held sufficiently firmly in the proximal blade to prevent it falling out before it is passed, and should it do so, it falls into the glosso-epiglottic fossa only, and is easily withdrawn by the thread, which is held in the hand. When the blades are closed it is firmly caught in the distal blade, and cannot be released until the instrument is withdrawn and the needle turned on its long axis to be liberated; there is, therefore, no risk of its falling into the cavity of the larynx. The epiglottis does not suffer by the passage of the needle, and I have never observed any inflammatory or other complication following it. The suture occupies no space in the mouth, and, unlike other epiglottis lifters, does not require the assistance of a third hand. It further helps to steady the larynx and increases the laryngeal illumination. Though the shaft of some laryngeal forceps may be used to pull the epiglottis forward during their use, it is a decided advantage to be independent of that action, so that the operator may be free to place the forceps in any position he desires, so as to prevent the shaft from hiding the point and obscuring the light.

I consider that the preliminary use of the epiglottic suture for facilitating intralaryngeal operations should not be limited to cases of obscured field of operation caused by a markedly overhanging epiglottis, but should be used in all cases where the epiglottis in any way hinders a delicate intralaryngeal manipulation, whether it be cutting or cauterizing, especially where a perfect vocal result is desired. This method may also be used simply for diagnosis, when other methods of lifting the epiglottis have failed. It may in a few cases be used without the aid of a laryngeal mirror, when it is found, on depressing the tongue, that the upper border of the epiglottis can be seen.

It is scarcely necessary to illustrate my remarks by relating cases in which I have adopted this method, the majority of them having been for innocent growths within the larynx, and these include ten vocalists, who are now singing successfully before the public. I would like, however to refer to one case, for it is the best illustration I have had of the value of the method.

The patient, a tenor vocalist, had been unable to use his voice effectively for four years because of a small fibroma situated on the upper surface of the right vocal cord, overhanging its edge and near the anterior commissure. The larynx was situated rather low in the neck, so that the vocal cords were not easily reached by the ordinary sized laryngeal forceps. This probably explains the fact that during three years numerous attempts by two expert laryngologists failed to remove the growth. These attempts included the use of many varieties of instruments, the direct method once under cocaine and once under chloroform. I succeeded at the first visit with a pair of Whistler's forceps, and my success was entirely due to the use of the epiglottic suture.

The best proof of the accuracy of this method of manipulation was the fact that two months after the patient sent me a press cutting of his successful appearance at a concert.

Since I brought the subject before the Laryngological Section of the Royal Society of Medicine of London I have had many encouraging reports from those of my colleagues who have used the method, and I should like to quote the experience of Sir StClair Thomson, who writes to me as follows:

I have used your epiglottic suture forceps (No. 1) on several occasions and always with complete satisfaction. I have found it most useful in cases of overhanging epiglottis where the

growth was situated near the anterior commissure, a site where the use of the direct method is not so satisfactory as might be expected.

I know of several patients who have welcomed it as an agreeable alternative to the uncomfortable attitude created by the requirements of the direct method.

REFERENCES.

- ¹Horsford: *Lancet*, 1908, vol. ii, p. 89. ²*Proceedings of the Royal Society of Medicine*, vol. i, p. 3. ³Türk: *Klinik der Kehlkopf-Krankheiten*, 1866, p. 552. ⁴Schitzler: *Laryngoskopie und Rhinoskopie*, *Weiner Klinik*, 1874, iv, 7. ⁵Heymann: *Handbuch für Rhin-Laryngologie*, Bd. i, p. 347. ⁶Semon: *BRITISH MEDICAL JOURNAL*, 1886, vol. ii, p. 445. ⁷Gleitsman: *Laryngoscope*, St. Louis, May, 1907. ⁸*Proceedings of the Royal Society of Medicine*, vol. i, p. 7.

CHEILOLOGY: A FUNCTION-RESTORING OPERATION IN CRIPPLING TRAUMATIC ARTHRITIS OF THE HIP-JOINT.

[WITH SPECIAL PLATE.]

BY

W. SAMPSON HANDLEY, M.S.LOND., F.R.C.S.ENG.,

SURGEON WITH CARE OF OUT-PATIENTS TO THE MIDDLESEX HOSPITAL;

AND

C. PRESTON BALL, M.D., M.R.C.P.I., D.P.H.,

VISITING PHYSICIAN, ROYAL HOSPITAL FOR INCURABLES, DUBLIN.

This brief paper is to be regarded as a preliminary communication on an operative method which may prove to be of wide application in the treatment of chronic hypertrophic arthritis, especially if it be uniarticular and of traumatic origin. It is a record of the two first cases in which the method has been applied. Both were of traumatic origin, and in both the hip was the joint affected. In both, while flexion remained relatively free, the movements of abduction and rotation were lost, so that riding was impossible and walking was slow and difficult. In the first case continuous severe sciatic pain, dating from the accident, made the patient's life a misery to him.

Stereoscopic radiograms showed clearly that the principal obstacle to the movements of the joint in both cases was an osteo-arthritic lip or cornice around the head of the femur. It occurred to one of us (C. P. B.) that it might be possible to chisel away this lip sufficiently to relieve pain if not to restore a useful range of movement to the joint. An operation for this purpose was devised and successfully carried out, with functional results in both cases which up to the present have surpassed our expectations. The operation consists in opening the hip-joint and removing the cornice on the head of the femur, so far as it is accessible, by suitable bone-cutting instruments devised to work in a cramped space. On account of its technical difficulty the operation is somewhat prolonged, but in both instances shock has been absent and convalescence uneventful.

It will probably be found that this operation is applicable in other joints than the hip. It may, for instance, be of service in the knee-joint, using the same transarticular incision which has been employed by one of us for difficult fractures of the lower end of the femur.¹ A procedure so definite, and possibly of such wide application, appears to need a distinctive name. We suggest the name *cheilotomy* (χείλος, lip) as convenient.

So far as we have been able to ascertain, the operation of cheilotomy—at any rate, in the hip-joint—had not been performed prior to our first case in January, 1913.

CASE I.

Mr. J., aged 56, four years ago had a fall in the hunting field. His horse came down on the left side without dismounting him, so that his left hip was crushed between the ground and the horse's side. He managed to ride home, did not consult a doctor, and only lay up for three or four days. But from this time forward he began to suffer from severe left sciatic pain, which has gradually reduced him to a crippled condition. For the last two years he has been unable to ride.

He first consulted Dr. Preston Ball in July, 1911. He was then suffering from general rheumatism especially affecting the joints, but more especially the left hip-joint.