tion. The first consists in an incision along the lateral border of the muscle down to the aponeurosis followed by blunt dissection past the great vessels when the infiltrated or purulent peri-pharyngeal cellular tissue is reached. The wound is dressed and allowed to heal by second intention.

The retro-mastoid route is easier. One makes a cutaneous incision about two inches along the posterior border two fingers' breadth below the tip of the mastoid process, incising the aponeurosis and retracting outwards the muscles and great vessels, and then proceeding similarly as before. If the lateral pharyngeal abscess is of tubular origin drainage by the natural route will be found sufficient. An exploratory puncture may be made of the cavity and then a free incision of the mucosa from above downwards. This same technique serves for the treatment of inter-vertebro-digastric abscesses of Goris. Retro-pharyngeal abscesses may be opened through the mouth without anæsthesia, the patient, usually a child, sitting on the knees of the nurse as if for adenotomy in the upright position. A mouth gag and a tongue depressor being employed, a free incision about half an inch in length is made over the prominent part of the swelling from below upwards. The instant the incision is made the patient's head is bent forwards to avoid the inhalation of the pus which pours out. These abscesses, being of lymphatic origin, do not require the external incision. A sub-occipital abscess can be opened by an incision through the thickness of the neck down to the bone. Abscesses of the neck should be treated according to the general surgical principle of effecting the most easy drainage.

SOCIETIES' PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

Meeting at Liverpool, 1912.

SECTION OF LARYNGOLOGY AND RHINOLOGY.

JOHN MIDDLEMASS HUNT, M.B., *President.*

Abstract Report by MR. HAROLD KISCH.

(*Continued from vol. xxvii, p.* 672.)

Notes on Some Cases of Painful Fissure of the Mouth of the Œsophagus.—Adolph Bronner, M.D. (Bradford).—It was Killian who in 1908 first carefully studied the upper part from an anatomical point of view.

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He proved that the lower fibres (fundiform plexus) of the cricoid-pharyngeal (lower constrictor) muscle form a ring round the posterior and upper part of the œsophagus, which he calls "the lip of the mouth." He proved and demonstrated that this mouth is, in a way, similar to the cardiac orifice, that it can be opened or closed, and is generally in a state of tonic contraction. This is the spot where, on passing a bougie, we often find a resistance, more or less marked, where foreign bodies frequently lodge, where we find the opening of the œsophageal pouch; it is often the seat of cancer, and is naturally the spot where we should expect a traumatic lesion, from the passing of hard or irritating food. There is no doubt that we can get spasm (reflex or direct) of the mouth of the œsophagus, just as we get spasm of the cardiac orifice, generally of a more or less painful nature. We have all of us frequently seen cases of painful spasm of this region, which was probably due to a local ulcer or fissure, and which have lasted for months, even years, and have been permanently cured by the use of olive-shaped bougies. Often there was blood on the bougie, and we then suspected cancer or a syphilitic or tuberculous lesion.

I had noticed that the majority of these cases which came under my notice were women of thirty to fifty years of age, and that they often also had dry catarrh of the pharynx. I have only been able to follow up two cases, which had been carefully and frequently examined with the œsophagoscope. Some patients refuse to be so examined, or at least more than once. Some are most difficult to examine.

Case 1.—Mrs. P——, aged thirty, saw me in August, 1911. Difficulty in swallowing for three or four years. There is not always much pain, but it is sometimes very severe. She has a dry feeling in the throat and nose, and has been hoarse for two or three months at a time. There was slight dry catarrh of the nose, pharynx, and larynx, with a few crusts. On examination with the œsophagoscope, I could distinctly see a small ulcer (fissure), partly covered with granulations. Ten per cent. argent. nit. was applied. In November I saw the patient again. She had been able to swallow very much better, but sometimes solids would not pass. I again examined her, and found that the ulcer was distinctly smaller, and the bougie could be passed with greater ease. On December 24th the ulcer was only just visible. She can now swallow fairly well. She complains of the accumulation of wind "below the windpipe"—a common symptom, which is evidently due to spasm of the mouth of the œsophagus. I saw her again on July 22nd, 1912. She is perfectly well and can swallow anything.

Case 2.—Mrs. H——, aged fifty-five. She had not been able to swallow well for three years. Often had much pain, which varied. A small ulcer was seen at the mouth of the œsophagus. Bougies were passed six times, and the dysphagia disappeared. On April 1, 1909, the œsophagoscope was passed; there was no fissure visible. The patient can now swallow perfectly well. She called again, February, 1912. Has had dysphagia for two or three months. A small ulcer was again visible. Bougies were passed three times. There was slight atrophic catarrh of the pharynx. March 1, no fissure whatever.

In my opinion these have been cases of fissure of the mouth of the œsophagus similar to those recorded cases of fissure of the cardiac orifice. Possibly the dry catarrh of the hypopharynx may have been a predisposing cause, or possibly there may have been a small foreign body embedded in the mouth of the œsophagus. (Several other cases were narrated.)

Personally I think that non-malignant ulcers and fissures of the

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mouth of the œsophagus are not uncommon, and that they are possibly in some way connected with dry catarrh of the pharynx.

Syphilis as a Cause of Œsophageal Stenosis.—Walker Downie, M.B., F.R.F.P.S.Glas.—As a cause of stenosis of the gullet syphilis appears to be systematically ignored. In my experience syphilis is rarely considered as a probable cause during the investigation of cases of œsophageal trouble, and many practitioners, I find, believe that the gullet is never the seat of a syphilitic lesion.

Dr. John M'Crae, in Osler's "System of Medicine," says that "many authors deny that syphilis of the œsophagus occurs; this can scarcely be true, but the condition is certainly very rare. The cases described," he says, "rest mainly upon therapeutic evidence, namely, that after anti-syphilitic treatment the apparent stenosis of the œsophagus had disappeared."

In my opinion there is no doubt about syphilis being the cause of stenosis of the gullet in a fair proportion of cases; and, further, I think that that structure is affected by syphilis much more frequently than is generally supposed. I have long held this opinion, and have had the opportunity of demonstrating cases of this nature on several occasions.

Recently I published a paper under the title of "Remarks based on the Analysis of 100 Consecutive Cases of Stricture of the Gullet." In that series 11 cases were due to a lesion caused by syphilis. Syphilis of the gullet is chiefly met with in women. Of the 11 cases which occurred amongst the 100 cases just referred to 9 were in women, and as there were 63 women in the 100 cases, we have syphilis as the determining cause of the stenosis in a fraction over 14 per cent. A married woman who has had the misfortune to be syphilised by her husband has neither knowledge nor suspicion of the nature of the illness, and too often she considers it to be a concomitant part of the married state. For these reasons she does not seek treatment until her system is deeply saturated with the disease, and her health has become seriously impaired. The absence of appropriate treatment in the early stages I believe to be one of the chief reasons explanatory of the fact that cases of syphilitic stenosis of the gullet occur so much more frequently in women than in men.

The patient with syphilitic œsophageal stricture frequently has fissures at the angles of the mouth, which she will probably tell you have been there for months or years, and these fissures are usually accompanied by a chronic superficial glossitis, with recurring attacks of sore mouth, indicative of increased activity at intervals in the inflammatory process as it affects the tongue.

In these cases there is the further story of difficulty in swallowing, sometimes painful, though usually devoid of pain, and this difficulty is accompanied by a slow, but steadily progressive, emaciation, and later by considerable physical exhaustion. In my experience scars in the fauces and pharynx, and other structural losses in the palate, fauces, pharynx, or in the nose, caused by syphilis, are but rarely met with in cases where stenosis of the gullet is present. The diagnosis may be further confirmed in some instances by employing Wassermann's method of testing the blood for syphilis.

Direct examination by means of the œsophagoscope, while it enables one to make a careful inspection of the infected area and to obtain information regarding the condition of the mucous membrane in the neighbourhood of the stricture, is not of any great service in the

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differentiation between the stricture resulting from syphilis and a fibrous or cicatricial stricture from any other cause.

In the early stage we may have, as Dr. Kahler has said, a deep lividity of a limited area, and there may be a yellowish coloration of the mouth surrounding the dull red area.

As illustrative of syphilis as a cause of serious stricture of the gullet, particulars of one case were related in detail.

The lady, aged thirty-three, complained of difficulty in swallowing. This she had suffered from for between four and five years, during which time she had never been free from pain during the act of swallowing, and she had difficulty in the taking of fluids as well as of solids. She had been married for nine years, and her first pregnancy had terminated in a miscarriage.

She was anæmic in appearance, with a tinge of yellow in the skin, and she weighed 7 st. 2 lb. only when fully dressed. She had fissures at the angles of her mouth, with a glazed and tender tongue, indicating a superficial glossitis.

On examining the gullet with a bougie a stricture was discovered at a distance of $7\frac{1}{2}$ inches from the upper gum, through which, with gentle pressure, a No. 7 bougie was passed. Treatment was prescribed, under which she improved satisfactorily. A later attack followed in three years.

She was then placed in a nursing home, where the treatment consisted of vigorous inunction with mercurial ointment, the administration of potassium iodide, combined with pepsin, regular and progressive dilatation of the stricture by the passage of bougies, and feeding by stomach-tube and otherwise.

At the end of three months she gained 1 st. 12 lb. in weight, and in general appearance she was marvellously improved. And now, after a lapse of close on three years, she is exceedingly comfortable and in good health.

Dr. William Hill (London) was not convinced that Dr. Downie's claim of having observed 11 cases of syphilitic contractions of the gullet out of a total of 102 patients diagnosed as œsophageal stricture could be accepted as a conclusive record. Most of the cases came under observation many years ago, when Dr. Downie, in common with others in this country, had not realised the practicability of Mikulicz's method of oesophagoscopy. In over 180 cases of gullet disease, excluding foreign bodies, examined by endoscopy and radioscopy, he (Dr. Hill) had only observed one undoubted case of syphilis—a gumma on the deep pharynx involving the mouth of the gullet. Guisez had only seen one syphilitic stricture in over 800 gullet cases, and unequivocal records of such instances, verified either *post mortem* or by modern methods, were extremely scanty. He hoped Dr. Downie would see his way to demonstrate the condition with the œsophagoscope in one or two patients before one of the laryngological societies at an early date. It would be interesting to know in how many of these alleged syphilitic strictures the lesion was behind the cricoid plate, and therefore not, strictly speaking, œsophageal.

Discussion on the Treatment of Chronic Suppurative Ethmoiditis.

Opening Papers.

I.—**Prof. L. Hajek** (Vienna).—For the purpose of classification we may put down the following groups of chronic suppurative ethmoiditis:

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I. Chronic suppurative inflammation, with marked hyperplasia of the tissue.

II. Chronic suppurative inflammation of the ethmoid, with hyperplasia only in restricted areas, but with extensive atrophy (ozæna—Uffenorde, (1) Hajek (2)).

III. Secondary suppurative processes of the ethmoid consequent upon constitutional disease (syphilis, tuberculosis, and malign neoplasms).

I.

The cases belonging to Group I show either (*a*) that the hyperplasia predominates in the clinical picture, whilst the suppuration is circumscribed, often even latent and restricted to a few cells; or (*b*) that the suppuration predominates in the clinical picture. (*a*) These cases are represented by chronic polypus formation of the ethmoid; the treatment is therefore coincident with the problem of treatment of chronic polyposis.

There are undoubtedly cases of circumscribed polypus-formation which do not return after removal even without resection of the osseous basis; this is the best proof that polypi originate from the superficial inflamed mucous membrane. We see very often after endo-nasal operations, that the mucous membrane produces "acute" polypi. These disappear after the irritation has subsided. Polypi forming around a foreign body do not return, as a rule, if they are removed together with the foreign body. All these facts are instances of superficial inflammation of the mucous membrane of the ethmoid region.

In the majority of cases with nasal polypi we see recurrences after a while, and the therapeutic methods depend upon the causes in the reappearance of polypi.

According to my experience, as recorded (Hajek (3)), recurrence of polypi may have one of the following possible causes:

(*a*) In the course of operation not all polypi are removed, and the individual polypi are not removed together with their base (Zuckerkandl (4)).

(*b*) In many cases the empyema, which gives the inflammatory basis for the formation of polypi, is overlooked (Grünwald (5)).

(*c*) The bone, or the medulla, which with the polypi are intimately connected, is also diseased (Woakes (6)), and new polypi come out of the cellular infiltrate of the medullary spaces.

(*d*) Continual polyposis of the nasal cavity can be produced by recurrences arising from the maxillary sinus (Hajek (7)).

It is clear that we cannot remove *in toto* with our usual methods all the polypi which originate from the depths of the middle nasal canal, from the hiatus, the infundibulum, or the depths of the upper nasal canal (Zuckerkandl). We only amputate them at various distances from their base. Very often a considerable portion of diseased mucosa remains, producing new polypi. But we see daily that recurrences stop if we resect the middle turbinate, and thus can approach the base of the polypi and remove them *in toto*.

Since Grünwald (5) has pointed out that an empyema of an accessory sinus is often the primary cause of polypi, we can observe that in many cases recurrences of polypi can be prevented by proper drainage or cure of empyema. I cannot accept Grünwald's opinion that the majority of polypi are caused by suppuration of accessory sinuses. The third

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reason for continual recurrence is the diseased condition of the bone itself, which is present in inveterate cases of polyposis.

As regards the nature of this disease of the bones, there are two opinions opposed to each other as regards this problem. The one was formulated some time ago by Woakes (6), who expressed his belief in the primary disease of the ethmoid bones. Zuckerkandl (8) and myself (Hajek (9)) do not agree with it, whilst the English surgeons—at least, as far as I can judge from the *Transactions* of the London Laryngological Society—still adhere to this opinion (Lambert Lack (10)), whilst other authors (Spencer (11), H. Tilley (12), StClair Thomson (13)) doubt the primary disease of the bones. Investigations by Zuckerkandl and myself, afterwards corroborated in the main points by Cordes (15) and Uffenorde (1), have shown that the inflammation starts in the most superficial strata of the mucosa, that it goes deeper and deeper in older cases. Later on it affects periosteum, and causes partly the formation of new bone (osteophytes) in the periosteum, partly rarefying osteitis. My investigations, furthermore, have shown that the inflammation, spreading into the depths, also extends into the medullary spaces of the ethmoid bone, which is markedly spongy, and fills them with cellular infiltration. The changes in the bone and the medullary spaces are therefore secondary, not primary. The main consequence of these changes is the indubitable fact that in inveterate polypus formation concomitant disease of the bone is the rule. There are present either periostitic irritations or inflammatory infiltration of the medullary spaces, which favour the return of polypi. It is therefore only logical to remove in such cases the soft tissues together with their bony basis.

The mucous covering of the ethmoid bone extends without interruption into the interior of this bone, and in *well-marked* polypi formation, the interior covering participates just like the nasal mucosa in the production of polypi (myxomatosis interna—Bosworth). Even if the osseous base is not yet diseased, we must remove in such a case the osseous fundament of the ethmoid labyrinth, for it is not possible otherwise to remove thoroughly the polypi from the interior of the ethmoid cells.

I have observed (7) and published a unique case in which continually relapsing polypi originated in the maxillary sinus, whence they came into the nasal cavity through the ost. maxillare. The case was cured by opening widely the maxillary sinus and removing the mucosa of this sinus radically.

In the majority of cases endo-nasal operation with cocaine anæsthesia is the rule. Exceptions will be mentioned hereafter.

The bulk of the polypus is removed by means of a snare or forceps with a good grip. Polypi should be "evulsed" by the snare, for evulsion is much more effective than cutting with the snare. Polypi with a broad base are best removed by evulsion with Luc's forceps.

A latent empyema of the ethmoid often becomes manifest through evulsion; for if the polypus, which blocks the openings of the ethmoid cells, is removed together with its attachment, the cells can now drain, and the empyema, formerly closed, is now open. Such observations prove that the methods adopted against an uncomplicated simple polyposis cannot be separated from those used in cases complicated by chronic suppuration.

Some surgeons recommend galvanic cauterisation of the roots of the polypus after removal of the polypi in order to prevent a recurrence. This method cannot be endorsed—first, because it does not prevent a recurrence, and, secondly, the reaction set up by the cauterisation

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can become excessive and produce dangerous complications. It is best to wait a few days after a polypus operation, until the reaction subsides, before another surgical interference takes place.

The operations are repeated until all visible polypi have been removed. All procedures for the removal of polypi are only an introduction to the treatment proper, nothing more.

Repeated examinations by means of thorough cocainisation of the nasal canals will show whether any nests of polypi are present in the middle or upper meatus. In the case of recurring polypi one can be sure that the polypoid degeneration is not restricted to the superficial mucosa, and that an extensive removal of the site of attachment of the polypi, often together with the osseous base, is indicated.

Mostly it is necessary to remove the middle turbinal in order to gain access to the whole ethmoidal mucous lining. One is often surprised at the extensive degeneration of the mucous lining, which extends into the ethmoidal ostia and the depths of the cells of the infundibulum, and which one would not have expected before removal of the middle turbinated bone.

As regards the extent of the removal of ethmoid bone, with the exception of the lamina papyracea and the lamina cribrosa each individual case must be considered separately. Also that part of the medial ethmoidal wall above the line of attachment of the middle turbinal should escape removal as far as possible, and should not be taken away high up.

As regards the method advisable the following may be said: It is most important to cocainise well, care being taken to have adrenalin added. As much as possible should be removed in one sitting, absolute orientation during operation being a *conditio sine qua non*. This last sentence is one of the most important leading ideas of any intra-nasal ethmoid operation. Further important conditions are: Quiet position of the patient owing to good cocainisation; then absence of hæmorrhage which, starting early, seriously interferes with the view of the field of operation. I cannot consent to the demand that all should be removed at one sitting. Such a method, excluding all individualising treatment, is fraught with danger to the patient.

The obstacles which prevent our surgical interference based on the principles sketched may be of a twofold kind: (1) General; (2) local or individual. To the first group belong diseases which *per se* prohibit or restrict all surgical interference. A local obstacle may be given by insufficient accessibility due to a deviated septum or a spine. In that case the deviation must be corrected previously. An individual obstacle is, for instance, the liability to fits and collapse. Here the operation should be done under general anæsthesia, in spite of the increased difficulty. It is often necessary for a longer interval between the sittings, so that the reaction caused by one operation may subside before the next is done. Such treatment lasts, therefore, for weeks and months; yes, even after years slight recurrences may take place, but these are generally removed in a short time. But it is important to state that, although the treatment necessitates often many operations, and requires a good deal of patience and time both on the side of the surgeon and the patient, all cases can be cured finally.

This tedious treatment of inveterate polypi explains why a more radical method, effected in one sitting, is sought after. As far as I know the famous laryngologist, Lambert Lack (10), already ten years ago favoured such a method. But I do not believe that he has found many followers, for the following reasons: The operation is much more difficult

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under general than under local anæsthesia; the patient cannot aid us in clearing the nose; the most important point—the possibility of exact orientation mentioned before—is not guaranteed, for even a profuse hæmorrhage cannot stop the operation, since all must be removed in one sitting. One should strictly adhere to the principle of removing rather too little than too much, for if orientation is not perfect, one has always to face the necessity of a later operation. In general anæsthesia one has the tendency to violate this principle and remove all disease at once if possible. This I believe to be a procedure that might make the operation a very dangerous one.

(To be continued.)

PROCEEDINGS OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY.

Eighteenth Annual Meeting, May 13, 14, *and* 15, 1912; Philadelphia, Pa.

Report by Dr. L. M. Inghram.

May 13.

(Continued from vol. xxvii, p. 615.)

Discussion—The Standardisation of Tone in Voice Production.

The Need of a Standard in Voice-production.—Mr. William J. Henderson (New York) (Musical Critic, *New York Sun*).—The whole foundation of the so-called "Italian method" was laid as early as 1613 A.D. The codification of its laws was completed in the course of the seventeenth century, and when the great schools of that time were sending out such famous singers as Farinelli, Caffarelli, Cuzzoni, and Faustina, everything was known about singing that is known now—except the physiological laws, of which nothing whatever had been discovered. In the early part of the eighteenth century, the empirical method of instruction was the only basis of vocal art. Its prime requisite was to allow the voice to flow freely, without nasality, and without throat constriction. This was taught by example, and by helping the pupil to acquire mental conceptions of the required tone. The pupil was taught that perfect freedom was the most important thing to be accomplished—that he must not let his throat or nose interfere. In other words, he must not shut off any of his resonance chambers, or exert any muscular effort antagonistic to a perfectly normal condition of the organs.

The empirical, psychological or suggestive method of teaching was the exclusive basis of vocal art up to the time when physicians began to publish descriptions of the tone-forming organs. While for some centuries the psychological or suggestive method of teaching was the only one in use, there has not been a time when the scientific or physiological basis has been exclusive, and it probably never will be. It must be agreed that an accurate and informing terminology is a first desideratum of knowledge. It is here that the chasm between the teacher and the physicist remains as wide as it was in the beginning. The apparent intricacy of the physiology of the organs of tone has alarmed many teachers, who, after looking up some of the simpler treatises on the

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