for three weeks, then stopped, and two days later all the meningeal symptoms commenced again—headache, double Kernig, some temperature; the cerebro-spinal fluid was again under tension. Repeated lumbar punctures were performed, and vaccines were commenced. With regard to the question of vaccine treatment, he must honestly confess he would not like to say it had any bearing on the result: if the patient had been given vaccines and no lumbar punctures perhaps the result would not have been so good. The question of the different forms of meningitis would be a very useful discussion for this Society at a future date.

THE FRENCH SOCIETY OF LARYNGOLOGY, OTOLOGY AND RHINOLOGY.

May, 1911.

President : E. ESCAT (Toulouse).

Reported by A. R. SALAMO (Paris).¹

(Continued from vol. xxvi, p. 487.)

Classification of Deafness.

BY DR. J. MOLINIÉ.

Multiplicity and lack of uniformity of acoumetric methods leading to confusion, Molinié proposes to take hearing power for conversation as a criterion for the estimation of deafness. Adopting this principle, he arranges the various forms of deafness in four categories, differentiated by the following characteristics:

(1) Although having a more or less appreciable alteration in hearing, the subjects of this class are able to participate in ordinary conversation, attend functions, theatres, church, etc. Obligated to maintain a forced attention, they miss some words and oftentimes require them repeated; still they can lead an ordinary life and fulfil most public duties.

(2) Patients who no longer hear ordinary conversation, and can only converse *tête à tête*. Gatherings and conferences are devoid of interest to them and they absent themselves from choice. Sometimes, however, they are able to appreciate music. They are only competent to take up occupations involving but little responsibility.

(3) This category comprises those who only hear loud conversation, or shouted words near the ear. These patients are unfit for all public employment.

(4) Here are included those cases where the auditory apparatus has been completely destroyed. The subjects of this group are compelled to resort to writing or gestures to communicate with their fellows.

Molinié pointed out that this classification was not entirely arbitrary and artificial, but that it conformed to some ordinary well-defined types, and in some measure to the stages of deafness. The information

¹ Translated from *Les Archives Internationales*, tome xxxi, supplement to No. 3.

furnished by this method of classifying the deaf would, if it were adopted, enable one to form an opinion, at least approximately of deafness in the subjects examined, which is impossible with methods of estimation at present in vogue.

Lactic Acid Ferment in Rhinology.

BY DR. KNIG (Paris).

The author has employed Dr. Boucard's preparation in ozna and has had good results. In ordinary rhinitis during the early stage he has also experienced excellent results. A little powder used as snuff in the initial stage of coryza causes its disappearance.

Re-education of Hearing by Zund-Burguet's Method.

BY DR. A. RAOULT (Nancy).

The author reported six cases of otosclerosis markedly improved by the above method. These patients attended fifty courses of the treatment. The method comprises : (1) Re-education for sounds from the first to the fifth octave, which may be graduated at pleasure ; (2) stimulation of tactile sensibility, induced by the passage of Faradic currents in the microphonic circuit. The duration of the *sances* varies according to the nervous state of the patient and the intensity of the sound given. Passage of the induced current gives rise to a sensation of tickling in the ear ; this is not noticed during the first *sances*, especially in the case of old sclerotics. These at first experience a feeling of intense vibration, which gives place to true tickling at about the tenth or fifteenth sitting. From a study of these facts we may infer that re-education by Zund-Burguet's method causes (1) mobilisation and massage of the conductive media ; (2) stimulation of the preceptive auditory mechanism. In fact the patients frequently perceive cracking sounds and sometimes buzzing in the ears between the *sances*. Stimulation of the nervous system acts on the receptive auditory mechanism, the sensory and vaso-motor nervous systems. Sounds become progressively perceptible. The sensation of tickling gradually reappears. Lastly, after each sitting the patients experience a sensation of warmth in the ear, and often in the whole of the head. The improvements observed in the patients continue to manifest themselves even when treatment is discontinued, and Helsmortel, of Antwerp, has noted their persistence in patients treated a year previously.

Some Considerations on the Zund-Burguet Method for the Treatment of Certain Forms of Deafness.

BY DR. ROURE (Valencia).

Dr. CHAVANNE (Lyons) asked if the method of re-education had not for its object the reawakening of function. He would be pleased to be acquainted in detail with Zund-Burguet's apparatus.

Dr. JACQUES (Nancy) asked what was the remote result of the method.

Dr. LUC (Paris) wondered whether improvement would not have occurred without treatment.

Dr. RAOULT (Nancy) remarked that the manufacture of the apparatus

was secret, but that does not detract from any of its merits. To Dr. Luc's criticism, he answered that his patients had been affected for the past two years.

Dr. BONAIN (Brest) inquired why this method was designated "the method of re-education." The term, he thought, was badly chosen.

Dr. GAULT (Dijon) had had two cases treated by this method, with not very brilliant results. It ought to be tried on thoroughly typical sclerotic cases.

Dr. ROURE (Valencia) replied that the results obtained lasted several months. He had a sclerotic patient of twelve years' standing who has remained much improved for several months past.

Dr. TRÉTRÔP (Antwerp) insisted that the distinction between adhesive otitis and otosclerosis should be clearly established, the former recovering under other methods of treatment.

A Special Form of Mastoid Infection in Chronic Infantile Otorrhœa: "Mastoiditis Nigra."

By DR. BRINDEL (Bordeaux).

In this communication, based on 16 cases out of 1200 operated on, the author arrives at the following conclusions:

(1) There are some infections of the mastoid process characterised by diffuse cellulitis, blackish in colour, which he designates "mastoiditis nigra."

(2) This affection is peculiar to infancy, and is met with almost exclusively in fœtid otorrhœa of long standing.

(3) The dark coloration does not exclude lesions which one is accustomed to meet with in chronic otorrhœa.

(4) Mastoiditis nigra is a diffuse osteomyelitis almost always necessitating the radical mastoid operation.

(5) Events run a normal course after operation.

(6) For years after recovery, blackish bullæ, due to separation of the epithelial lining by a dark-coloured fluid, are sometimes met with on the walls of the operated cavity.

(7) The pathogenesis of this affection is still unknown. A cultivation taken from morbid tissue during the operations was unattended with any result.

Conservative Treatment of Chronic Suppuration of the Middle Ear, with or without Lesions of the Labyrinth Wall.

By DR. TRÉTRÔP (Antwerp).

From statistics during the past ten years the author observed that major operations did not exceed 5 per cent. of the cases treated, and in one series of cases fell below 2 per cent. This treatment therefore deserves consideration. In Germany, Scheibbe and Siebenmann have experienced similar results. Chronic otorrhœa of ten, fifteen, or even twenty years' standing is amenable to treatment by asepsis and antisepsis. Localised carious processes of the labyrinth are not an exception to these results. Trétrôp especially extols preparations capable of conveying oxygen, *e. g.* perhydrol, perganol, alkaline perborates, peroxide of zinc. Oxygen induces elimination, and augments tissue vitality. Amongst antiseptics, mercurial salts, formalin and its derivative aniodol, silver

salts, especially those of an organic nature, as protargol, argyrol, etc. Chromic acid, boric, lactic, picric and iodine each has its indications, which are learnt by experience.

Routes of Access to the Cavernous Sinus.

BY DR. BOURGUET (Toulouse).

After having mentioned the methods of Voss, Luc and Tavenier, the author showed by the aid of drawings that the best route for reaching the sinus consisted, after a para-nasal incision, in removing the nasal process of the superior maxilla, the whole of the inner wall of the orbit, with the corresponding ethmoid and part of the nasal septum, and, after penetrating the sphenoidal sinus, in removing the inner wall of the cavernous sinus with a chisel. This is a direct way of access, which affords ample room and does not disfigure the patient.

Dr. LAFITTE-DUPONT (Bordeaux) had operated on the cavernous sinus by the unilateral trans-maxillary route and realised the difficulties of getting at the sinus by this method.

A Case of Cerebellar Abscess; Operation; Recovery.

BY J. LABOURÉ (Amiens).

A patient, aged twenty-three, suffering from chronic otorrhœa, suddenly developed vertigo, vomiting and severe headache. In spite of antrotomy the symptoms persisted with spontaneous nystagmus towards the corresponding side. These phenomena were attributed to the cerebellum, but examination of the internal ear revealed labyrinth involvement as well. During the radical operation the curette penetrated into a cerebellar abscess and clinched the diagnosis. The labyrinth was not touched, as there appeared to be no connection between it and the abscess. Recovery followed in a month.

Determination of the Upper Tone-limit by Aerial and Bone-conduction, by means of Struycken's Monochord.

BY DR. CHAVANNE (Lyons).

The monochord recently constructed under the direction of Struycken is really the best instrument for estimating the upper tone-limit of hearing by aerial conduction. Moreover it enables one to estimate the limit by bone-conduction; for contrary to classical opinion, the highest notes are perfectly heard by bone-conduction. Normally the upper osseous limit is always higher than the aerial. In commencing sclerosis one finds a raised limit for both forms of conduction, but especially in the case of osseous.

Retro-Auricular Abscess following a Meatal Furuncle in a Patient previously Operated on for Mastoiditis.

BY DR. F. CHAVANNE (Lyons).

In February, 1890, a child, aged seven years, was operated on for acute mastoiditis and recovered normally. A year later, after a boil of the meatus on the same side, suppuration of the middle ear developed.

with a retro-auricular abscess the size of a hen's egg, occupying the old operated cavity. Recovery followed opening and evacuation of the abscess.

The Complications of Adenoidectomy.

BY DRs. GROSSARD AND KAUFMANN.¹

Dr. BONAIN (Brest) said that we could avoid traumatic complications by good illumination, general anæsthesia and skilful use of instruments. He considered it an exaggeration to say that general anæsthesia was not necessary in patients under five years of age.

Dr. CHAVAUNE (Val-de-Grace) held that adenoidectomy was not the minor operation that people thought. It was most essential to watch one's patients for several days after the operation. The patient ought to be confined to his room.

Dr. CASTEX (Paris) showed a child who was an example of the complications following adenoidectomy. This child had a diaphragm which absolutely impeded breathing by the mouth.

Dr. MIGNON (Nice) cited the case of a child operated on by a non-specialist. There was copious hæmorrhage and fever. On examining the patient he found a portion of adenoid tissue in the pharynx.

Dr. JACQUES (Nancy) had been struck at the limit of five years, fixed for general anæsthesia. Post-operative torticollis was a frequent complication. He had never been greatly alarmed concerning the fall of adenoid vegetations into the larynx. Exception must be taken to the tendency of considering adenoidectomy a benign operation.

Dr. BROECKHAERT (Ghent) found suppurative otitis to be commoner after adenotomy than was generally supposed. The importance of the operation must be insisted on.

Dr. GROSSARD (Paris), in reply, said that it was purely a personal opinion to consider an anæsthetic unnecessary under five years of age. It was simply a matter of discretion.

A Case of Cerebral Abscess of Otitic Origin Operated on whilst in a Comatose Condition; Recovery.

BY DR. BARR (Nice).

A woman, aged fifty-six, was brought to the Nice Hospital deeply comatose. Old-standing double suppurative otitis, with cessation of discharge on the right side. Left hemiplegia, right facial paralysis and paraphasia, the only physical signs present at the time, enabled the author to diagnose an abscess of the right temporal lobe. The abscess was operated on during deep coma, aided by chloroform. The patient came round during the operation. Complete recovery followed. This case afforded the opportunity for reviewing the symptomatology of cerebral abscess. Embracing the very practical symptomatological division of Bergman, the author showed that in taking into consideration the symptoms of cerebral compression, the endo-cranial tumour indicated by them is a purulent one, that is an abscess, if symptoms of general suppuration accompany it. It then remains to discover its situation. Localising signs afford help. They may be rare and obscure, especially when the abscess is on the right side (Moure). They are motor and sensory paralyses, aphasia, associated with psychic troubles, fixed headache and a peculiar febrile state.

¹ See JOURN. OF LARYNGOL., RHINOL., AND OTOL., July, 1911, p. 383.

Contribution to the Treatment of Ozæna by Nasal Respiratory Re-education.

BY DR. ROBERT FOY (Paris).

The author related the results of his researches carried out during the past two years both in Lermovez's practice and at Mahu's clinic. The treatment was described and the necessary apparatus exhibited. The author remarked that ozænatous subjects breathe inadequately and most often not at all by the nose. By nasal respiratory re-education with compressed air he noticed that from the day patients breathe freely and continuously by the nose, the odour and crusts permanently disappear, in spite of entirely discarding lavage. Sometimes after treatment a discharge of whitish mucus persists, such as one meets with in many non-ozænatous persons (catarrh). In thirty-two advanced cases of ozæna there were twenty-two recoveries and ten failures. In the case of the latter nasal respiration could not be re-established owing to the patients being too young and not possessing the necessary intelligence. Crusts and fœtor are only the results of diminution or absence of nasal breathing, the necessary physiological stimulus to the mucous membranes of the upper air-passages for the carrying on of their manifold functions, this functional trouble always being secondary to, or associated with, a chronic mucopurulent catarrh, specific or not.

Dr. BRINDLE (Bordeaux) asked what grounds one had for saying that the ozænatous patients breathed badly through the nose. Did not Foy's method consist solely of a form of massage of the mucosa? He had tried the treatment of re-education, but the patients had not been cured of their ozæna. The general health was improved, but ozæna persisted. Had Foy carried out his treatment without accompanying it with a topical application?

Dr. MOURE (Bordeaux) said that ozæna occurred in the trachea, and if the disease was due to default of respiration there would be no tracheal ozæna. Besides, there is very often sinusitis complicating ozæna, and in that case what could re-education do?

Dr. MAHU (Paris) had entrusted a large number of patients to Foy. They had not all benefited by the treatment: the majority were improved: some were cured, in so far that they no longer had crusts or fœtor. In some cases they had supplemented the treatment with injection of paraffin. In his opinion the double method—re-education and paraffin—seemed to be the best form of treatment.

Dr. R. Foy, in reply, said that at first sight the patients appeared to breathe by the nose, but more critical examination showed that they lose the habit of nasal respiration. Obviously the method was one of massage, but it was continuous, since it was carried out by the patient, and herein lay the value of the procedure. The author thought that in tracheal ozæna there was also an insufficiency in thoracic respiration. He did not expect to cure patients with sinusitis; he had some failures, and attributed them to the fact that it had not been possible to re-establish nasal respiration.

Dr. JACQUES (Nancy) improved his patients by introducing a tampon of wool, thus preventing the access of air. By this simple treatment the crusting abates and fœtor is much reduced.

The Buccal Route as an Approach to the Peri-tonsillar Region and Maxillo-pharyngeal Space.

By DR. GAULT (Dijon).

After removal of a lympho-sarcoma of the right tonsil by the buccal route in a man, aged thirty-two, the author carried out some anatomical and operative research of the peri-tonsillar region and maxillo-pharyngeal space. He concluded that (1) the peri-tonsillar region and maxillo-pharyngeal space are easily accessible by the buccal route provided that the anterior pillar be well drawn outwards by means of a lateral retractor, the patient being in Rose's position, the mouth widely open, and the region well illuminated by the frontal mirror. (2) The operation consists in making a vertical incision of the pharyngeal mucosa; retraction is then exercised outwards so as to expose the bony landmarks—inside the vertebral column, outside the styloid process, behind and outside the transverse process of the atlas. These are felt with the finger and probe. One then recognises the stylo-pharyngeus muscle and behind it the internal carotid. (3) This vessel can be ligatured or secured by forceps, and, if necessary, drawn outwards with the vagus and internal jugular vein by means of the lateral retractor, which enables the operator to work comfortably. (4) Intervention by the buccal route is relatively easy, and enables one to remove pharyngeal tumours, when not too extensive, without great mutilation. The difficulties of this method have always been exaggerated through fear of the internal carotid, although that vessel is really posterior and some distance off. To avoid it, one must recognise it. (5) This route is only contra-indicated in the case of too extensive growths with glandular involvement (sub-angulo-maxillary, parotid or inferior jugular). On the contrary, epithelioma in the early stage and certain primary lympho-sarcomata, etc., of the naso-pharyngeal isthmus are amenable to this procedure. The mutilation is slight and the after-treatment particularly simple.

Dr. JACQUES (Nancy) was impressed with the benignity of the operation in old people and with the great facility of this route. Cancers are removed in an extremely easy manner by this method.

Dr. LUC (Paris) asked what form of anæsthesia M. Gault employed.

Dr. JACQUES (Nancy) added that glandular involvement was rare in tumours of this region.

Dr. GAULT (Dijon) in reply, said that he sometimes employed general anæsthesia and sometimes local. He also remarked that glandular infection was, upon the whole, rare in growths of this region, and some glands could be removed by the buccal route. Continual swabbing sufficed to control hæmorrhage during the operation.

Latero-pharyngeal Abscess of Otitic Origin.

By DR. GUISEZ (Paris).

The extension of auricular suppuration towards the pharynx is not of frequent occurrence, and only a few cases of it are on record. The author had occasion to operate on a child, aged two, for a very extensive latero-pharyngeal phlegmon accompanying otitis. The abscess gave rise to asphyxiating symptoms and had to be evacuated as a matter of urgency. Three days afterwards, as the temperature did not fall and the mastoid was very painful in its anterior third and apex, trephining was performed.

It was then easy to see that necrosis was present, chiefly in the deep portion of the mastoid, the anterior wall of the meatus and the floor of the tympanum; the osseous lesions extended deeply towards the pharynx. The latero-pharyngeal phlegmon was therefore otitic in origin.

Primary Tumours of the Trachea and Bronchi; Tracheo-bronchoscopic Diagnosis and Treatment.

BY DR. GUISEZ (Paris).

The author had had the opportunity of diagnosing a certain number of primary tracheal growths, several of which he had been able to remove by the direct method. They comprised papillomata in children, polypi, primary or secondary to tracheotomy wounds, intra-tracheal fibromata with their pedicles situated posteriorly, two cases of hernia of the posterior wall of the trachea, and enchondromata. These growths had caused the patients dyspnoea with attacks of suffocation, and in some asphyxia had been imminent. Thanks to precision in diagnosis removal was effected *per vias naturales*. In the case of malignant tumours tracheoscopy decided the diagnosis and the time when tracheotomy would be required. Lastly, the author had been able to make an early diagnosis of cancer of the bronchus, which was verified by microscopical examination of a fragment removed by forceps, when neither the clinical aspect nor radioscopy had permitted one to suspect the nature of the affection.

Direct Posterior Rhinoscopy.

BY DR. F. LAVAL (Toulouse).

The naso-pharynx, like the trachea and bronchi, can be directly explored. By the ease with which it may be employed, especially for access to the lateral wall, direct rhinoscopy will render great services in tubal affections, and even in those of the tympanum, by enabling instrumental treatment to be carried out.

Peri-œsophageal Phlegmon Following Extraction of a Foreign Body.

BY DR. JACQUES (Nancy).

The case related by the author showed that extraction of a foreign body *per vias naturales*, even when early and easy, does not exempt the patient from further contingencies.

An adult healthy man swallowed a fish-bone and experienced an exceedingly sharp pain in the inter-scapular region. Extraction of the foreign body by means of the tube was accomplished without any difficulty thirty-six hours afterwards. The fish-bone, very sharp, was fixed at the broncho-aortic segment of the œsophagus. Some days later a peri-œsophageal phlegmon developed, characterised by an increasing general malaise, furred tongue, lividity, thoracic girdle pains, spasmodic cough, anorexia, and absolute dysphagia. Œsophagoscopy revealed a very narrow constriction just below the site previously occupied by the foreign body, bordered by œdematous folds of pale grey mucosa. Spontaneous evacuation of the abscess took place followed by a rapid subsidence of all the alarming symptoms. Four coloured diagrams illustrated the œsophageal

appearances of this complication, fortunately rare in the case of swallowed foreign bodies.

Dr. GUISEZ (Paris) had frequently observed abscesses resulting from foreign bodies. He thought that whenever œdema is present it is advisable not only to remove the foreign body, but further, to make a small incision into the mucosa; one then sees a flow of pus. Abscesses are also observed as a result of operative measures for the removal of a foreign body—for example with Graefe's coin-catcher.

Dr. JACQUES (Nancy) said that œsophagoscopy should be carried out by experienced hands. He had seen the pharyngeal mucosa rasped by the œsophagoscope.

H. Clayton Fox (trans.).

(To be continued.)

Abstracts.

EAR.

Mayer, Otto (Graz).—On Affections of the Auditory Nerve in Acquired Syphilis. "Arch. Internat. de Laryngol., d'Otol., et de Rhinol.," May-June, 1911.

The author has been struck by the number of cases reported by Finger in which "606" was employed in the treatment of syphilis that had been followed by lesions of the auditory nerve and untoward symptoms attributed to affections of the auditory nerve. From the sixty-five cases placed at his disposal untreated by this remedy he has come to the following conclusions as to the occurrence of these labyrinth complications in this condition: (1) The affections of the auditory nerve may appear as early as three weeks after the chancre or six weeks from the period of inoculation. It is more frequent during the first six months but may occur as late as thirty years after. (2) In most cases the condition was ushered in by subjective noises and an absence of vertigo. (3) It is usually bilateral and frequently equal on both sides. It is rare for one ear to escape entirely. (4) While in almost half the cases there was a varying degree of vestibular involvement, in no case has he observed an isolated vestibular affection. Whereas the examination of the cases of Finger indicates preponderance of vestibular involvement, it would seem that the vestibular nerve is more sensitive to certain poisons by which the cochlear branch is little or hardly at all affected. A large number of cases may still fall to be considered in which the isolated infection of the vestibular apparatus has caused the case to pass unnoticed by the otologist into the hands of the neurologist. The author gives a new indication of the fact that affections of the auditory nerve may appear at all stages of syphilis, and that affections of the ear observed after the employment of arseno-benzol differ essentially from those due to syphilis.

J. D. Lithgow.

Buys (Brussels).—The Symptomatology of Labyrinth Lesions due to Indirect Traumatism. "Archives Internationales de Laryngologie, Otologie, et de Rhinologie," May-June, 1911.

Some of the above lesions improve; others get progressively worse. The apparent severity of the cranial injury is no index to that of the