

of the "closers" of the glottis, which surpass the "openers" both in number and bulk.

3. By the author's method, which consists in making use of artificial muscular rigidity for the study of the functions of individual muscles, useful results are obtainable.

4. When one crico-thyroid muscle is paralyzed the cricoid cartilage is rotated within the thyroid, owing to the contraction of the corresponding muscle on the opposite side. In consequence, the summit of the arch of the cricoid is drawn towards the non-paralyzed side, while the plate of the cricoid passes towards the opposite side. In this way the glottis comes to occupy an oblique position.

5. The crico-thyroid muscles by their contraction enable the vocal cords to move towards the middle line of the larynx.

6. The "perverse" narrowing of the glottis observed on deep inspiration is not due to aspiration of the vocal cords by the entering air, but to the contraction of the sterno-thyroid muscles.

7. The vertical portion of the posterior crico-arytenoid muscle is chiefly concerned with the widening of the glottis, while the horizontal portion fixes the arytenoid cartilage posteriorly.

8. The closure of the glottis in the region of the arytenoid is brought about by the cartilage of Santorini and the apex of the arytenoid coming into contact with the corresponding parts of the opposite side. The bases and inner surfaces of the two arytenoids are certainly approximated, but do not meet completely.

A. B. Kelly.

Roger, and Bayeux, Raoul.—*Autopsy of a Case of Varicellous Laryngitis.* "Presse Méd," April 10, 1897.

At the Société Anatomique the case was described of an infant of six months which succumbed to hæmorrhagic varicella. Progressive dyspnoea developed during the last thirty hours of life. *Post-mortem*, the authors found gangrene of the edge of the epiglottis, a strip of slough on the free borders of the vocal cords. A crateriform erosion on the velumentous portion of the left vocal cord. A varicella spot on the mucous membrane of the left pyriform fossa.

Ernest Waggett.

E A R .

Cotterell, J. M.—*Case of Cerebral Abscess ; Trephining ; Recovery.* "Scottish Med. and Surg. Journ.," April, 1897.

THE patient, a man of twenty-three years of age, was admitted to hospital on January 18th with great pain in the head, of ten days' duration. There was a history of right otorrhœa since the age of eighteen months. The discharge was intermittent, but when it did cease great headache came on, which was relieved by return of the flow of pus. This time no return of the discharge was obtained, though hot fomentations, etc., had been used as before. The pain was referred from the right ear to the posterior part of the right frontal bone. He was dazed, constantly asleep, with cerebation very slow, and moaning at times from the pain. He suffered from anorexia and foetid breath. Temperature, 101·2°; pulse, 72 to 80; respiration, 16 to 18. No tenderness on pressure, and no optic neuritis. The mastoid antrum was first opened, the pulse falling to 60, the temperature to 97·4°, and the respiration to 14; but three days later the pulse fell to 52, the temperature to 97°, and respiration to 12, with return of the pain.

A second operation was now undertaken. The lateral sinus was explored and found healthy, but an abscess found deep in the temporo-sphenoidal lobe. A tube was inserted and left in for ten days, but after five days was reinserted for recurrence of the symptoms; this time the tube was kept in for three weeks. There was slight facial palsy, which was clearing up; otherwise the patient recovered well.

The author has seen marked hebetude and mental dulness in pure mastoid disease, and he considers that, where doubt exists as to diagnosis, trephining the antrum may, by removing some of the symptoms, clear the diagnostic field.

R. Lake.

Forns.—*On Puncture of the Fenestra Rotunda, followed by Aspiration, in the Treatment of Labyrinthine Disease. Proposed by Dr. Botey.* “Ann. des Mal. de l’Oreille,” etc., March, 1897.

THIS is a criticism of Dr. Botey’s method (*vide* page 77 of the current volume of the JOURNAL OF LARYNGOLOGY) from an anatomical point of view. It appears that Dr. Botey after puncture of the membrane of the round window introduces a bent canula, directing its extremity upwards and forwards to reach the internal face of the plate of the stapes in order to enter the vestibule. The author points out that the *cul de sac* of the scala tympani of the cochlea (*i.e.*, the cavity entered by puncture of the round window) is for the most part roofed in by the first portion of the lamina spiralis, and that the narrow hiatus between this and the outer wall, seen in dried specimens, is in the fresh specimen bridged over by the basilar membrane; in fact, the passage of an instrument from the foramen rotundum to the inner face of the stapedia plate must of necessity traverse the basilar membrane and the membrane of Reissner—in a word, the canalis cochleæ must be opened and the escape of endo-lymph, as well as peri-lymph, permitted. In order to avoid this disturbance of the membranous labyrinth Prof. Forns employs a canula with two bends—one in the shaft to facilitate proceedings when the foramen lies posterior to the tympanic margin, the other at the extremity. The latter is curved, with the point turned forwards and slightly downwards. By rotation of the instrument (in the manner of a corkscrew) the point is made to penetrate the membrane of the round window, and then to travel downwards and forwards, so that the end lies free in the scala tympani. The writer does not here deal with the indications for and results of aspiration of peri-lymph, but wishes to point out certain errors in the technique as described by Dr. Botey.

Ernest Waggett.

Gellé—*The Preservation of Hearing in spite of Fixation of the Stapes.* (“De la Conservation de l’Audition malgré l’Ankylose de l’Étrier).” Arch. Intern. de Lar., Otol., et Rhin.,” Jan. and Feb., 1897.

It is well known to the physicist that a membrane or a thin plate has the special property of forming a bridge by way of which sound waves may readily pass from a solid to a fluid medium.

The author maintains that it is in virtue of this inherent quality of a plate that the foot piece of the stapes acts as a sound transmitter. It is true that the stapes moves in the fenestra ovalis to the extent of one-tenth of a millimètre, and it is on this movement and the resultant labyrinthine shock that Helmholtz based his theory of audition.

From this view, however, the author dissents, and he looks upon this mobility as in the main subserving the function of regulating the labyrinthine pressure, by which the apparatus is both accommodated and protected. It is, as he points out, one of the conditions of acute hearing that the excursions of the stapes should be limited or even suppressed by the action of the tympanic muscles. The improved

transmission when the muscles are tense is no doubt due to the increased cohesion of the various links of the chain of ossicles.

By "centripetal" pressure the stapes can be experimentally carried inwards, together with the membrane and the other ossicles, and is thus brought into an artificial state of fixation. In a healthy subject this proceeding is accompanied by marked diminution of hearing power, but hearing is not by any means abolished, even temporarily.

The stapes is fixed and vibrates less readily; but, by reason of the physical properties of the thin foot-plates it still transmits the molecular vibrations of the ossicular chain to the labyrinthine fluid: the amplitude only of the vibrations is diminished.

With regard to acute hearing, the mobility of the stapes is a matter of great importance, but it is not a *sine quâ non*. Loss of mobility means the loss of accommodation and protection by the tympanic muscles, and does not mean the loss of hearing. It is, indeed, not rare to find patients with complete fixation of both stapes, who, nevertheless, retain sufficient hearing power for the ordinary purposes of conversation. As long, in fact, as the foot-plate retains the configuration of a thin plate, and does not become transformed into a solid mass, while the nerve apparatus remains intact, so long will speech be heard. This fact may often be observed in certain cases of hereditary, bilateral, gouty ankylosis. Both experiment and clinical experience show that the notion that ankylosis means complete deafness is unfounded.

The author deduces :—

(a) That Helmholtz's theory of the conduction of sound by oscillation of the total mass of the stapes, and not by the propagation of the molecular vibration of the transmitting apparatus, is incorrect.

(b) From the surgical point of view we must be prepared to find something besides mere fixation in cases of severe deafness, and must not be surprised with the unsatisfactory results of operations for mobilization. The abuse of politizerization may do much harm by loosening the cohesion of the links of the conductive chain.

The condition of the fenestra rotunda is an important element in the production of deafness. Where centripetal pressure on a movable stapes causes no vertigo, the fenestra rotunda is presumably healthy. But when vertigo follows pressure on a movable stapes, the membrane of the fenestra rotunda has probably lost its elasticity, and hearing is lost and not to be restored. With such a condition the mobilization of a fixed stapes would serve no purpose. *Ernest Waggett.*

Mounier.—*A New Method of Removing the Wall of the Attic.* "Arch. Int. de Lar., Otol., et Rhin.," Jan. and Feb., 1897.

THE author describes and figures a new gouge and protector for use through the intact meatus. It is only intended for small operations—more particularly those which have the improvement of hearing in view. Its consists essentially of a small protector of the Stacke type, with an upturned tip two and a half millimètres in height, and a small gouge. After introduction of the protector (the membrane and malleus already removed), the gouge is run into the two grooved channels with which the upper surface of the former is provided. The two now form one instrument, which is completely under the control of the operator, and no assistant is required. Placing the instrument in position brings the wall of bone between the upturned end of the protector and the cutting end of the gouge. The protector must now be hooked well up, drawn towards the operator, and held firm. A few light blows with the mallet on the broad end of the gouge will bring away a semicircular morsel of bone two millimètres in height. There is no danger of

slipping and wounding the promontory. A general anæsthetic is necessary. Hæmorrhage is so slight as not to interfere with the completion of the operation in one sitting. As the auricle and meatus are intact, any further manipulations of the ossicles, etc., which are required can be proceeded with without difficulty on the day after operation.
Ernest Waggett.

Muralt, V.—*Exercise of Hearing of Deaf and Dumb Persons after the Method of Urbantschitsch.* "Correspbl. für Schweizer Aerzte," Feb. 1, 1897.

DEMONSTRATION of three children in whom the faculty of hearing had been developed by this method.
R. Sachs.

Panzer.—*A Case of Fatal Bleeding out of the Tympanic Cavity.* K. K. Gesellschaft des Aerzte in Wien, Feb. 26, 1897.

CARIES of the temporal bone; hole in the canalis carotidus.
R. Sachs.

THE LEGION OF HONOUR FOR A LARYNGOLOGIST.

DR. A. W. DE ROALDES (New Orleans) was decorated by the President of the French Republic with this coveted order, in recognition of his ambulance work during the Franco-Prussian War. It was through an oversight that Dr. de Roaldes was not a wearer of the red ribbon years ago, but the distinction, though tardy in its appearance, has lost none of its force. In New Orleans, where our esteemed, well-known, and appreciated colleague practises, his new honour is keenly appreciated, as is shown by the enthusiastic reception of the news by all parties. We, for our part, sincerely congratulate him, and wish him health and strength to wear and uphold his new dignity.

REVIEWS.

FESTSCHRIFT DES STUTTGARTER ÄRZTLICHEN VEREINS zur Feier seines 25 jährigen Bestehens am 6 März, 1897. Edited by Dr. A. DEAHNA.

THIS volume, published to celebrate the semi-jubilee of the Medical Association of Stuttgart, contains thirty-six essays dealing with a large variety of medical and surgical questions. The first and second articles give a full history of the Society, with a list of members past and present, the third deals with the causes of death in Stuttgart during the eighteenth and nineteenth centuries, while the rest are of more general medical interest. Among the latter are a few dealing with affections of throat and ear.

Under the title, "Meningitis, Cerebral Abscess, Cerebral Tumour?" Dr. VON FETZER describes in detail a very obscure brain case in a hysterical subject. The chief symptom was violent pain in the top and back of head, and radiating thence to the nape of neck and both shoulders. The mental condition, the pulse, the temperature, the state of the eyes, ears,