Further operation for relief of the stenosis was considered unjustifiable, and it was decided to leave the tube *in situ* for a while at least.

Price-Brown.

TRACHEA.

Martuscelli and **Ciociolo** (Naples).—*On the Late Effects of Tracheotomy.* "Bolle. d'Malatt. del Orecchio," etc., May, 1907.

This is an experimental and histological study. Preliminary researches were made on dogs, and before describing them the authors review the literature of the subject at considerable length. In the description of the experiments, three are given with particular detail, including the results of *post-mortem* examinations and illustrations showing the histological appearances. Their conclusions are that tracheotomy is often the cause of more or less diffuse ulceration, particularly at the sites corresponding to the lower extremity of the cannula and of the tracheal opening; to these changes there may be added the formation of polypoid new growths. The general consequences of tracheotomy are broncho-pneumonia, paralysis of the posterior crico-arytænoids, aphonia, etc. *V. Grazzi.*

EAR.

J. Ramsay Hunt (New York).—*Herpetic Inflammations of the Geniculate Ganglion: A New Syndrome and its Aural Complications.* "Arch. f. Otol.," vol. xxxvi, p. 371.

An interesting paper. The syndrome—otalgia, herpes zoster of the concha and auditory canal, and Ménière's symptoms—is dependent upon a specific herpetic inflammation of the geniculate ganglion. The simplest expression of this inflammation is to be found in herpes zoster of the tympanum, auditory canal and concha (*representing the zoster zone for the geniculate ganglion*). The proximity of the facial and auditory nerves render neural complications not infrequent—peripheral facial palsy, tinnitus, deafness, and Ménière's complex of symptoms. The pathology of the affection does not differ from that of true herpes zoster. The author briefly reviews the anatomy of the geniculate ganglion and roughly outlines the ganglionic representations of the cephalic extremity. He has collected sixty-one cases of true herpes zoster and defines four clinical types: (1) herpes auricularis; (2) herpes auricularis, facialis, or occipito-collaris, with facial palsy; (3) herpes auricularis, facialis, or occipito-collaris, with facial palsy and hypoacusis; (4) herpes auricularis, facialis, or occipito-collaris, with facial palsy, deafness, and symptoms of Ménière's disease. He enters into these types in detail, discusses diagnosis and prognosis, and gives a short summary of the literature bearing upon the subject. The paper is an important one and should be read in full. *Macleod Yearsley.*

Knapp, Arnold (New York).—*Otitic Meningitis.* "Arch. of Otol.," vol. xxxvi, p. 416.

Uncomplicated otitic meningitis occurs as often after acute as after chronic purulent otitis.

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In 29 out of 52 cases it followed bone disease, extending to the dura. This bone disease was at the tegmen in 11 cases, posterior surface, superior edge, or apex of petrous in 16, and in 22 infection was *via* the labyrinth, usually the internal meatus. The figures show that the meninges are first affected in the posterior cranial fossa in three fourths of the cases, and in the middle fossa in one fourth.

Three classes of meningitis occur: serous meningo-encephalitis, encapsulated intra-meningeal abscess, and general purulent meningitis.

No single symptom is characteristic; Kernig's sign is, perhaps, the most constant. Lumbar puncture is a great aid in diagnosis, but the findings are not infallible.

Prognosis is unfavourable, but has become slightly less so through recent progress.

The prospect of successfully dealing with localised intra-meningeal infection depends on the fossa invaded. Thorough elimination of the primary focus of disease is necessary, with free exit for exudation, and the use of the appropriate antitoxin. *Macleod Yearsley.*

Beck, C. J.—*A New Method of Aural Massage.* "New Orleans Med. and Surg. Journ.," July, 1907.

The procedure consists simply in introducing metallic mercury into the meatus, which produces the massage effect by its weight and movement against the tympanic membrane. *Macleod Yearsley.*

Jack and **Verhoeff.**—*A Case of Chronic Otitis Media; Hæmorrhage into the External Auditory Canal; Perforation of the Wall of the Pharynx, with Fatal Hæmorrhage from the Jugular Vein.* "Boston Med. and Surg. Journ.," clvii, p. 17.

The patient was a girl, aged two and a half. Ill two weeks; discharge from right ear several days, post-aural swelling one week. On examination, coagulated blood found in meatus. Severe hæmorrhage from mouth and nose two hours after admission. Treatment by adrenalin and normal salt solution subcutaneously and artificial respiration unsuccessful.

Post mortem, the soft tissues surrounding the carotid artery and jugular vein beneath the petrous were infiltrated with blood from a large extravasation. This communicated with the pharynx a little below the mouth of the Eustachian tube. It also communicated with the lumen of the meatus at the margin of its bony portion. The tympanic membrane was intact, but retracted and united to the promontory. Exudate, but no blood, in tympanum and Eustachian tube. Ossicles *in situ*. Several small polyps attached to tympanic wall. Attic and mastoid cells filled with exudate, but bony tissue not necrotic. Carotid artery intact. Histological examination showed condition due to *Streptococcus pyogenes.* No other bacteria to be seen. *Macleod Yearsley.*

Brock, W. (Erlangen).—*Researches on the Function of the Semicircular Canals in Health and in Deaf-mutism.* "Arch. f. Ohrenheilk.," Bd. 70, Heft 3 and 4.

After a historical review of the whole subject of the function of the semicircular canals, the author addresses himself to the interesting question of the presence or absence of ocular twitch-movements (the so-called "after-nystagmus"), and of vertigo in the deaf and dumb. Bezold, Denker, Wanner, and Haszblauer, the previous writers on this subject,

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have shown that in those deaf-mutes in whom hearing is absolutely abolished, the various physiological phenomena referable to the semicircular canals are also in abeyance; while, on the other hand, in those deaf-mutes in whom some traces of audition still remained, we not infrequently find also evidence of the persistence of the semicircular functions. While the results of these older investigators agree in the main, a considerable discrepancy exists in the actual percentages presented. Thus the number of cases in which nystagmus is reported as absent varies from 13·9 per cent. (Bezold's first results) to 49·4 per cent. (Haszblauer). Frey and Hammerschlag, in an endeavour to explain these differences, surmised that they were to be accounted for by the fact that although deaf-mutes occur in two classes—(1) those with congenital, and (2) those with acquired deafness—yet the various authors had failed to separate these classes in carrying out their tests, and so had vitiated their results. They themselves found that in the acquired group nystagmus occurred in 26·7 per cent. of the cases, and in the congenital group in 64 per cent. Brock, however, is very doubtful both of their surmise and of their findings, since his own researches and his analysis of the case-groups reported by the earlier authors show that the discrepancy is rather to be sought for in the failure to segregate the cases which were totally deaf in both ears from those in which one ear retained a remnant of the auditory function. Naturally the former group supply most of the negative cases, while in the latter group, as some amount of the equilibrating function remains intact, the percentage of negative cases is not nearly so high. He also finds, in opposition to Frey and Hammerschlag, that vertigo and nystagmus are most frequently absent in the acquired and not in the congenital cases. And this agrees with the circumstance that the congenital group manifests only a few examples of bilateral total deafness. Brock likewise reports some experiments made after the method of Barany, which consists in pouring into the external auditory meatus fluid of a temperature higher or lower than that of the body, whereby what is known as "caloric nystagmus" is induced, if the semicircular system is normal. Brock considers this method as likely to give more accurate results than the old rotation method, especially in those cases where one ear differs from the other.

The most weighty of the author's conclusions are as follows: Total bilateral deafness is in most cases acquired after birth; nystagmus is most frequently absent in cases of bilateral total deafness; it is probable that stimulation of the nerve-endings in the canals is caused both by the movement of the endolymph from the smooth end of the canal towards the ampulla, and also by its movement in the opposite direction.

Dan McKenzie.

Frose, A. (Halle).—"*A further Contribution to the Experiences obtained in the Treatment of Middle-ear Suppuration by means of the Passive Hyperæmia Method of Bier.*" "Arch. f. Ohrenheilk.," Bd. 71, Heft 1 and 2.

Of the eighteen cases treated by the anthor and reported in this article in full detail, all save two were "acute" or "sub-acute." In fifteen of the total number obvious signs of mastoiditis were present when the patients were first examined, and no fewer than five of these underwent operation some time after the Bier treatment was started. Further, fifteen of the patients were children and only three adults. Thus the title of the paper gives but a very imperfect idea as to the actual nature and value of the experiment.

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Method.—An elastic band, 2 to 3 cm. in breadth, protected by cotton-wool and furnished with hooks and eyes, was fastened round the neck as tightly as possible consistent with comfort and safety. This was worn continuously, with a daily interval of a few hours, for from eight to thirty-four days in the different cases. In some instances, also, the aspirating-glass was utilised, and seemed to be of service in evacuating mastoid abscesses, etc.

Results.—In general, the author does not seem to be enthusiastically in favour of the treatment. He found, indeed, that some cases seemed to be really injured by its employment, a result he ascribes to the anatomical conformation of the mastoid antrum and cells, and to the lack of dilatability of the osseous capillaries in the Haversian canals. He thinks, however, that some benefit was obtained in mastoiditis in which a mastoid abscess was present. The treatment should not be adopted in tubercle, cholesteatoma, osteo-sclerosis or caries. *Dan McKenzie.*

Botella, Dr. E. (Madrid).—*Sarcoma of the Middle Ear; Operation; Cure.* "Boletin di Laryngologia, etc.," Madrid, June, 1907, p. 60.

This case occurred in a woman, aged forty-three. The diagnosis having been confirmed microscopically the growth was removed on December 19, 1905, by means of a sharp spoon. The hæmorrhage was very profuse, but controlled by copious applications of hydrogen peroxide and adrenalin. The facial canal was found eroded by the tumour, which was attached to the margin of the aditus. The author discusses the history and pathology of these sarcomas at considerable length, and gives extracts from the reports of previous cases.

James Donelan.

Tanturri, Professor D. (Naples).—*Grave and Rapid Endo-cranial Complications in a Case of Acute Purulent Otitis Media; Operation; Cure.* "Boll. Orecchio, Eolo, Naso," Florence, July, 1907.

This case is interesting not only on account of the successful result of the extensive operation performed, but as illustrating the dangers that may arise from want of care in prescribing nasal douches.

The patient, a girl, aged twelve, was advised to use a large syringe in applying a douche for naso-pharyngeal catarrh. After the second douching she had acute right otitis media. When she passed under the care of the author she was comatose, with ocular paralysis (abducens), Cheyne-Stokes' respirations, hyperpyrexia and indicanuria. Abscess in middle cranial fossa was found in addition to suppuration in mastoid antrum and cells. Patient made a good recovery with normal hearing on affected side. *James Donelan.*

Goldsmith, Perry G. (Toronto).—*A Case of Primary Bilateral Mastoiditis.* "Montreal Medical Journal," October, 1907.

The writer in this case uses the term "primary," to indicate that the mastoiditis originated *per se*, and not within the tympanum, neither the right nor the left middle ear being affected. Hence, when the operation upon the two mastoids was successfully done, the drum membrane on neither side was touched.

As the indications were not very positive, the first operation, which was on the right side, might be considered as exploratory. The diagnosis, however, was at once confirmed, creamy pus being found within a very short distance of the surface, the mastoid being of the diploic type.

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There was not much breaking down of the intercellular walls, but extensive involvement of the cells. An extra-dural abscess was found, but there was no thrombosis of the sinus.

The operation on the left side was similar to that on the right side, with the exception that while creamy pus was abundant there was no extra-dural abscess.

The recovery was gradual and the restoration of hearing almost normal. *Price-Brown.*

Royce, Gilbert (Toronto).—*Suppurative Mastoiditis: its Diagnosis and Treatment.* "The Canadian Practitioner and Review," September, 1907.

In an exhaustive article in which the writer covers very thoroughly these two domains in suppurative mastoiditis, he lays particular stress upon several points that are worthy of note. Placing a hand over each mastoid and pressing each alternately, meanwhile watching the face of the patient for signs of distress, he has found of great value.

While in many cases the pain is most severe at the tip of the mastoid, in the so-called "pneumatic mastoid" the pain is equally severe over the entire surface of the bone, whereas in cases where the cortex is thick and dense, the pain may be slight or even absent.

Another point dwelt upon is the slightness of pain, yet abundance of purulent discharge and destruction of bone tissue, in cases where the infective organism is *Streptococcus mucosis capsulatus.*

Swelling of the mastoid tip, extending down the neck, is a characteristic of the Bezold perforation, in which the pus has burrowed through the digastric groove and found its way into the tissues of the neck.

One of the most valuable diagnostic signs he believes to be the sagging of the postero-superior wall of the external auditory canal near the drum, as it indicates a suppurative process in the bone, and must not be confounded with circumscribed otitis externa.

Of germs found in the discharges, streptococcus and pneumococcus are the most malignant as well as the most purulent in character. The staphylococcus discharges are milder and often mucoid or stringy.

The writer quotes Deuch as saying that 99 per cent. of all cases of suppurative mastoiditis owe their origin to pre-existing purulent otitis media. *Price-Brown.*

Goldsmith, Perry G. (Toronto).—*A Case of Acute Suppuration of the Mastoid; Septic Thrombosis of the Lateral Sinus; Operation, including Resection of the Jugular Vein; Recovery.* "Canadian Journal of Medicine and Surgery," September, 1907.

Miss A. K——, aged twenty-seven, had first an attack of acute, purulent, otitis media, extending over a period of four or five weeks. It was accompanied by free discharge of pus, pain radiating over the right side of the head from behind the ear, and considerable rise in temperature. Subsequently, she had several severe exacerbations of fever, preceded by chills, and followed by profuse perspiration. Vomiting also occurred. Pain over the mastoid varied in intensity, but sometimes became very severe. The discharge increased in amount. There was no œdema or stiffness in the neck.

Operation was decided upon, and on opening the mastoid it was found to be full of pulsating pus, indicating exposure of the dura. All

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diseased bone was removed and the lateral sinus thoroughly exposed. The posterior bony wall of the external auditory canal was then taken away, *not including the bridge.* The lateral sinus was not opened.

For twenty-four hours the patient progressed favourably. Then there was a marked chill, temperature rising to 104$\frac{3}{5}$° F., and pulse to 148, with profuse sweating.

Lateral sinus thrombosis with infection through the jugular vein was suspected, and further operation decided upon.

Under general anæsthesia again, the lateral sinus was now opened, and a semi-fluid, yellowish clot removed. The bone was also taken away for about an inch and a half upwards and backwards; the jugular vein was likewise tied above the inner end of the clavicle and below the facial where it enters the jugular, the intervening piece being removed.

For some time progress towards recovery was slow. In treatment there was no irrigation, but the healing was uneventful. The discharge has ceased entirely, and the hearing is reported as normal, due, the writer believes, to having followed out Heath's method of retaining the bridge.

Price-Brown.

Cheval, V.—*Wound of the Meninges, the Brain, and the Left Lateral Ventricle by a Foreign Body pushed through the Ear; Meningitis; Operation; Recovery.* "La Presse Oto-laryngologique Belge," August, 1907.

A communication to the Belgian Society of Oto-rhino-laryngology.

A little boy was held down by four others while a fifth pushed the metal rib of an umbrella into his left ear. The following day his mother observed a flow of blood from the ear, and two days later he was seen by the author. The meatus was filled with blood-clot, and there was a perforation, closed by a clot, in the posterior part of the membrana flaccida. The movements of both eyes were normal. The body temperature was 39·7° C.

The following day, the fifth after the injury, convergent strabismus of the left eye appeared; the patient was very restless and the temperature high. There was no optic neuritis. Examination of the blood showed 11,500 white corpuscles per c.mm. Polynuclears (neutrophiles) 69 per cent., lymphocytes 25 per cent., mononuclear cells 6 per cent., eosinophiles and basophiles absent. The cerebro-spinal fluid contained a few red corpuscles, and very abundant white corpuscles, consisting of lymphocytes 52 per cent., polynuclears 44 per cent., and transitional forms 4 per cent. The remains of endothelial cells were also recognised. Some white corpuscles showed a granular fatty degeneration, and the form of the polynuclear cells was much altered. Cultures on agar, serum agar, and bouillon remained sterile.

On the seventh day the symptoms continued unrelieved. There was restlessness, headache and paralysis of the sixth nerve. An exploratory operation was performed.

A large opening was made through the squamous portion of the temporal bone, the superior wall of the meatus extensus, and the roof of the tympanic cavity. A perforation of the petrous bone was found, which corresponded with a tear in the dura, of which one of the veins was thrombosed. A grooved probe passed easily backwards and inwards for several centimetres.

The brain was not pulsating, and seemed to be the seat of considerable hyper-distension. The thrombosed vein led to an extensive area of

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pachymeningitis, near the tip of the petrous bone. Some suspicious fluid, which had accumulated at this point, was evacuated. No collection of pus was found. The author deliberately punctured the left lateral ventricle, from which issued a turbid fluid, and at this moment the cerebral pulsations reappeared. The tract was drained by a piece of iodoform gauze, extending as far as the ventricle.

The upper part of the wound was sutured, and a light dressing applied. The following day the temperature had fallen to normal, and the ocular paralysis had disappeared.

Four days after the operation the cerebro-spinal fluid no longer contained cellular elements. The drain was no longer inserted into the ventricle.

Progress was uninterrupted, and the patient was discharged cured six weeks after the operation. *Chichele Nourse.*

Viollet (Paris).—*Cases of Deafness of Syphilitic Origin and their Treatment.* "Gaz. des Hopitaux," 1907, No. 79.

The author describes four cases. In the first tinnitus and vertigo had lasted for three years, the noises being most marked on the left side and the patient tending to fall towards that side. The hearing had diminished during the last two months. Rinne's test was positive on both sides, and the patient occasionally heard false notes. The specific infection dated from seven years previously. Under treatment by means of mercurial injections the hearing became nearly normal in three months' time. She had received eight injections of 25 mgm. each of perchloride of mercury in two courses with two months' interval. The second was a case in which deafness came on during the second stage; considerable improvement took place after the fourth injection of the perchloride. In the third case the deafness came on four months after the infection. Rinne's test was negative on both sides, and there were numerous mucous patches present; in this case the deafness was probably in great measure attributable to the local changes in the Eustachian tubes. The fourth was a case of bilateral deafness with Argyll-Robertson pupils and had lasted for five years. The length of time intervening between the infection and the deafness was not made out. Rinne's test was slightly positive in both ears, and the air conduction was worse for the lowest pitched tones. The improvement in this case was moderate. The writer points out the necessity of vigorous treatment with as little delay as possible. The injections, he says, consist of bichloride of mercury one half, chloride of sodium and crystalline phenol of each two parts, sterilised distilled water 200 parts, the dose injected being 20 c.cm. for the male adult. This is injected into the muscles of the gluteal region at four fingers' breadth behind the line adjoining the antero-superior spine of the ileum to the upper margin of the great trochanter and at four fingers' breadth below the level of the iliac crest. *Dundas Grant.*

Pierce, N. H. (Chicago).—*The Present Status of the Question of Progressive Spongification of the Labyrinthine Capsule (Oto-sclerosis).* "Arch. of Otol.," vol. xxxvi, Nos. 1 and 2.

The author gives a very clear statement as to the pathology of ankylosis of the stapes, and discriminates three important groups which much resemble each other—the ankylosis spuria membranacea, produced by simple inflammatory changes; the temporary fixation of tubal origin;

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and the spongifying process in the labyrinthine capsule. The functional diagnostic tests, including particularly the raising of the lower limit of audition, are described in addition to Bezold's trial. He quotes with approval Gellé's deductions: (1) negative Rinne with negative Gellé permits the exclusion of nerve involvement; (2) positive Rinne with positive Gellé indicates nerve deafness; (3) positive Rinne with negative Gellé affords strong presumptive evidence of stapes fixation and nerve involvement (the first and the third are less obvious than the second and must be interpreted in the light of the other accompanying phenomena).

Dundas Grant.

Smith, S. MacCuen (Philadelphia).—*Our Faulty Methods of Brain Localisation in Intra-cranial Lesions Complicating Aural Diseases.* "Arch. of Otol.," vol. xxxvi, Nos. 1 and 2.

Instructive cases from the literature and from actual observation are narrated, showing the difficulties in diagnosis. In one case with the symptoms of cerebral abscess none such was present and the symptoms were found to be due to uræmia. In another the clinical evidence suggested sinus thrombosis, but operative exploration revealed a temporo-sphenoidal abscess with an inadequate fistula as the actual disease present. The importance of operative interference for purposes of diagnosis as well as treatment seems the obvious deduction. *Dundas Grant.*

Hinsberg, V. (Breslau).—(1) *On the Significance of the Operative Findings for the Diagnosis of Purulent Inflammation of the Labyrinth during Exposure of the Middle-ear Cavities.* (2) *Indications for Opening a Purulently Affected Labyrinth.* "Arch. of Otol.," vol. xxxvi, No. 3. (Translated by Arnold Knapp from "Zeits. f. Ohrenheilk.," vol. lii, Nos. 1 and 2, 1906.)

(1) The chief spots for examination are the two windows, the promontory and the horizontal semicircular canal, rarely the other semicircular canals. In examining the oval window granulations should not be curetted, but removed by means of fine forceps. This is followed by careful ocular inspection followed, if unavoidable, by probing. Cases are quoted to prove that the labyrinthine suppuration accompanying a fistula of the external semicircular canal may be quite circumscribed. On the other hand, perforation through the window or the promontory is always associated with extensive destruction in the labyrinth. Signs of irritation or defect in the vestibular system should be sought for by examination of each patient, before operation, by von Stein's method.

(2) The operation is always necessary when an exact functional examination and the conditions found on exposing the middle-ear cavities show us that extensive disease of the labyrinth is present. It is best to wait if functional examination and the mastoid operation point to circumscribed disease of the semicircular canal, or if at operation a labyrinthine fistula cannot be definitely proved, but to operate secondarily if the symptoms of irritation which were present before the operation do not quickly disappear, or if these should appear first after the operation on the middle ear. The suspicion that an endocranial complication is present or threatens indicates the opening of the diseased labyrinth. The formation of sequestra in the labyrinth is an indication for operation.

Dundas Grant.

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