no definite conditions exist by which the patient can be assured that the cause of his disability is actually situated in his nose and that treatment of the same will certainly afford relief, but the author would recommend that structural irregularities should be corrected with this end in view, and would apparently suggest that the septum should be resected even in cases where no deformity exists on the off-chance of some relief being obtained—advice which lends itself to obvious criticism.

Any good result which may be looked for in cases of ozæna will probably occur where the condition is in part, at all events, due to a very marked deviation, and where the operation may be expected to bring about cessation of the chronic catarrh on the contracted side, and enable the other side to be more readily cleansed by reason of its calibre being reduced, for which explanation Glas quotes the paper read by Mermod at the International Laryngological Congress of 1909.

With reference to cases of frontal or ethmoidal sinusitis in this respect, the author has been able to relieve the symptoms to which this condition gives rise, in some instances, by a resection operation, when a large deviation was found in the neighbourhood of the anterior end of the middle turbinals, and thus a free exit to the secretion was afforded.

As regards the operation itself, he uses some of various surgeons' patterns of instruments, but seems to lay especial stress on Shurly's speculum.

The initial incision in the mucous membrane he considers should always be made down to the floor of the nose. That this is not practised by some is the cause of difficulties later on in the operation. Rents in the mucous membrane which may lead to perforations are attributable to various causes. They may be due to the failure in introducing the elevator beneath the perichondrium, and instead, endeavouring to effect a separation between this structure and the mucous membrane, either associated or not with a rent in the mucous membrane of the concave side. This adverse result practice and care alone will prevent, but considerable help will be gained by a thorough digital examination of both nostrils by way of estimating the thickness of the septum previous to commencing the operation. Rents in the mucous membrane in the subsequent course of the operation are not necessarily followed by a perforation if the mucous membrane of the opposite side is intact. With these and other more or less well-recognised principles, Glas concludes by stating that he has never seen any dangerous complications ensue, and lays great stress on a final thorough toilet of the area of operation under the effect of a further application of adrenalin, and lays down as a general principle the exercise of greater care and delicacy the further in and higher up one has to operate. *Alex. R. Tweedie.*

EAR.

Neumann, H., and **Ruttin, E.** (Vienna).—*The Ætiology of Acute Otitis.* "Arch. f. Ohrenheilk.," Bd. lxxix, Heft 1 and 2, p. 1.

This interesting article deals principally with the action of the different infective bacteria in respect to the complications of acute middle-ear suppuration. The findings obtained are briefly as follows: The encapsuled cocci, including the *Streptococcus mucosus*, were frequently found to lead to mastoid abscess and intra-cranial disease. On the other

hand, the *Staphylococcus pyogenes aureus*, hitherto regarded as a virulent organism, proved itself to be comparatively innocuous.

As regards the mode of onset of mastoiditis in the course of an acute otitis, the authors noted a distinct difference between the two groups of cocci—encapsuled and non-encapsuled. When the infective organism is a non-encapsuled coccus the signs of mastoid inflammation follow close upon the heels of the middle-ear trouble. When the infection is due to a member of the encapsuled group, on the other hand, there is a quiet interval free from symptoms between the attack of otitis and that of mastoiditis.

The authors devote considerable space to the part played by the *Streptococcus mucosus*. Otitis due to this organism manifests but little inclination to get well spontaneously, and after the tympanic inflammation has subsided, mastoid disease frequently sets in. Those cases, formerly looked upon as cases of primary mastoiditis, are in reality cases of latent *mucosus* infection from an antecedent otitis. The course of events is as follows: The tympanic inflammation subsides or passes into a state of suspension as early as the first or second week, leaving behind, however, considerable disturbance of hearing and continual tinnitus. The membrane appears as it does in moist catarrh, that is to say, it is dull, lustreless, and "humid" red in colour; the details, though still recognisable, have lost their sharpness, and the light reflex is badly defined. There is no pain, or at the most only a little tenderness on pressure over the mastoid. If paracentesis is performed a mucous or muco-purulent secretion is liberated. These obscure symptoms persist unchanged until the advancing destruction of bone attracts notice, either by threatening life or by leading to the formation of mastoid abscess. Among the authors' cases of "*mucosus*" otitis were two of extra-dural abscess, one of meningitis, one of brain abscess, and five of Bezold's abscess, and all of them were distinguished by a striking contrast between the mildness of the symptoms and the severity of the disease. During the stage of the middle-ear inflammation the symptoms may be so trivial as to escape notice entirely, and the first overt event may be the sudden appearance of some intra-cranial complication. It is only, indeed, by close cross-questioning that we discover that weeks or months before the appearance of the severe disease the patient had felt some trifling pains in the ear, lasting but a few days and not accompanied by any discharge.

Of the illustrative case-records of *mucosus* otitis narrated by the authors this is the most striking:

A female, aged fourteen, was admitted to hospital unconscious, and with clear signs of meningitis. According to her father, a year previously some slight pricking in the ears had been observed, and this was followed by deafness. A month before admission the pains had again been noticed. There never had been any discharge. The left tympanic membrane, on inspection, was seen to be somewhat indrawn, translucent, and looked as it does in secretory catarrh. Above the auricle there was a fluctuating œdematous area. Lumbar puncture revealed *Streptococcus mucosus* in pure culture in the cerebro-spinal fluid. Operation immediate. The interior of the mastoid was normal, but one or two cells at the lower border of the squamous portion contained muco-pus. The above-mentioned œdematous area corresponded to a small thrombosed vein in the bone. The dura of the temporo-sphenoidal lobe was exposed and found to be covered with granulations. The upper surface of the tegmen was normal. The membranes were adherent to each other and to the underlying cerebrum. On puncturing the brain with a knife a

large temporo-sphenoidal abscess was broached, evacuated, and drained. Death five days later from meningitis.

Post-mortem.—Basal and spinal meningitis; pus from abscess and meninges contained *Streptococcus mucosus.*

With regard to the action of the other pyogenic organisms one or two interesting points are mentioned. Otitis from the *Staphylococcus pyogenes albus* was found to resemble myringitis in respect of its being accompanied with vesicles on the membrane (in true myringitis the vesicular fluid is sterile).

The *Bacillus coli communis* was found three times, and two of the three cases were traumatic in origin. *Dan McKenzie.*

Maschke.—*Routine Otoscopy in the Febrile Affections of Infancy and Childhood.* "The Cleveland Med. Journ.," June, 1910.

The author considers the frequency and importance of otitis media in infancy and early childhood, and goes briefly into the literature; cites eight cases showing the importance of examining the ear in all doubtful cases of febrile affection, and urges the grave necessity of routine otoscopy in order to save future deafness, mastoiditis, meningitis, etc. *Macleod Yearsley.*

Luc, H.—*Thrombo-phlebitis of the Jugular Vein, and Diffuse Suppurative Meningitis, secondary to an Unrecognised Labyrinthitis; Cranial Autopsy.* "Annales des Mal. de l'Oreille, du Larynx, du Nez, et du Pharynx," January, 1910.

A young woman, of feeble constitution, had suffered for several years from chronic suppuration of the left ear. Her father died of tuberculosis. An aural examination showed that the membrana tympani had been totally destroyed, but the ossicles were intact. After several months' treatment, without improvement in the discharge and fœtor, ossiculectomy was performed, followed two years later by a radical operation. Ten days subsequently pus was noticed issuing from the neighbourhood of the aditus, and two days afterwards there was complete facial paralysis on the left side. Thinking that these phenomena might have arisen from pus pent up, where adhesions had formed between the upper part of the facial spur and the tegmen, these parts were curetted; as a result the fœtor disappeared, but suppuration persisted. Twenty days after the appearance of facial paralysis high fever set in, accompanied by vomiting. The next day the parts were again explored. A focus of pus was discovered, having its seat in what was supposed to be a group of peri-facial cells; at the same sitting the sigmoid sinus was explored by incision; there was no clot present, but blood flowed almost exclusively from the upper end of the vessel, from which it was inferred that there was a thrombus lower down. The temperature continuing, it was decided two days afterwards to open the jugular bulb. A septic clot was discovered there, extending as low down as the thyro-linguo-facial trunk. The whole length of the infected vessel was opened and cleaned. The fever persisted, but with abated oscillations, without rigors or indications of metastases. Death ensued at the end of a week. The autopsy revealed a diffuse suppurative lepto-meningitis, involving the convexity as well as the base of the brain on both sides. No cerebral or cerebellar abscess. The superior, inferior petrosal and cavernous sinuses were normal. There was no adhesion on perforation of the dura mater covering the petrosal bone. Examination of the tympanum showed that the little purulent bony cavity,

taken at the second operation to be the result of broken-down cells about the Fallopian canal, really arose from destruction of the semi-circular canals. The round and oval windows had been thrown into one, and the purulent cavity observed extended into the cochlea. The facial nerve had been pathologically destroyed before the cavity was opened. The hiatus Fallopii was enlarged by rarefying osteitis. It therefore seemed probable that suppuration of the labyrinth had extended to the aqueductus Fallopii, and that meningeal infection took place at the hiatus Fallopii.

In commenting upon this case, the author remarks on the value of opening and disinfecting the sinus and vein, in the way Grunert has suggested; in this instance it was the means of averting the first menace to the patient's life. With regard to the labyrinthitis, the focus whence the meningitis arose, the clinical history did not afford any information in the way of vertigo or nystagmus by which its presence might be suspected; but such a condition of things is by no means uncommon, a methodical examination of the labyrinth being necessary for its discovery. Had Bárány's test been applied on the first appearance of facial paralysis labyrinthitis might have been diagnosed, and a much earlier intervention practised, possibly preventing extension of infection to the meninges. In conclusion, the author considers that labyrinthitis should always be looked for in every case of otorrhœa, and particularly prior to performing the radical mastoid operation. *H. Clayton Fox.*

Mayer, Otto.—*Researches on the Pathogenesis of Congenital Syphilitic Deafness.* "Arch. f. Ohrenheilk.," Bd. lxxvii, Heft 3 and 4, p. 189.

The author submitted to microscopic examination the meninges and temporal bones of eleven children who were the subjects of congenital syphilis, and, although most of the patients died too young to permit of a clinical examination of their hearing-powers, the investigation supplies us with some valuable suggestions as to the probable pathology of syphilitic nerve-deafness.

The following is a summary of the material and findings:

The ages at death extended from ten minutes to seventeen months; no stillborn children were examined. In all the cause of death was directly or indirectly due to syphilis.

In nine of the eleven cases pus was found in the tympanic cavity, a circumstance which subsequent examination proved to be devoid of any significance.

In ten chronic inflammatory changes were evident in the leptomeninges. Only in one case were the contents of the internal auditory meatus found to be quite healthy. Six cases showed signs of inflammation in the labyrinth, and in many the soft structures of the cochlea had undergone degeneration.

In most there was lymphocytic infiltration of the connective tissue of the acoustic nerve-trunk in the internal meatus, and this was also observed in its branches, especially in the cochlear division just at its entrance into the cochlea. A similar lymphocytic invasion of the pial sheath of the nerve-trunk and its fibres was also observed. In addition to the lymphocytes, Mayer was able to demonstrate the presence of cells three or four times larger than lymphocytes, possessing round nuclei, situated eccentrically.

The round-cell infiltration could be traced along the nerve-fibres from the internal meatus into the ganglion spirale, the neurons of which had

undergone degeneration. This change in the ganglion was most marked towards the base of the cochlea.

Inside the cochlea the endolymph was at times thickened and turbid, but in no case were cells observed in the fluid. In some instances the organ of Corti had undergone degeneration, especially in its lower spiral, the sense-epithelium being quite destroyed in this neighbourhood. The difference thus manifested in the severity of the disease as it affected the base and the apex of the organ proved that the changes were not the result of putrefaction.

That these inflammatory and degenerative processes were due to an extension of disease from the meninges outwards was proved by two facts: first, the lymphocytic infiltration was most marked in the neighbourhood of the stomata which connect the peri-lymphatic spaces of the cochlea with the lymphatic channels surrounding the meningeal blood-vessels; and second, it was also very marked at the base where the acqueductus cochleæ opens into the labyrinth.

The pia arachnoid of the brain showed similar alterations. And although the presence of spirochætes was not demonstrated the author has no hesitation in calling the process syphilitic, since Tobler and Ranke showed by examining the cerebro-spinal fluid of syphilitic patients that they are frequently the subjects of latent chronic meningitis. Thus Mayer concludes that syphilitic deafness is probably due to an extension of this meningitic process along the acoustic nerve, whereby an interstitial neuritis and chronic labyrinthitis, with secondary degeneration of the nerve and epithelial elements, are induced. His views, he holds, are supported by the work of Kretschmer, who found lymphocytosis of the cerebro-spinal fluid in patients suffering from syphilitic deafness. He thus finds himself compelled to adopt a position opposed to that of Baratoux, who referred syphilitic deafness to disease of the blood-vessels and hæmorrhage into the labyrinth. The investigations of Baratoux were carried out upon stillborn children, and the hæmorrhages in the labyrinth observed by him were probably asphyxial in origin. Further, the clinical history of syphilitic deafness, though it may be of short duration, is not characterised by the fulminating events of the Ménière syndrome—a point which militates against the acceptance of the theory of hæmorrhage into the labyrinth as the cause of syphilitic deafness.

Mayer's article, which is illustrated, should be read in its entirety.

Dan McKenzie.

Biggs, G. N.—*A Case of Lateral Sinus Thrombosis in which the Klebs-Loeffler Bacillus was present.* "Brit. Med. Journ.," July 30, 1910.

Child, aged ten. Operation consisted in a radical mastoid, with exposure of the middle fossa, ligation of the internal jugular vein, and clearing out of the lateral sinus. The child recovered. Culture revealed the Klebs-Loeffler bacillus in almost pure culture.

Macleod Yearsley.

Smith, S. MacCuen.—*The Value of Thyroid Extract in Aural Manifestations of Myxœdema.* "The Therapeutic Gazette," June 15, 1910.

The author brings forward three cases which improved upon the administration of thyroid extract. *Macleod Yearsley.*