Case II.—That of a clergyman of gouty habit, with a tumour occupying the middle third of one vocal, and apparently attached to its edge. The case has been described in the *Archiv. für Laryngologie*, vol. vi., p. 3. Both in appearance and by reason of its rapid growth, in spite of vocal rest and the exhibition of iodides, the growth closely simulated a malignant neoplasm. Thyrotomy was performed, and, with the exception of some general tumefaction and interstitial hæmorrhage of the cord, nothing was found beyond a simple blood-clot, which was easily wiped off the cord.

Case III.—That of a neurasthenic woman of forty, who had suffered with almost complete aphonia for some eighteen months—a sequel to nervous excitement caused by the death of her father. On examination, which was difficult owing to her extreme nervousness, a large polyp was seen springing from near the anterior commissure. It was red and spherical, and resembled an œdematous fibroma. In an access of cough caused by the introduction of a brush, the whole tumour was rejected, and proved to be nothing more nor less than a blood-clot, though on superficial examination it much resembled a soft fibroma into which hæmorrhage had taken place. The aphonia did not disappear without further treatment in the way of laryngeal swabbing and electrical stimulation.

It is noteworthy that any history of the previous rejection of blood was completely absent, and it is surprising that throughout many months—three months under actual observation—the clot was not expelled by cough.

These three cases differ both in the etiology of the hæmorrhage and in the character of the tumour simulated—angioma, cancer and soft fibroma—and for the present must be regarded as mere pathological curiosities. *Waggett.*

EAR.

Biehl, Dr.—*Extensive Transference of Thrombotic Material in a Retrograde Direction, after Otitic Thrombo-Phlebitis of the Left Sigmoid Sinus.* "Monatschrift für Ohrenheilkunde," January, 1899.

The patient was brought into hospital unconscious. His left ear discharged fœtid pus and fragments of cholesteatoma: mastoid very tender.

Stacke's operation was done. The temperature fell, consciousness returned, and he gave a history of old otorrhœa. Three days later headache and pain returned, and on scraping a discoloured spot in the roof of the attic, thin discoloured pus escaped from the extra-dural space. Temporary improvement again took place, but in a few days fever returned, with rigors. The sigmoid sinus was then exposed, and found discoloured, greenish, and full of pus. It was slit upwards and downwards till solid, dark-coloured thrombi were reached. Soon signs of pleurisy, with effusion, appeared. The jugular vein was tied. Ptosis developed, with some œdema of the conjunctiva and fulness of the retinal veins. Death on the twenty-fourth day.

Post-mortem.—Left transverse sinus as far as the middle line filled with firm adherent thrombi, partly red, partly yellow. The right sigmoid sinus contained a partly-softened adherent thrombus, about an inch long. The right inferior petrosal sinus, the cavernous sinus, the

circular sinus and the superior ophthalmic vein also contained suppurating thrombi, which Biehl considers originated from the parent thrombus in the left transverse sinus, detached particles being conveyed against the blood-current, traversing the sinuses in the order mentioned above, and giving rise to the secondary thrombi.

It has been found experimentally that retrograde transport of thrombotic material is favoured by forced respiration, especially when the available respiratory area is limited, as it was in this case, by the pleural effusion. Arnold proved that increased pressure in the thorax and in the veins might cause it, without any rhythmical compression of the chest, and it has even been found to take place without any very material change of pressure conditions. *William Lamb.*

Dench, E. B.—*Synechiotomy of the Stapes for improving the Hearing in Chronic Suppurative Otitis Media Residua.* "New York Medical Journal," September 9, 1899.

In his opening remarks the writer speaks of synechiotomy as the division of adhesions about the stapes. These most usually lie between the posterior crus of the ossicle and corresponding wall of the oval niche; the next most frequent locality is between the crura and inferior wall of the niche. Occasionally they are found superiorly and anteriorly. The operation can be conducted under cocaine anæsthesia. Prior to operative procedure, the parts should be sterilized by mopping out the canal and tympanum with perchloride of mercury (1 in 3,000). The first step in the operation consists in dividing the adhesions which may lie between the posterior crus of the stapes and the adjacent wall of the oval niche. If a fragment of the drum membrane remains and prevents a clear view of the stapes, it is better to remove this as a primary procedure. In certain cases, owing to the position of the stapes, the ossicle cannot be seen. This is the case when posterior adhesions are present, the ossicle being drawn back behind the tympanic ring. Knowing the normal position of the stapes, it is comparatively easy to divide these adhesions, although the ossicle itself may be completely hidden from view. In order to do this, a sharp-pointed knife is introduced into the middle ear in the upper and posterior quadrant, close to the tympanic ring. The knife is carried inward until the bony wall of the tympanum is encountered. It is then swept downwards, the point being still kept in contact with the internal tympanic wall. In this way all adhesions lying between the posterior crus of the stapes and adjacent wall of the oval niche are divided, including the tendon of the stapedius muscle. Not infrequently, where the stapes is invisible before the procedure, it is easily seen after the incision has been made, owing to the division of the adhesions which have drawn the ossicle upwards and backwards. Prior to the operation a careful functional examination should be made, and this should be repeated after each successive step, so as to note effect on the lower-tone limit and on the power of audition. It is not uncommon to find a marked improvement in hearing after a simple division of the posterior adhesion. If this does not follow, the operator should next pass the knife beneath the crura of the stapes and the adjacent wall of the niche. Careful mobilization of the ossicle by means of the cotton-tipped probe is also advisable, both the hearing and the lower-tone limit being tested from time to time to see what improvement follows the procedure. The author records twenty-six cases in which operation was done in this manner; of these improvement was shown in twenty-five. In many cases the effect upon the opposite ear is

exceedingly marked; not only does the hearing improve, but the subjective noises are often relieved, and a commencing inflammation of either the labyrinth or the middle ear is effectually curtailed.

Arthur Sandford.

Gruber, Professor.—*On the Pathology of Relaxation of the Membrana Tympani.* Austrian Otological Society, February 28, 1899: "Monatschrift für Ohrenheilkunde," March, 1899.

The posterior segment of the membrane is normally less tense than the anterior. When air enters the tympanum, the posterior upper quadrant is the part that moves most outwards, and a light reflex can be seen to appear at the spot. When air is driven into the middle ear in normal conditions, the pressure upon the posterior segment of the membrane is all the greater the less air escapes into the mastoid cells. Long-continued stretching leads to permanent relaxation and atrophy; the posterior upper quadrant is the most frequent situation. As a rule, relaxed areas move inwards, especially when of limited size, and they often fall into folds behind the upper and posterior segment of the inner edge of the meatus, in which case they may present very much the appearance of an opacity due to thickening, especially when seen near the edge. Inflation shows the nature of the case. Such folds may become adherent, and give rise to opacity. Chronic nasal catarrh favours the development of bladder-like relaxed areas, on account of the frequent blowing of the nose.

Dr. Gomperz said he regarded bulging of the posterior upper quadrant as pathognomonic of valve-like swelling of the Eustachian tube, cases in which it was easier for air to enter than to leave the tympanum. Such bulgings of the membrana tympani indicated certainly some pathological condition near the ostium tubæ, most frequently, he thought, hypertrophy of the posterior ends of the lower turbinals, adenoids, purulent post-nasal catarrh, or empyema.

Dr. Bing said that when air was driven into the tympanum it flowed in a sort of spiral stream, striking first upon the posterior wall, becoming compressed in the antrum, and only then recoiling upon the most yielding part of the membrane.

Professor Politzer said the conditions under discussion had nothing to do with air-pressure, but must be referred to altered physiological states of the membrane.

Professor Gruber thought the explanation must be sought in the structure of the membrane. *William Lamb.*

Gerrad, P. N.—*Otitis Externa Tropica.* "Lancet," September 23, 1899.

The author gives a description of an affection which is of fairly common occurrence in Singapore and the Malay States. The symptoms somewhat resemble those associated with furunculosis, although the discharge of pus from the outer ear may take place painlessly. The results of bacteriological examination of the discharge are given, and an antiseptic line of treatment is suggested. *StClair Thomson.*

Hammerschlag, Dr.—*Spontaneous Cure of Otitis Media.* Austrian Otological Society, February 28, 1899: "Monatschrift für Ohrenheilkunde," March, 1899.

He showed a girl of fifteen, who had double scarlatinal otitis at the age of three. Both ears healed spontaneously: the left after the manner of a Stacke's operation; the right like a typical radical operation with retro-auricular fistula.

Dr. Pollak said he had recently removed a cholesteatoma through the external meatus in a case in which Nature had done a Stacke's operation.

Hansberg (Dortmund).—*Two Cases (One cured) of Cerebellar Abscess due to Otitis.*

Case 1.—A child of twelve, with six months' history of otorrhœa, was brought to the hospital in a state of unconsciousness, with vomiting and torticollis, with a temperature of 38·5° and pulse of 72. A fistulous track led through the mastoid to an extradural abscess in the posterior fossa. The sinus was discoloured. The operation was interrupted by hæmorrhage, and three days later a large abscess was detected in the cerebellum, extending posteriorly for a distance of 4 centimetres. Four weeks after evacuation the patient was well, and the cure persisted.

Case 2.—A man of twenty-one, with long-standing otorrhœa. He complained of violent pains in the nape of the neck; vomiting and vertigo were present, but no fever. Torticollis occurred in a day or two, and inequality of the pupils, conjugate deviation, and Cheyne Stokes respiration. Operation was undertaken, but abandoned on account of dyspnœa. Two days later operation was renewed, and pus found in the mastoid, but no fistula leading to the posterior fossa was detected. Death followed in twenty minutes with asphyxia.

On autopsy almost the entire right lateral lobe of the cerebellum was found to be replaced by an encysted abscess. This abscess communicated by a large opening with the interior of the thrombosed sigmoid sinus.

Hartmann recently operated on a cerebellar abscess, the only symptoms of which were a diminution of outward movement of the eye, a little nystagmus, high fever and violent headache. The patient died after temporary improvement. *Waggett.*

Levy.—*Sinus-thrombosis; Cure without Operation.* "The Laryngoscope," August, 1899.

The author records a case (aged six) of sinus thrombosis in which, after some delay, the mastoid was opened, and pus, soft bone, and granulation were removed, the patient's condition preventing the opening of the sinus. This operation was followed by marked relief for nine days, when the varying temperature and other severe symptoms returned. This time permission to operate was refused by the parent, and a grave prognosis was given. However, in a few days the child commenced to improve, and was in two months quite well.

The author concludes that the thrombosis did not undergo disintegration, that it proceeded no further than the early part of the second stage as outlined by Fred Whiting, and that cure by organization of the clot had taken place. *R. M. Fenn.*

Milligan.—*Recent Progress in the Treatment of some of the Dangerous Complications of Suppurative Middle-ear Disease.* "Med. Chron.," No. 4, 1899.

It is held by the author that the great majority of what ultimately become suppurative middle-ear affections become so only after perforation of the membrane and aerial contamination. He believes that the membrane should never be perforated if it can be avoided, because of this danger, and vigorous efforts, by active local depletion, warm alkaline aperients, rest in bed and quiet, and packing the meatus with an antiseptic dressing, should all be used to cause absorption of inflammatory products. The roof of the mastoid antrum, like the roof of the

middle ear, is thin, and so septic meningitis or an extradural abscess may be established if pus is retained within the antrum, owing to its communication with the middle ear becoming blocked by inflammatory swelling. In children the petromastoid suture is but slightly, if at all, ossified, and so organisms easily find their way into the interior of the cranial cavity. If antiphlogistic treatment does not arrest the progress of the disease in twenty-four to forty-eight hours, the antrum should be opened. It is not necessary to establish a communication with the middle ear; syringing should be avoided, drainage being secured by strips of gauze.

The frequency of suppuration and formation of a subcortical apical mastoid abscess in influenza cases is noted, and a radical operation is indicated, as rapid destruction of bone is so apt to follow.

It is in chronic affections of the tympanum and mastoid that we are apt to get septic abscess of the brain, or pyosepticæmia.

The Schwartze-Stacke operation is preferred to the Schwartze operation.

Other complications which are prone to follow suppurative middle-ear disease are:

1. Extradural abscess.
2. Meningitis suppurativa.
3. Intracranial abscess:
   (*a*) Cerebral.
   (*b*) Cerebellar.
4. Thrombosis of the intracranial venous sinuses, more especially the lateral.
5. Pyosepticæmia.

This paper ends by emphatically reminding us of the importance of early and thorough-going antiseptic treatment of these cases.

B. J. Baron.

Pendred, Vaughan.—*Four Cases of Otitis Media.* "Lancet," November 18, 1899.

The importance of early operation in cases of infection of the mastoid cells is generally recognised, and the cases recorded are very good examples of the benefit following a thorough operation. In the fourth case it is, indeed, difficult to account for the paralytic symptoms being on the same side of the body as the ear disease and the resulting disease of the brain, but it is most probable that there existed some undetected mischief on the right side of the brain. Another remarkable point in these cases is the presence of the fly in the ear of the boy in Case 3; it is not impossible that the sudden cessation of the discharge from the ear was due to a blocking of the aperture by the fly, or it is possible that it was the original cause of the disease of the middle ear. It is generally admitted that delay in operating on a patient exhibiting symptoms, however equivocal, of intracranial mischief and suffering from otitis media is unjustifiable. The above cases illustrate in a very striking manner the danger of procrastination, and the excellent results which are to be obtained by early "surgical interference." Cases 1 and 4 demonstrate that even with a free discharge from the ear very serious mischief may be occurring within the cranium, although the symptoms are not more striking than an attack of sickness, as in the child, or of severe headache, as in the man. The author is utterly at a loss in Case 4 to explain the left-sided hemiplegia, when the only demonstrable lesion of the brain was on the same side. There

would appear in Case 3 (perhaps the most striking of the group) to be a causal connection between the fly and the ear trouble. The great cell extending upwards from the apex of the mastoid and displacing the lateral sinus is unusual, in the first place because this part of the bone, as a rule, consists of a honeycomb of small cells, and in the second place because the boy had not attained puberty, at which age the mastoid cells are described as developing. Case 2 was remarkable as demonstrating the great value of opening up the mastoid antrum for the relief of the pain of middle-ear disease. Taken together, the cases show how ill-defined the symptoms are liable to be, the classical picture of earache with swelling over, and intense tenderness of, the mastoid process, and accompanied by sickness and fever, not being presented by one of the group in its entirety. *StClair Thomson.*

Pollak, Dr.—*A Case of Complete Deafness following a Railway Accident (Collision).* Austrian Otological Society, February 28, 1899: "Monatschrift für Ohrenheilkunde," March, 1899.

The deafness appeared soon after the accident, and soon became complete. The patient did not lose consciousness at the time of the accident, nor did he vomit, but two hours afterwards he bled from the right ear, and for weeks he was in a dazed condition. He still complains of frontal and temporal headache, and he has attacks of vertigo several times a day. Everything seems to turn round; he shakes with fear and sweats profusely. Sometimes an attack leaves him quite silly, so that he hardly knows his own name. At times he has palpitation, and he has become very irritable and impatient. Trifles annoy him. He says he can no longer estimate distance by the eye, but is obliged to feel his way with his hands. Memb. tymp. normal a fortnight after the accident. Hearing almost abolished. Bone-conduction = 0. The auditory nerve reacts to a weak constant current ($\frac{1}{4}$ milliampère); the note is heard with cathodal closure and anodal opening.

Dr. Alt said he had found increased electric excitability of the auditory nerve in all the cases of disease of the middle ear and labyrinth, accompanied by tinnitus and vertigo, which he had examined.

Dr. Pollak, in reply, referred to Gaertner's work and his own, as showing that the auditory nerve very rarely reacts to currents of medium strength in the normal ear, and the same is true of patients with dry adhesive catarrh and sclerosis of the middle ear. In view of the fact that the auditory nerve reacts to weak currents in the catarrhs attended with secretion, he was forced to conclude that the reaction to galvanism depended largely upon the conditions being favourable to conduction. He had found that in certain nervous diseases, especially tetany, the electric excitability of the auditory nerve was very much increased even when the ears were sound.

V. Mosetig-Moorhof.—*Closure of Bone Defects in the Mastoid by a Flap of Skin turned up and tucked in under the Loosened Edges of the Opening.* "Monatschrift für Ohrenheilkunde," January, 1899.

A tongue-shaped flap rather larger than the opening is marked out by a shallow incision immediately below it. A second superficial incision is made parallel with the first, but internal to it, thus marking out a narrow peripheral zone, from which the epidermis is then removed. The outer incision is next deepened to the fascia, and the flap is turned up. The edges of the hole in the mastoid are not freshened in the ordinary way, but are simply separated from the bone by the blade of

a bistoury introduced on the flat, so that the edges can be raised up from the bone by little hooks, sufficiently to enable the freshened edges of the flap to be tucked in under the edges of the opening, the epidermal surface of the flap being inwards. Four stitches secure the flap in its new position, and a few button sutures serve to approximate the edges of the surface from which the flap has been removed.

William Lamb.

Richards.—*The Use of Gelato-glycerine Bougies in the Treatment of Earache.* "The Laryngoscope," August, 1899.

These bougies are specially valuable in an early stage of acute otitis media and in acute otitis externa. Besides the anodyne effect, the glycerine draws out the serum from within and lessens the tension, and thus a paracentesis may be prevented. After referring to the difficulty in obtaining the bougies except from certain makers, the author recommends the following formula:

Carbolic acid	7 minims.
Fl. ext. opium	6 ,,
Cocaine	3 grains.
Atropine sulph.	3 ,,
Water	52 minims.
Gelatine	18 grains.
Glycerine	158 ,,

To make forty-two bougies. *R. M. Fenn.*

Stetter, Professor.—*On Chronic Dry Myringitis and its Treatment.* "Monatschrift für Ohrenheilkunde," March, 1899.

Etiology is similar to that of otitis externa. Myringitis may continue after an otitis externa and media is cured. Diffuse relapsing otitis externa is specially apt to cause myringitis, and in this dry form there is never any secretion. Several patients remembered attacks of pain which yielded to warm applications, but left the hearing somewhat impaired. Afterwards it slowly improved, but never returned to normal.

Symptoms and Diagnosis.—The membrana tympani is dull; it has lost its normal translucency and lustre, and in colour often shows a slight rose tinge. Shrapnell's membrane and the hammer vessels are distinctly injected. In older cases the outline of the malleus may be indistinct, but the short process is always well defined. The light cone is blurred. Hearing-power gradually declines, and the signs point to the conducting apparatus. (The nerve is only affected in very old cases.)

Weber: Tuning-fork best heard on deaf side.

Rinne: Bone-conduction better than air-conduction; both high and low tuning-forks heard on the mastoid after they have ceased to be heard at the meatus.

This preponderance of bone-conduction over air-conduction is most striking in old persons, in whom one would expect the opposite condition. Hearing for conversation is most of all impaired. The *b* sound cannot be distinguished, and *k* and *t* are confounded. The cause of the deafness is evident from the fact that under suitable treatment the mobility of the membrana tympani becomes greater (increased power of vibration), and the tuning-fork in Weber's test ceases to be best heard on the affected side. When the chronic thickening lasts for long it gives rise to impaired mobility of the chain of ossicles,

including the foot-plate of the stapes; and probably the membrane of the fenestra rotunda becomes less yielding—changes similar to those occurring in old age.

The function of the fenestra rotunda is probably to act as a pressure regulator for the labyrinth; any centripetal movement of its membrane must be very slight. When the membrane becomes thickened and less yielding, instead of conducting vibrations outwards to the middle ear, it throws them back on the labyrinth, pressure inside that structure is increased, and in time the nerve is damaged.

Probably, then, the deafness in chronic dry myringitis is due primarily to disease of the conducting apparatus, beginning in the membrana tympani and extending to the chain of ossicles, and only in very chronic cases giving rise to changes in the labyrinth, the result of increased pressure.

Diagnosis.—In chronic dry myringitis the outline of the malleus may be indistinct from thickening of the external layers, but the curvature of the membrane is unaltered, and the malleus is visible in its whole length. Chalky deposits and localized opacities are never present, and hyperæsthesia acustica and paracusis Willisii—symptoms more or less distinctive of sclerosis and dry catarrh—have never been observed. Hearing-power diminishes slowly and steadily, never by jumps, as it often does in sclerosis of the mucosa. Vertigo is absent.

Prognosis.—Good in early cases, but perfect cure rarely attained. Deafness never becomes complete unless nerve secondarily diseased.

Treatment:

R. Acid. sozoiodol. ... 0·5 grammes
Alcohol. absolut. ... 2·0 ,,
Olei ricini ... ... 20·0 ,,

Sig.: Ear-drops; in blue-glass phial. Use twice a day.

Massage by means of Haug's tube or Breitung's apparatus (driven by electro-motor) is also required, and may be used of a strength that would be quite intolerable to a normal ear.

The drops may be applied for some weeks first, to get the parts into condition for massage. *William Lamb.*

Weissmann.—*Acute Mastoiditis discharging into the Meatus.* "Arch. Inter. de Lar.," May-June, 1899.

The author is of opinion that this condition is not so rare as is generally supposed, and that cases seen as chronic cases of fistula have been neglected in their acute stage by the patient, or mistaken by the surgeon for furunculosis. The condition here described is merely the extreme issue of that more common phenomenon known as dropping of the postero-superior wall of the meatus, and is due to the extension of suppuration to the cells which border on the meatus. The appearance presented differs, of course, according to the stage at which it is observed. The dropping of the postero-superior wall is always to be noted, but apart from this there is also present in the lower outer part of the posterior wall a small elevation much resembling a large furuncle, but differing from it in its comparative painlessness when touched with the probe, its softer consistency, and its moister and less brilliant appearance.

When rupture has taken place, the "dropping" is less marked, and small granulations mark the site of the fistula in the position of the previous boil-like swelling. A fine bent stylet may be made to penetrate through the fistula to a large bony cavity, the antrum, a

diagnostic point differentiating this condition from fistula connected with mere subperiosteal abscess. In the latter disease, moreover, pressure on the mastoid will cause pus to issue from the fistula.

The author has observed a case in which the diagnosis from furunculosis was arrived at with some difficulty, the previous otitis having subsided, leaving a practically normal drumhead. He advises as treatment, that the fistula be enlarged and drainage made with a fine strip of gauze, a radical operation to follow if the discharge continues more than a fortnight. *Waggett.*

REVIEW.

Hajek, Dr. M.—*Pathologie und Therapie der Entzündlichen Erkrankungen der Nebenhöhlen der Nase.* Mit 89 grösstentheils Originalabbildungen. (*Pathology and Treatment of Inflammatory Affections of the Accessory Sinuses of the Nose, with 89 drawings, chiefly original.*) By Dr. M. Hajek, Lecturer in the University of Vienna. Franz Deuticke: Leipzig and Vienna, 1899. Pp. 328.

For a number of years the author's discipuli have been anxiously asking when Hajek's book was to appear, and, as year after year has passed without its coming forward, they have tended to become sceptical as to whether it was ever to do so. Now, however, all fear on that score has been removed, the book has issued from the publisher's hands, and is, we have little doubt, in the hands of many readers, the number of which will certainly increase as the fact of its publication becomes more widely known.

The author holds that advance in the diagnosis and treatment of diseases of the accessory sinuses of the nose has been made, and can only be made, by means of a more accurate knowledge of the normal and pathological anatomy of the parts, and on this principle he has in his early teaching been in the habit of devoting a special course to these branches of the subject, but in the book before us he deals with the anatomy of the various sinuses in the special chapters devoted to each.

The book is divided into a general and special part. In the former he deals with the etiology, symptomatology, and diagnosis in general, considering under the first head the exciting causes of sinusitis, whether "genuine" (influenzal, etc.) or "fortgeleitet" (dental, traumatic, etc.), and the mechanism of its development, discussing its tendency in some cases to undergo spontaneous resolution, in others to become chronic, the result in the latter cases being attributed chiefly to anatomical peculiarities obstructing the natural orifices, at least in the so-called "genuine" sinusitis.

He divides the symptoms into the local, the distant, and those due to complications. Among the first come headache and disturbances of smell, sometimes due to the detrimental action of the disease upon the upper air-passages and stomach. Among the distant symptoms he includes general conditions, characterized by congestion or by depression. The author naturally holds that the diagnosis is only arrived at by means of rhinoscopic examination, for the successful use of which a knowledge of the anatomy of the cavities, particularly of the lateral wall of the nose, is absolutely indispensable. This portion of anatomy then receives a most careful description, and the methods of