(2) A strong healthy man of 19 was admitted with an acute otitis media, and for the first two weeks after his admission the temperature was subfebrile and his general condition was good. About the beginning of the fourth week the temperature rose to 40°, but the patient gave no indication of any aural complication and examination of the ear suggested a relatively healthy condition. In spite of this, on account of the high fever, it was decided to perform an antrotomy, when a commencing disturbance was found in the cells generally, whilst in particular a large cell in the region of the upper part of the sinus was full of pus and granulations. The fever, however, continued and, as general investigation excluded all other causes for the same and hæmolytic streptococci were found in the blood, the sinus was again exposed five days later, but its contents were found to be normal. Three days later, as no further improvement had occurred, the jugular vein was ligatured, after which normal convalescence took place.

ALEX. R. TWEEDIE.

ABSTRACTS

EAR

Thrombosis of the Lateral Sinus. JOHN B. POTTS, Omaha. (*Journ. A.M.A.*, 30th January 1932, Vol. 98, No. 5.)

The paper is based on a study of sixty-three cases. Most of them were young people. Forty-eight occurred before the age of 21, and thirty during the first ten years of life. The most significant single symptom was a sudden rise of temperature ranging from 104°-107° F. There was a high white blood cell count except in three cases in which it was less than 10,000. The appearance of well-being of the patient in the early stages is often misleading. Chills, sweats, tenderness over the jugular vein and metastatic infection are later symptoms. The Queckenstedt-Tobey test is of particular importance in young children. Much emphasis is placed on keeping the wound wide open and clean. The most common organism found was the streptococcus hæmolyticus, although the streptococcus viridans was found in one case, pneumococcus in one, and staphylococcus in three. In the series, fifty-four patients recovered and nine died. The jugular vein was tied in fifty-three cases. All the patients who died had their jugular vein tied and two recovered without tying. The causes of death were meningitis, brain abscess, multiple abscess and pneumonia.

The article occupies seven columns, has a bibliography, and three tables. ANGUS A. CAMPBELL.

Ear

The Surgery of the Posterior Cranial Fossa. DONALD ARMOUR. (*Lancet*, 1932, ii., 500-4, 551-8.)

The author in an exhaustive paper deals, among other conditions, with acoustic tumours. These arise on the vestibular division of the eighth cranial nerve, always distal to the plane of the porus acusticus. They rise from the endoneurium of the nerve, the " type cell " of the tumour being the neurilemma sheath cell. Two groups are distinguishable : one of large lobulated growths, tough and fibrous when cut, often cystic in places, which bleed freely ; the second of smaller, softer texture, whose cut surface resembles white brain matter, and is less vascular than the first group. Analysis of verified tumours shows that neither sex nor side is more often affected. Growth is slow. Symptoms seldom occur before the third decade ; hence, when cerebellar symptoms appear in the first two decades intracerebellar tumour should be suspected, save in cases of general neurofibromatosis. The constancy of chronological order in the symptom-complex is remarkable : involvement of the eighth nerve, suboccipital pain or discomfort, cerebellar incoordination, increased intracranial tension. Double vision and weakness of the abducens nerve on the side of the lesion are fairly common. The ninth, tenth, eleventh and twelfth nerves are involved only in very exceptional cases. Bilateral acoustic tumours are not uncommon, and are commonly part of a general or a central neurofibromatosis.

Epidermoids may occur in the cerebello-pontine angle ; more usually in males, they appear in the third and fourth decades. They grow slowly and symptoms are usually of long duration. Dermoids are never found in the cerebello-pontine angle.

MACLEOD YEARSLEY.

Further Observations on the Electrophonoid Treatment of Deafness. MACLEOD YEARSLEY. (*Practitioner*, June 1932.)

This paper embodies the conclusions to which the author has come after treating 200 cases of deafness since 1925 by this method. He estimates that he has had 79·5 per cent of successes, 8 per cent of partial successes and 12·5 per cent of failures.

The employment of the treatment is founded on a strictly rational basis as " the effect of the electrophonoid massage by sound is to establish an active hyperæmia with consequent improvement in nutrition." It is this physiological foundation that makes it successful in presbyacusis, otosclerosis, and deafness following mumps. Juvenile cases give the most excellent and enduring results. Duration of deafness is a determining factor, too. The same success cannot be expected in a deafness of long-standing as in one which has been existent only a short time. In chronic cases in which

improvement is shown, perseverance is necessary if the amelioration is to be increased and to be made permanent and, when improvement has been attained, any deterioration should be met by short supplementary courses. In the Ménière syndrome the method is of high value and in tinnitus, if used with care, very satisfactory results can be obtained.

R. R. SIMPSON.

Otitic Hydrocephalus: A Report of Three Cases. C. P. SYMONDS. (*B.M.J.*, 9th January 1932.)

Three cases are described in which the clinical evidence suggested the presence of a cerebral abscess secondary to otitis media. The question at issue when the author was called in was whether an exploratory operation should be undertaken. In all cases the application of certain criteria led to the diagnosis of otitic hydrocephalus. The symptoms of the condition are those of increased intracranial pressure and in this respect are similar to cerebral abscess, but there are certain points of clinical distinction upon which the diagnosis may be made provisionally at the bedside. The clinical points are:

(1) Swelling of the optic discs is the most striking feature of otitic hydrocephalus. This, with hæmorrhage and exudate, frequently amounts to several dioptres. In cerebral or cerebellar abscess the discs commonly show no more than a slight venous engorgement. A comparable degree of swelling in a case of abscess is usually accompanied by extreme drowsiness and malaise.

(2) The general condition of the patient is in striking contrast to the appearance of the fundi. Between the attacks of headache and vomiting he is likely to be alert, lively, and of good appetite. The abscess case generally looks and feels ill, is dull, constipated, and without appetite.

(3) Absence of localising signs. The common situations for abscesses are temporal or cerebellar with their corresponding localising signs, except abscess of the right temporal lobe which is relatively silent and from which the differential diagnosis of otitic hydrocephalus is more difficult.

On the basis of these clinical points, in a suspected case lumbar puncture should be performed and a manometer used. The characteristic features in hydrocephalus are a high pressure and a normal fluid. Taking the average normal pressure as 150 mm. H_2O, the pressure in abscess may be from normal up to 250, while in hydrocephalus it is more commonly in the neighbourhood of 300. Finally, in the author's experience, fluid in a case of cerebral abscess is never normal, there being usually a small excess of cells and there is always an excess of protein.

Ear

Otitic hydrocephalus will clear up if treated by lumbar puncture. Enough fluid should be removed on each occasion to bring the pressure to normal and the procedure should be repeated as long as evidence of increased pressure persists. The existence of hydrocephalus is not in itself an indication for operative intervention, but any local condition of the ear should be treated on its merits.

The histories of the three cases are given and comment is made on two points. (a) Lateral sinus thrombosis occurred in all three cases. The author, however, refutes Leidler's suggestion that hydrocephalus may result from lateral sinus thrombosis on account of obstruction to the venous outflow from the cranium. If this were true, hydrocephalus should be a frequent instead of a rare accompaniment of sinus thrombosis. Moreover, there have been several cases of otitic hydrocephalus in which no evidence of lateral sinus thrombosis has been present.

(b) It would appear from cases recorded so far that the condition is rarely met with in adults. R. R. SIMPSON.

Theory of the "Fistula Sign." K. WITTMAACK. (*Arch. Ohr-, u.s.w., Heilk.*, 1932, cxxxii., pp. 115-27.)

The nystagmus which is produced by compression of the air in the meatus is directed to the diseased or *same* side in approximately two-thirds of the cases, and to the *opposite* side in one-third. This difference in the kind of nystagmus has never been satisfactorily explained. It is not dependent on the position of the fistula in relation to the ampulla.

In the course of a series of animal experiments on degeneration of the cochlea (see previous abstract), the author found that the two kinds of nystagmus were often produced. During the first part of the experiment, when the stapes was pushed into the fenestra ovalis, the nystagmus was often directed to the opposite side. Also, by inserting a probe through the oval window and directly compressing the membranous wall of the utricle, a nystagmus directed to the *opposite* side resulted.

Under normal conditions the greater part of the bony semicircular canal is filled with perilymph. The membranous canal containing endolymph occupies only a small section of the canal, and it is generally placed in fairly close contact with the outer convexity.

If one examines sections of temporal bones showing fistulous openings resulting from cholesteatoma (see illustrations in text), there are two clearly distinguishable pathological types. In one type the fistula opening is in contact with the perilymph space, in the other type it is in contact with the endolymph system. The two kinds of nystagmus observed in the "fistula-sign" are said to

correspond to these two pathological types of fistulæ. In the former type the perilymph system is compressed when making the fistula-test; the utricle becomes compressed through the medium of the perilymph surrounding it, and the resulting nystagmus is directed to the *opposite* side. On the other hand, when the fistulous opening is in contact with the membranous canal, the resulting nystagmus is directed to the *same* side.

There are many abnormal findings in connection with the fistula test, e.g. a pure *horizontal nystagmus* without the rotatory component, a *vertical nystagmus*, etc. The author has a clear explanation for all these various points. But the explanations all depend on Wittmaack's so-called "Tonuslehre" which must first of all be accepted *in toto*.

In Wittmaack's "Tonuslehre" the specific stimulus affecting the ampullary end-organ is not a *movement* of the endolymph transmitted to the hair-cells, but a compression of these end-organs transmitted through the surrounding fluids. It must be added that Wittmaack's theory is by no means generally accepted by German otologists. J. A. KEEN.

Wittmaack's Tonuslehre and the Mach-Breuer Theory of displacement of the cupula in the semicircular canals. W. STEINHAUSEN. *Reply to the above article.* K. WITTMAACK. (*Arch. Ohr-, u.s.w., Heilk.*, August 1932, Band cxxxii., pp. 134-93.)

The two articles which follow each other in the present number of the "Archiv" may suitably be abstracted together. Steinhausen's animal experiments deal with the *cupula of the pike* and his early publications on this subject date back some five years. A minute window is made in the semicircular canal of this fish and a small quantity of Indian ink is injected. This becomes deposited on the cupula, which is thus rendered visible. Stereophotographs of such preparations, illuminated by the slit lamp, appear in the text. Steinhausen therefore claims that he has observed the movements of the cupula in the *living* animal.

In a previous number of the "Archiv" Wittmaack had strongly criticised Steinhausen's experiments and the so-called Mach-Breuer theory, which explains the physiological action of the semicircular canals on the basis of endolymph currents and of movements of the cupula in the ampullary end. According to Wittmaack the Steinhausen experiment introduces an artificial condition by opening the semicircular canal. By this operation the normal state of *rigidity* ("Turgor") of the cupula and of the surrounding fine framework is destroyed, and the hair-cells are converted into a simple floating strand of tissue. No deductions from such a preparation can, therefore, be accepted.

Ear

In Wittmaack's histological studies the cupula is described as a fine protoplasmic network which unites all the hairs of the sensory cells. This network structure is filled with a special fluid and is separated from the endolymph by a semi-permeable membrane which encloses the whole organ. Normally this complex structure is in a state of tension (" Turgor ") and is quite immovable. Its specific stimulus is an increased or decreased pressure from the surrounding fluids (" Tonuslehre "). The " Tonuslehre " is supported by certain experiments with injections of hyper- or hypotonic saline solutions which cause a collapse or a swelling of the cupula by osmosis through the semi-permeable membrane.

Steinhausen states that Professor Wittmaack's arguments and reasoning are confusing ; water is said to travel from the hypertonic to the hypotonic side of the membrane. As this error occurs in the section explaining the differences in hydrostatic pressure of the endolymph and of the fluid inside the cupula meshwork, the whole theory may be said to fall to the ground.

Steinhausen's experiments on the pike show a cupula which so *completely fills* the ampulla that the ink solution cannot penetrate from the canal side to the utrical side. Therefore no *collapse* can have taken place and Wittmaack's main objection is answered. Yet the cupula can be shown to move from side to side.

Wittmaack replies by re-asserting his primary objection to Steinhausen's experiments. The latter is accused of drawing hasty conclusions from scanty experiments ; also of not fully describing the operative technique which enabled him to observe cupula movements in the " living " animal (not one fish survived more than five days). Moreover, no histological section-controls were made afterwards to prove that the cupulæ had really remained intact, as Steinhausen assumes. Wittmaack's experiments were all made with the labyrinths of birds and small mammals and he admits that certain differences in the results of labyrinth trauma may be due to the fact that Steinhausen worked with fishes.

In Steinhausen's experiment the endolymph pressure is suddenly withdrawn by making an opening into the membranous canal and this will also cause a loss of fluid from the cupular network. However, the cupular structure need not necessarily collapse, or lose its shape, but it is bound to gain in mobility due to loss of its rigidity (" Turgor "). J. A. KEEN.

Immobilisation of the round window membrane : A further experimental study. WALTER HUGHSON and S. J. CROWE. (*Annals of O.R.L.*, Vol. xli., No. 2, 1932.)

In a series of six cats, the round window of one ear was occluded and the membrane immobilised by a small periosteal graft, placed

in the round window niche. At intervals of two days to seven weeks following the operation the hearing of the two ears was compared, using the Wever and Bray apparatus. It was found that invariably the operated ear showed a great increase over the unoperated ear in the intensity of the spoken voice and tones transmitted. (The accuracy of the assumption that the hearing in both ears of a normal cat is equal, has been borne out in a series of over a hundred experiments.)

The authors conclude that the statement made in the preliminary report of this investigation (Hughson and Crowe: "Function of the round window," *Journ. A.M.A.*, Vol. 96, June 1931) that "the secondary tympanic membrane apparently acts as a safety valve to protect the structures of the inner ear and, owing to its mobility, absorbs a large percentage of the sound impulses that reach the cochlea," is confirmed by these experiments.

E. J. GILROY GLASS.

NOSE AND ACCESSORY SINUSES

Nasal Diphtheria in Children. SUSANNA GEZELD. (*Arch. Ohr-, u.s.w., Heilk.*, 1932, cxxxii., pp. 1-23.)

An interesting article based on the study of 285 cases of nasal diphtheria treated at an Isolation Hospital in Moscow. The majority of the patients were infants and young children. The pathology of this condition is discussed in great detail with histological illustrations. There are full descriptions of the lesions found in fatal cases with directions of the post-mortem technique to be followed.

The cases are divided into the *fibrinous form* (firm continuous membrane) 43·3%, the *erosion-type* (membranous exudate in small scattered areas) 32·4%, the *catarrhal-type* (no membrane) which is again subdivided into *moist catarrh* 14%, and *dry catarrh* 10·3%.

Many cases are examples of *mixed infections*, e.g. K.L.B. streptococci or staphylococci, or the diphtheritic process complicates scarlet fever or measles, or all these three infections may appear together.

Foreign bodies in the nose are said to be a very rare finding in connection with the K.L.B. infection (four cases).

The main line of treatment remains the diphtheria antitoxin. Nasal diphtheria is characterised clinically by a great chronicity of the inflammatory process, a rapid cure seldom being obtained. Therefore the best way is to give the antitoxic serum in small and frequently repeated doses so as to raise the resistance gradually. One can use various antiseptic ointments locally. In obstinate

cases with tough membrane the author recommends insufflations of boracic powder into the nasal cavities. J. A. KEEN.

Blood-sugar curves in dry catarrh of the upper respiratory passages. K. WEINAND. (*Arch. Ohr-, u.s.w., Heilk.*, 1932, cxxxii., pp. 42-8.)

Very obstinate, dry catarrhal conditions of the pharynx and larynx are a recognised complication of diabetes. *Vice versa*, one should suspect a constitutional disturbance of the carbohydrate metabolism when a dry pharyngitis is found which resists all local treatment, provided nasal causes such as sinus suppuration have been excluded.

The author studied the blood-sugar curves in twenty such patients. Twenty c.cm. of a 40 per cent solution of glucose are injected intravenously; a normal blood-sugar level should be present again after one and a half to two hours (Wislicki's test). In cases in which the "curves" show a departure from the normal, treatment of the dry catarrh on diabetic lines with diet restriction and insulin is often very successful. On the other hand, if no abnormality exists, insulin treatment will be useless.

J. A. KEEN.

Post-operative Hæmorrhage in Nose and Throat Operations. W. S. THACKER NEVILLE. (*Lancet*, 1932, ii., 624.)

The writer draws attention to the use of Clauden as a local hæmostatic. This drug, the composition of which is not given, save that it is an extract of lung tissue, can be injected or administered orally. MACLEOD YEARSLEY.

Tetanus following impaction of a foreign body in the nose. J. J. M. BROWN and C. R. MACDONALD. (*Lancet*, 1932, ii., 677.)

The writers record this case which is somewhat similar to that described by Shore (*Lancet*, 1931, i., 916.) A boy, æt. 4, pushed a bead into his left nostril. Struggling prevented removal. Seven days later the bead slipped back and was considered to have been swallowed. In about twenty-four hours tetanus appeared. The bead was recovered under local anæsthesia in hospital. Treatment by lumbar puncture and antitetanic serum failed and the boy died some twenty-four hours after admission. Culture from the bead showed *B. tetani.* MACLEOD YEARSLEY.

Abstracts

Primary Tuberculous Osteo-periostitis of the Nasal Bones. J. ZIMMER-LEIBOVICI. (*Les Annales D'oto-Laryngologie,* May 1932.)

Tuberculous osteitis of the nasal fossæ is a rare disease and is usually wrongly diagnosed. The rhinologist is almost certain to regard the lesion as specific. The failure of anti-specific treatment may put the surgeon on the right track and he may excise a piece of the affected part and send it to the laboratory for investigation. But here again, biopsy is very unlikely to show Koch's bacillus and, unless an animal inoculation is made, the tissue will be reported upon as a chronic inflammation. This article contains an account of three cases of tuberculosis of the nasal bones. The author then proceeds to discuss the clinical and pathological features of these cases in great detail. The condition is usually seen in adults with other tuberculous manifestations. The primary lesion is essentially quiet, slow, and painless. It is usually seen at the side of the root of the nose, and there may or may not be a unilateral nasal obstruction due to an infiltration of the soft parts. It consists of a slight tumefaction over the bone. At a later date, the skin becomes involved and a cold abscess is present. At a still later stage, granulations are to be seen in the nasal fossæ. The differential diagnosis at this stage is between tuberculous osteitis, gumma, foreign body, simple infection and epithelioma. The author concludes by discussing the treatment of this condition.

M. VLASTO.

LARYNX

Anomaly of the Right Recurrent Laryngeal Nerve. JOHN DE J. PEMBERTON and MEREDITH G. BEAVER. (*Surg., Gyn. and Obst.*, 1932, liv., No. 3.)

An anomalous course of the right recurrent laryngeal nerve, discovered at operation, is described. The nerve arose from the vagus opposite the superior pole of the thyroid gland, ran downwards along the medial border of the vagus for about 1½ inches and then emerged from the carotid sheath, almost at a right angle, to pass directly into the tracheo-œsophageal groove in the region of the inferior pole of the thyroid gland. From this point, its ascending course corresponded with that of the normal inferior laryngeal nerve.

The left nerve appeared to be normal, both in its origin and course.

A short review of the literature on the possible anomalies of this nerve is given. SIDNEY BERNSTEIN.

Tonsil and Pharynx

Primary Abscess of the Epiglottis. J. ALLAN WEISS (Chicago), (*Journ. A.M.A.*, 13 February 1932, Vol. 98, No. 7.)

In spite of the frequent occurrence of upper respiratory infections, abscess of the epiglottis is a rare disease. The case reported is that of a man æt. 42, complaining of malaise and mild soreness of the throat on swallowing. The epiglottis was red and swollen, while the vocal cords and arytenoids were normal. Two days later there was marked soreness, cough, and dysphagia. The epiglottis appeared to be about three times its normal size. Under indirect laryngoscopy the mass was opened, allowing the escape of seropurulent material. Four days after the operation, the epiglottis was normal in size. Staphylococcus albus was grown from the fluid.

ANGUS A. CAMPBELL.

Chondroma of the Larynx. Report of Six Cases. FREDERICK A. FIGI. (*Annals of O.R.L.*, Vol. xli., No. 2, 1932.)

The author relates the clinical histories of six out of seven cases of chondroma of the larnyx, examined in the male clinic.

Dyspnœa and hoarseness are the most common symptoms. In half of the cases, dyspnœa was the initial symptom ; in the other half, hoarseness. Diagnosis on clinical data alone is seldom justifiable, but a smooth sessile mass, covered with a normal mucous membrane in which the blood vessels stand out prominently is strikingly suggestive of a tumour of this nature.

Displacement and even immobility of a vocal cord may occur. Positive X-ray evidence is of considerable importance, but pictures taken for this purpose must have a very short exposure to be of value.

Treatment depends on the situation and size of the tumour, and may vary from local removal, without opening the larynx, to laryngectomy, but adherence to a conservative policy is advocated, for if the tumour with its capsule is cleanly removed, recurrence should not take place. Radium is of no apparent value.

E. J. GILROY GLASS.

TONSIL AND PHARYNX

Highly Malignant Tumours of the Pharynx and Base of the Tongue. Identification and Treatment. GORDON B. NEW and JOHN H. CHILDREY. (*Surg., Gyn. and Obst.*, 1932, Vol. liv., No. 2.)

This is a review of 624 cases examined microscopically out of 1,393 cases seen at the Mayo Clinic over a period of fourteen years.

The most common highly malignant tumours of the nasopharynx, pharynx, and base of the tongue are the lymphosarcomata and the

highly malignant epitheliomata. The latter are often wrongly described as "endotheliomata" and "branchiogenetic carcinomata."

Of these 624 cases, high-grade squamous-cell carcinomata were seven times as common as the lymphosarcomata; about 50 per cent of those graded "four" occurred in the nasopharynx, while tumours graded "three" were more often primary in the tongue and in the hypopharynx. 84·2 per cent of the patients were males, the average age being 52 years. A few cases occurred under the age of 20 years; the youngest patient in this series was aged 3 years.

Symptoms and signs vary considerably, particularly in the nasopharynx, where they may be referred to the nose, eye, ear, throat, tongue, head or face. Just over 24 per cent of the patients observed enlargement of the cervical lymph glands as the first sign, while on examination, 71 per cent showed glandular involvement. In almost one-third of the tumours of the nasopharynx one or more cranial nerves were involved, and an almost similar percentage of cases of the hypopharynx showed paralysis of the vocal cords.

The differential diagnosis is frequently difficult, and biopsy is nearly always indicated.

The patients were, for the most part, treated by irradiation, but in selected cases this was supplemented by surgical procedures combined, when necessary, with the use of diathermy and cautery.

A total of 182 cases were treated: of these, 40·3 per cent were alive after an average of 43·1 months, nineteen (10·8 per cent) living 59 months, eighty-six (48·8 per cent) living 19·9 months, and 16·5 per cent being alive at the end of three years or more after treatment.

All patients treated averaged 34·5 months of life after examination, while those not treated averaged only 6·8 months after examination. Almost all the deaths (96 per cent) were due to the malignant process, most of them being due to the local disease rather than to distant metastasis. SIDNEY BERNSTEIN.

Sporadic Septic Sore Throat. ISADORE PILOT and DAVID J. DAVIS (Chicago). (*Journ. A.M.A.*, 5 December 1931, Vol. 97, No. 23.)

In a study of 272 patients the authors believe that sporadic sore throat is most often due to hæmolytic streptococci; the streptococci in 10 per cent of the cases corresponded in their cultural characteristics to the streptococcus epidemicus of epidemic septic sore throat. Septic sore throat due to streptococcus epidemicus in its usual form is sporadic. The epidemic type is unusual, requiring the development of a streptococcal mastitis in the cow whose milk becomes the source of the epidemic. A "carrier state" for streptococcus epidemicus may follow sporadic sore throat. Such

carriers are probably responsible for the direct transmission of sore throat. The streptococci reside in the crypts of the tonsils; tonsillectomy is followed by their disappearance from the throat. In its clinical manifestation, sporadic sore throat due to streptococcus epidemicus varies from very mild to severe types. Patients devoid of tonsils may be affected and may give symptoms of an infection of the upper respiratory tract, in some ways resembling influenza. Complications may arise immediately, such as otitis media, mastoiditis and cervical adenitis; sequelæ may develop from ten to thirty or more days after the onset. Acute polyarthritis, endocarditis, glomerulonephritis and erythema nodosum were the most noteworthy, and were often associated with mild recrudescent sore throat and fever. The complications and sequelæ were due to streptococcus epidemicus. The appearance and disappearance of these organisms in the throat could frequently be demonstrated with the development and termination of the complications. Streptococcus epidemicus probably constitutes a group among the hæmolytic streptococci. Its capsule and large colony formation appear to be identified with an aggressiveness greater than that of ordinary hæmolytic streptococci and with a peculiar tendency to cause fatal peritonitis and meningitis. Its exact status remains unsettled. Streptococcus epidemicus produces a toxin which gives skin reactions in man specifically different from toxin of streptococci of scarlet fever. Injected into animals, the toxin leads to the formation of an antiserum with neutralising properties.

The article occupies eight columns and has a bibliography.

ANGUS A. CAMPBELL.

ENDOSCOPY

Gastroscopy. ANDRÉ MOULONGUET, RENÉ GUTMAN and J. LAVAL. (*Les Annales de Laryngologie*, June.)

After a short historical survey of gastroscopy, the authors proceed to describe in detail the technique of gastroscopy as carried out with the apparatus of Schindler. By virtue of the lens which covers the electric bulb at the distal extremity of the endoscope, the field of vision is lateral. At a distance of 5 cm. from the lens the image obtained corresponds with the exact size of the part under examination. The nearer the part under observation approaches to ½ cm. the larger the magnification becomes. And when still further approximation takes place, the image is blurred. It behoves us, therefore, in carrying out a gastroscopy to keep the mucous membrane at a certain distance from the lens. The authors proceed

to discuss the manner in which the various parts of the stomach can be examined. However perfect one's technique, it must be realised that in at least 25 per cent of cases a complete exploration of the mucous membrane cannot be carried out owing to the non-accessibility of some of the area. Owing to the fact that the instrument is passed "blind", one must proceed with even greater caution than in carrying out an œsophagoscopy. Although the technique of the examination is very carefully described, only a few remarks are given as to the results to be obtained. There are numerous drawings to illustrate the text. M. VLASTO.

Foreign Bodies in the Œsophagus. F. HOLT DIGGLE. (*B.M.J.*, 13 February 1932.)

Sixty-seven cases of foreign bodies impacted in the œsophagus were dealt with by the author between the years 1920 and 1930. During this period only two verified cases of foreign bodies in the lower air passages were admitted. The ages of the cases with foreign bodies in the œsophagus varied from eleven months to sixty-two years, while the foreign bodies consisted of thirty-nine coins, fourteen meat bones, one denture, three pins and various charms, whistles, buttons and badges. In fifty-eight cases the foreign body was successfully removed by endoscopy: in seven it was ultimately passed per rectum: in one case, endoscopic removal was only partially successful, the patient vomiting the rest of the fragment. The remaining case ended fatally, giving a mortality of 1·4 per cent.

In this series of cases the foreign body was recorded as being impacted at the sterno-clavicular level in thirty-four instances (twenty-six coins, one button, one charm, etc.), at the upper orifice in ten cases (five meat bones, three coins, one charm, one safety-pin), at the lower end three times (all meat bones or meat), and at the aortic level in four patients (two meat bones, one coin, one pin).

R. R. SIMPSON.

MISCELLANEOUS

Fatalities due to the Injection of Novocain. TH. SEEGER. (*Arch. Ohr-, u.s.w., Heilk.*, 1932, cxxxii., pp. 49-100.)

This is a very lengthy article, in which the author attempts to analyse the complicated problem of deaths following injection of novocain solution. Two personal cases are first described, one a peritonsillar injection preceding tonsil dissection, the other a subcutaneous infiltration of the neck tissues for a plastic operation on the larynx. Then follows an analysis of sixty-four cases collected from the literature (4 pages of references).

Miscellaneous

The explanation of status thymico-lymphaticus is rejected. The following explanations are also found unsatisfactory: accidental injection of the local anæsthetic solution directly into a blood-vessel, various theories which throw the blame on the adrenalin, or on the combination of the local anæsthetic agent with the alkaloids used in the preliminary medication.

The *amount* of novocain is not considered to be an important factor in these cases. In operations of major surgery quantities up to 700 c.cm. of 0·5 per cent solution have been used with safety. In eight of the fatal cases the quantity injected was less than a hundredth part of 700 c.cm.

When the cases are grouped according to the region which was injected, it is found that 53 per cent are cases in which the local injection was made in the region of the pharynx and neck (36 per cent tonsillectomies).

It is a recognised fact that comparatively slight mechanical injuries in the neck region can cause sudden death reflexly through the vagus, the superior laryngeal nerve, or through the so-called " sinus caroticus ", death resulting from auricular fibrillation. A special importance is attributed to the *carotid sinus* which is the region of the beginning of the internal carotid where this artery dilates slightly in the form of a bulb. The sensory nerve from this part joins the glossopharyngeal at the base of the skull, and is said to be the main afferent path for reflex disturbances in the upper part of the neck.

Irritation of this " sinus nerve " is most likely the cause of death in all the cases in which the novocain is injected in the pharynx or neck region.

The so-called " pleural shock " which sometimes follows needle puncture of the pleural cavity and the sudden death which may follow a blow over the semilunar ganglion come under the same heading of rare reflex phenomena. J. A. KEEN.

On Endothelioma, Perithelioma, Cylindroma and similar tumours in the upper respiratory passages. G. EIGLER. (*Arch. Ohr-, u.s.w., Heilk.*, August 1932, Band cxxxii., pp. 209-53.)

The subject of this article will chiefly interest the pathologist. The tumours in the upper air-passages which are usually grouped under the general term " endothelioma " have always been difficult to classify. The author describes sixteen such cases observed in his clinic during the last few years, and he discusses the pathological origin of these neoplasms at great length.

Five groups are distinguished. Some of the tumours resemble sarcoma and are said to be of *mesodermal* origin. Those showing cylindrical groups of cells with a definite basement membrane are

most likely of *epithelial* origin. All are potentially malignant, some very actively so.

There are ten illustrations in the text of typical sections of these tumours and a full bibliography follows. J. A. KEEN.

Clinical Research in Otolaryngology. EDMUND PRINCE FOWLER (New York). (*Journ. A.M.A.*, 16 January 1932, Vol. 98, No. 3.)

The otolaryngologist is severely and often justly criticised for his failure to follow up his cases. While the chief concern of every clinic should be the care of the patient, it should be organised for sustained investigations. No clinician should be obliged to see too many cases. Surgical cases, as a rule, receive more efficient treatment than medical ones. Haphazard trial and error only endangers the patient and produces no real advances in medicine or surgery. While not attempting to standardise research the author presents a chart as a guide to an otolaryngological clinic. By reviewing these charts, discoveries of important facts are often made. The family history should be carefully recorded, especially if there is progressive deafness or any suspicion of tuberculosis, syphilis, or bone disease (including otosclerosis). All observations should be charted, preferably under age groups. Before and after any operation on the ear a careful functional test should be made. The hearing of every school child should be tested at least once a year and if any deafness is detected, a thorough otological examination should be made. There should be a medical consultant and pædiatrician in every otolaryngological clinic.

The article occupies seven columns and has a chart.

ANGUS A. CAMPBELL.

Röntgen Treatment of Agranulocytosis. ALBERT E. TAUSSIG and PAUL C. SCHNOEBELEN (St. Louis). (*Journ. A.M.A.*, December 1931, Vol. 97, No. 24.)

The authors feel that agranulocytosis is increasing in frequency; that its ætiology is still a mystery; and that the necrotic processes of mouth, throat and other parts are the result and not the cause of the disease. During the year, seven patients have been studied, of whom two recovered. Their observations indicate that transfusions and Röntgen therapy are useful in the treatment of agranulocytosis. Of the two, minimum doses of X-ray to the long bones give the better results. In three of the cases the rapidity with which the granulocytes regenerated after stimulation by X-ray was

very striking. Two of the cases showed that the fall in the granulocytic blood count preceded the appearance of sore throat.

The article occupies eight columns, has a bibliography and four charts. ANGUS A. CAMPBELL.

Thyroidectomy. R. V. B. SHIER. (*Surg., Gyn. and Obst.*, March, 1932, Vol. liv., No. 3.)

The whole general treatment of goitre has been more or less revolutionised during the past ten years, and the treatment stabilised during the past three to four years.

The technique outlined in this article is the result of a careful review of 350 cases taken in sequence. The important points in the technique are the exposure of the gland, which may sometimes require the division of the strap muscles ; the delivery of the gland, which may be difficult ; the estimation of the requisite amount of thyroid tissue to be left behind, which can be obtained only as a result of a great deal of experience in thyroid surgery ; the avoidance of recurrent nerve and parathyroid injury ; and the stoppage of all bleeding before closure of the wound. SIDNEY BERNSTEIN.

REVIEWS OF BOOKS

Plastic Surgery of the Nose, Ear, and Face. By VICTOR FRÜHWALD. Translated by GEOFFREY MOREY. Published by Wilhelm Maudrich. Vienna. 86 pp., with 88 illustrations. Rm. 15.

This book is a very useful introduction to plastic surgery. The various operations are well and clearly described, and the illustrations do show what they are meant to show. More than half the book is devoted to operations on the nose, and particularly interesting to the rhinologist is the full description of an operation for alar collapse. It is noteworthy that the author insists on a thorough training in rhinology as an essential before attempting any of these operations.

There are one or two omissions. Dr. Frühwald deals almost entirely with such operations as are needed for altering the shape of structures. He says very little about supplying deficiencies. Thus he makes no mention of methods of filling gaps—even in a book of this size a full description of Gillies' tube-graft should have been included. There should also be a full description of the method of cutting bone and cartilage grafts.