no longer infiltrated, although the tympanic membrane was injected with scarcely any details visible. The operation, which had already been arranged, was postponed.

31*st January* 1931—Pain in the ear and head during the night. Temperature 37·2. Marked swelling of the posterior meatal wall, but no otorrhœa. Tympanic membrane still injected.

31*st January* 1931—Mastoid operation. Profuse yellow pus under pressure was found at the first blow of the chisel and the whole mastoid process was similarly involved. The sinus was exposed and its walls were covered with granulations. It was, therefore, further exposed both upwards and downwards until normal sinus wall was reached. In addition, on examining the antrum, the dura of the middle fossa over the tegmen was found to be exposed. Culture from the pus revealed staphylococci.

The patient made an uneventful recovery.

The case was shown to demonstrate an apparent recovery from the initial attack seven weeks before admission to hospital, and this afforded the exhibitor an opportunity of drawing attention to the fact that many observers, especially children's doctors, had stated that they could disregard swelling over the mastoid process and obtain good results without operation.

In Ruttin's opinion such cases usually, as in this instance, fell into other hands for operation, when it was found that the recovery was only apparent, and that in the meantime extensive inflammatory destruction of the mastoid process had been taking place.

ABSTRACTS

EAR.

The "Position in Space Analyser" in Deaf-mutes. A. G. FETTISON (Tomsk). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvi., Heft 3, p. 351.)

A small wooden cabin suspended from the ceiling by a thick rope was used for the patient to sit in and was arranged to rotate by the untwisting of the previously twisted rope, four times in forty seconds. The rotation was at first slow but gradually quicker, then uniform and then rapid. The patient pressed the knob of an electric bell when he was conscious of rotation. The normal person felt ill after an average of 2·24 seconds from the start, deaf-mutes in whom there was still normal reaction to rotation and cold, only after an average of 10·85. Those in whom the reactions to rotation and cold were absent did not feel it at all. JAMES DUNDAS-GRANT.

Ear

On Suppuration at the Apex of the Petrous Bone. HANS BRUNNER, (Vienna). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxv., Heft 4, p. 383.)

In two cases under Brunner's observation the chief site of the disease was the bony Eustachian tube or possibly the anterior segment of the tympanum from which there eventuated a suppurative affection of the apex of the petrous bone. In one death, which took place from pyæmia, the channel of infection was most probably the venous plexus round the internal carotid, there being a fistula in the bony carotid canal. Pain in the teeth was explained by inflammatory irritation of the Gasserian ganglion. Among other features was paralysis of the external rectus on the sound side (Ruttin is credited with the opinion that contra-lateral abducens oculi paralysis may be an early symptom of purulent meningitis after acute otitis). The second case was an illustration of non-tuberculous meningitis in a case of tuberculosis of the ear. There was found a dehiscence in the roof of the tympanum and Eustachian tube through which the meninges became infected.

Three of the chief signs of suppuration at the apex of the petrous bone are involvement of the sixth nerve, the fifth nerve and the cavernous sinus. The author considers that the sixth nerve paralysis is due to pure extra-dural suppuration (osteitis of the petrous apex, deep extra-dural abscess) rather than to a circumscribed leptomeningitis. The presence or absence of abducens paralyses does not warrant conclusions regarding prognosis or treatment. Trigeminal neuralgia is more suggestive of apex suppuration, but its absence does not exclude it. The cavernous sinus is more frequently infected through the carotid plexus than has hitherto been held. Complications arising in the region of the Eustachian tube are of very unfavourable prognosis, but in Brunner's experience cases of otitis with sixth nerve paralysis usually ended in recovery. (An abstract of a paper by Eagleton on this subject is to be found in the *Journal* for August 1930, p. 571.—J. D.-G.) JAMES DUNDAS-GRANT.

Reflex Epileptiform Crisis with Movements of the Head and Eyes due to Irritation of the Non-Sensorial Elements of the Ear. D. VAN GANEGHEM, Bruges. (*Les Annales d'Oto-Laryngologie*, June 1931.)

In this carefully reasoned article the writer sets down in full detail his observations on three cases suffering from otitis media who showed the above phenomena, and who were relieved of their symptoms—the one, a child of 20 months, by medical treatment (antisyphilitic and doses of luminal), and the others, a woman of 31, and a man of 46,

by mastoidectomy. In all three cases it was proved that endocranial infection had not taken place although in one patient the labyrinth was obviously involved.

The whole of the literature of the past twenty years dealing with the theories of the nervous reflex of different origins as well as that of propagation of infection by the nerve is discussed. From this study the writer draws the following conclusions:—

(1) The prolonged irritation of the non-sensorial elements of the ear can determine disturbances in the nerve axis.
(2) These disturbances, in the observations quoted, were not determined by an ascending infection but by a vasomotor axon reflex.
(3) The irritation starting at the ear can diffuse towards the centres, just as it can diffuse towards the periphery.
(4) The effect can persist for a certain time after the cause has ceased to exist.

L. GRAHAM BROWN.

The Early Vestibular Signs of Tumours of the Ponto-cerebellar Angle. M. AUBRY and R. CAUSSE. (*Les Annales d'Oto-Laryngologie*, June 1931.)

The authors report two observations in support of their argument that an early diagnosis of tumours of the cerebello-pontine angle can be made on the examination of the cochleo-vestibular apparatus before the appearance of other neurological signs.

The following, they state, are the necessary signs:—

(1) On one side labyrinthine deafness and vestibular inexcitability.
(2) Spontaneous nystagmus of central type, which has much more value if towards the diseased side or if it presents a vertical component.
(3) Impossibility of producing a rotatory nystagmus on the healthy side whatever test may be employed.

The other vestibular signs are of less interest, but if they exist at the same time as the preceding ones they help somewhat to confirm the diagnosis. This is the case in the abolition of the provoked sensation of vertigo and of the spontaneous deviation of the index finger.

L. GRAHAM BROWN.

Clinical Considerations on Radiography in Acute Mastoiditis. L. MOATTI. (*Les Annales d'Oto-Laryngologie*, April 1931.)

The first part of this work describes the history and technique of the radiology of the mastoids. With regard to the latter, of the

numerous positions recommended, the author finds the following the most satisfactory:—

(1) The oblique profile incidence
(2) The posterior occipital incidence } of Worms and Bretton.
(3) The oblique sagittal incidence of Lannois and Arcelin.

The second part is a study of the radiological appearance of a normal and of a pathological mastoid. Here two points are particularly emphasised, viz., the structural analogy of the two mastoids, and the cellular appearance of a normal mastoid.

The third, and most important, part of the article in question, is a clinical study, including skiagrams of thirteen cases, full details of which are given. From these the writer concludes that it is possible by radiology to recognise a simple mastoidalgia, to distinguish between a simple lymphangitic reaction secondary to an external otitis and a true mastoiditis, and sometimes even to suspect in the course of a mastoid reaction its purely mucosal origin. In those cases in which the cellular architecture appears to be destroyed in the skiagram it is difficult to be so absolute in one's conclusions. However, this much can be said, that the radiological disappearance of the cellular arches agrees with the lesions of osteitis, and the shadows of cavities reproduced in the films correspond well with the large bony cavities filled with pus.

Certain causes of error are pointed out, and to avoid them it is necessary to bear them always in mind; to compare carefully the affected with the healthy side, to photograph the two mastoids with strictly the same incidence, to know how to interpret a skiagram of the mastoid, and finally, before drawing a conclusion, to consider the radiograms together with the clinical signs. Thus understood, radiology can render the greatest service to the otologist, if only to help him to decide upon operation particularly in those cases of mastoiditis in which the bony lesion is indicated only by a minimum of clinical signs.

Skiagrams of the cases are shown and a full bibliography is appended. L. GRAHAM BROWN.

Orbital Pain during Acute Otitis Media as a symptom of Infection of the Petrous Bone. J. RAMADIER. (*Oto-Rhino-Laryngologia Internationale*, T. XV., F. 7, 1931.)

The author relates in detail the case of a male patient, aged 35, presenting Gradenigo's syndrome complicated by acute labyrinthitis.

Ocular pain was a symptom from the commencement of the acute otitis media and continued after operation on the mastoid, but in spite of this the ear progressed satisfactorily and at the end of 28 days the post-aural wound was practically healed while the membrane had been intact for 8 days.

Six weeks later pain was greater, there was paresis of the external rectus and aural discharge had recommenced, the middle ear being full of granulations. The cavity was reopened but little was found to account for the symptoms. The following day the patient developed symptoms of acute serous labyrinthitis and, ten days later, these symptoms having disappeared, a radical operation was performed. Pain disappeared in three days, the ocular paresis recovered in a few weeks and the function of the labyrinth was gradually restored, but the discharge continued. This was found to be coming from a fistula in front of the promontory and when this was opened up the discharge lessened and finally ceased. E. J. GILROY GLASS.

Recognition of Perisinusal Abscesses in Röntgen Pictures. J. BOENTE (Berlin). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvi., Part 4, p. 418.)

Boente found that in cases of perisinusal abscess the groove was more than usually defined, especially when compared with the normal side, and that there was a quite peculiar fogginess over the region of the sinus. This is due to the breaking down of the overlying cells. There is frequently in this an area of special brightness where the sinus is completely uncovered. These conditions were verified in all the cases at the time of operation. Nine illustrations of the radiographical appearances are appended. JAMES DUNDAS-GRANT.

Experimental Investigation of Quinine. A. SEIFFERT. (Cologne). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvii., Heft 3-5, p. 585.)

In experiments on dogs no definite changes in the nerve-elements of the inner ear could be found. In a few, some slight differences in the medullary sheaths and ganglion-cells, as compared with the normal "controls," were found. To explain the occurrence of disturbances of hearing in some people after very small doses an idiosyncracy of an anaphylactic nature is invoked. In a personal experiment sensitisation was effected by the subcutaneous injection of quinine, after which an oral administration produced loud buzzing tinnitus. Eosinophilia was present. Salomon's case of loud tinnitus accompanying quinine-urticaria is quoted in support of this view.

JAMES DUNDAS-GRANT.

Experiments on the Functioning of the Eustachian Tubes in Opening and Closing. v. GYERGYAY (Klausenberg, Rumania). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvii., Heft 3-5, p. 408.)

In swallowing, the tube goes through the following stages:—(1) Repose, (2) Preparation, (3) Middle stage of full action, (4) Final stage, (5) Repose. There are two types of the third stage. In the

first the tube *closes* more firmly than in the stage of repose. In the second type it *opens* more widely than when in repose. Gyergyay calls the first the Politzer type and the second the Lucae type. By salpingoscopy in the first type the levator cushion is seen to rise suddenly, then the soft palate; the levator and the superior constrictor move forwards and downwards, and the side wall of the tube sinks inwards, forming the dilatation-depression between the levator and tensor while, lastly, the levator and the constrictor relax and reunite the nasal and pharyngeal cavities. JAMES DUNDAS-GRANT.

Post-operative Meningocele after evacuation of an Otogenous Temporo-sphenoidal Abscess. O. KÖRNER (Rostock). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvi., Heft 5, p. 556.)

The position of the abscess was indicated by the presence of third nerve paralysis which rapidly disappeared after the evacuation. Nineteen days after the operation there was a bulging of the contents of the skull through the bony opening. It differed from a prolapse of the brain in being uniformly distended, quite smooth and not bright-red, but grey with a reddish sheen. It was punctured on two occasions five months after the operation and filled again very slowly, suggesting that its communication with the arachnoid space was only by a small opening. It had completely subsided in two years, suggesting the closure of the opening of communication.

JAMES DUNDAS-GRANT.

Iodine Powder in the Treatment of Chronic Otorrhœa. N. ASHERSON. (*Lancet*, 1931, ii., 630.)

The writer advocates the use of "Iodine Powder" (*i.e.*, a 1 per cent. intimate suspension of iodine crystals in boric acid, made by grinding the two ingredients in a mortar) for chronic uncomplicated suppurative otitis media associated with a marginal perforation and granulations. The technique is given in full and consists of thorough cleansing by syringing, mopping and aspiration, instillation of absolute alcohol for ten minutes, drying, and finally insufflating the "iodine powder" so as completely to fill the ear. The application is made at first every four days, then weekly. The ear usually heals within two months. Cases are quoted. MACLEOD YEARSLEY.

The Temperature in Acute Otitis Media of Adults. M. SCHIESSL. (*Arch. Ohr., u.s.w., Heilk.*, 1931, Band cxxix., pp. 299-306.)

In most text-books *fever* is described as a constant symptom of acute middle-ear suppuration. The present study of 250 uncomplicated cases in adults shows that in a great many cases no rise of temperature occurs, the percentage figures being as follows:—

Approximately 66 per cent. of the cases with *unilateral otitis* have no rises of temperature.

Abstracts

In *bilateral otitis* only 25 per cent. are free from fever.

Patients who show rises of temperature at the beginning of the otitis are no more predisposed towards mastoid complications than those without fever. J. A. KEEN.

The Significance of Middle-Ear Inflammation of Infancy. K. WITTMAACK. (*Arch. Ohr., u.s.w., Heilk.*, 1931, Band cxxix., pp. 207-250.)

In an article by Marx, Wittmaack's theory of pneumatisation was severely criticised (see Abstr. *Journ. Laryng.*, June 1931). In the present article Professor Wittmaack replies to Marx's criticism. This restatement and justification of Wittmaack's theory fills more than half the present number of the Archiv, and only the main arguments can be given, even in a fairly lengthy abstract.

Before any theory was formulated, many hundred specimens of temporal bones had been sectioned by Wittmaack. These specimens were absolutely unselected and usually came from subjects who were not known to have suffered from any ear condition during life. Great variations in the development of the pneumatic cells were found, also great variations in the histological structure of the mucous membrane of the tympanic cavities. Two main types of the latter were established and it was discovered that a certain type of defective pneumatisation corresponded very constantly to a certain type of abnormal mucous membrane in the tympanum.

The study of *normal pneumatisation* had shown that the influence of the tympanic mucous membrane was paramount. The logical deduction is that in *variations* of the pneumatic cell system the primary cause is also connected with an alteration of the tympanic mucous membrane. The only satisfactory explanation of variations in the structure of the tympanic mucous membrane is some inflammatory change, especially as it is well recognised that middle-ear inflammation in infants is extraordinarily frequent (mostly unrecognised clinically).

In the article the author shows sections of *pure hyperplastic otitis* in which there is no trace of round cell infiltration, and he finds it impossible to accept the view that hyperplastic otitis is simply a later stage of the exudative variety. The two conditions must be looked upon as distinct pathological entities, each with a different etiology.

As a contrast to this, a section of a *pure exudative otitis* is shown, with its thin mucous membrane and intense infiltration with leucocytes and round cells. The subepithelial layer is completely destroyed and it seems impossible to imagine ("biologische Unmöglichkeit") that in the course of time a delicate myxomatous tissue of an embryonic type should develop on the basis of this fibrous scar tissue. In the *mixed forms*, inflammatory changes are found over the surface, but in the recesses one sees the myxomatous tissue characteristic of the hyper-

plastic otitis. This, again, is impossible to reconcile with Marx's explanation that the hyperplastic otitis is an end-result of the exudative type. The only possible explanation is that the hyperplastic tissue already filled the recesses and the exudative inflammation is superimposed.

The author protests against Professor Marx's so-called proof case (one instance) in which "ideal" pneumatisation was *assumed* simply on the grounds of an operation finding, viz., pneumatic cells in the zygomatic process. The only criteria which allow one to speak of "ideal" pneumatisation are stereoscopic X-ray photographs or serial sections of the temporal bone. *Irregular pneumatisation* with air-cells *e.g.* in the zygomatic process, is not at all unusual in combination with hyperplastic otitis.

In adult specimens of mastoiditis one frequently finds cells with typical exudative changes (*i.e.*, the ordinary acute otitis) side by side with pneumatic cells which are filled with granulation-like tissue showing little inflammatory reaction and a high subepithelial layer. It is impossible to imagine that the hyperplastic change is the end-result of the exudative inflammation and that these reactions should show such entirely different rates of progress in a single section of the same specimen. These sections can be explained only by admitting that the high subepithelial layer existed already in the one cell and not in the other, and that the different forms of reaction are due to this pre-existing condition which dates back to infancy.

Granulation masses which have become covered secondarily by a flattened epithelium may resemble the hyperplastic myxomatous tissue and this has caused many difficulties in the interpretation of sections.

Lastly, the subject of osteosclerosis of the mastoid process is discussed. Marx would attribute this entirely to secondary changes in chronic middle-ear suppuration. Wittmaack admits that new bone formation is not uncommon in all forms of mastoiditis and that some pneumatic cells may be obliterated by newly-formed bone after necrosis of the epithelial lining. But he cannot conceive a "symptomless" mastoiditis which would destroy the epithelial lining of all the pneumatic cells with secondary ossification. And a complete destruction of epithelial lining of the pneumatic cells must necessarily precede any form of ossification, if one remembers the predominant rôle of all epithelial tissue in pathology. Yet the hard, sclerotic mastoid is a fairly frequent operation or post-mortem finding, either associated with chronic middle-ear suppuration or without any clinical ear condition. The development of the sclerotic mastoid must be associated with hyperplastic infantile otitis and a total arrest of pneumatisation at an early stage.

Stereoscopic X-rays give a comparatively good picture of the state

of pneumatic cell formation. It has never been shown that a gradual sclerosis of the mastoid develops in the course of chronic middle-ear suppuration. On the other hand, X-ray photographs time after time show a sclerotic mastoid at the beginning of an acute otitis, the ossification of the mastoid process being obviously an old-standing condition. J. A. KEEN.

NOSE AND ACCESSORY SINUSES.

The Treatment of Ozæna by Bacteriophages. FERDO FUCHS. (*Oto-Laryngologica Slavica*, 1931, Vol. iii., Fasc. 3.)

A preliminary note of experiments made on the treatment of ozæna by the bacteriophages of d'Herelle is presented. Since January last, eighteen cases have been treated and the results have been very satisfactory. Special preparations of the bacteriophage have been made for the clinic at Zagreb by l'Institut d'Herelle, Paris, and have been applied intranasally. A definite opinion cannot be expressed without more prolonged observation, but will be communicated in detail later.

AUTHOR'S ABSTRACT.

The Treatment of Acute Frontal Sinusitis. HENRY SAGOLS. (*Les Annales d'Oto-Laryngologie*, July 1931.)

It is generally agreed that no surgical operation should be performed in an acute infection of a nasal sinus unless the indication is very urgent.

For the relief of pain, tincture of aconite is particularly recommended. Aspirin, pyramidon and caffein are also useful. Local treatment should be carried out extra- and intranasally. Applications of antiphlogistine to the forehead are comforting. Intranasally, the author advises an inhalation of equal parts of tincture of benzoin and eucalyptus. Menthol, whilst useful for adults, should never be prescribed for children, as many cases of sudden death from asphyxia have been reported following its use.

Adrenalin and cocaine applications to the middle turbinate are also advised. The author considers that in cases of severe pain the internal nasal and the external frontal nerves should be blocked, and he describes the various methods for carrying this out.

The indications for operation by the endo-nasal and the external routes are discussed and the operative technique described.

Finally, the author discusses in detail the surgical treatment of periorbital suppurations. One notes in particular that the site of election for entering the frontal sinus is just above the junction between the ascending process of the superior maxillary bone and the frontal

bone, that he does not appear to deal with the infected ethmoidal cells, or to attempt drainage through the nose.

The clinical history of a number of cases is given.

M. VLASTO.

A Contribution to the Study of Orbito-Nasal Epitheliomata. H. ABOULKER and A. GOSLAN. (*Les Annales d'Oto-Laryngologie*, April 1931.)

This form of new growth is of interest both to the ophthalmic surgeon and to the rhinologist. We are first given clinical details of 10 cases on which the authors chiefly base their remarks.

These epitheliomata are found close to the inner canthus of the eye, and appear to have certain features of interest. Malignant extension sometimes takes place more at surface than at depth. The eyelids, for instance, in these cases show early ulceration followed by invasion of the lachrymal duct and mucous membrane of the nasal fossa. In other cases, malignant invasion will take place insidiously beneath the surface, so that there is a marked contrast between the lesion on the surface and the invasion at depth. The ethmoidal and frontal sinuses may in such cases be found to be filled with growth, the extent of which clinical investigation and careful radiography have failed to detect.

Another feature of these epitheliomata is their tendency to local recurrence in the very heart of the area of operative interference. There may be several post-operative recurrences at more or less remote intervals. Another feature is the surprising absence of glandular metastases. Lastly to be noted, is their very slow rate of growth. In the cases mentioned by the authors, some had progressed eight to ten years before being brought to their notice.

Treatment is on surgical lines, followed fifteen to twenty days later by radium therapy. Surgical treatment should be very radical and the eye and the nasal adnexa on the affected side have in most cases to be sacrificed.

The article is illustrated by photographs. M. VLASTO.

The Clinical Significance of Muck's Nasal-Reflex Phenomenon. M. P. MESRIN. (*Arch. Ohr., u.s.w., Heilk.*, 1931, Band cxxix., pp. 317-334.)

Muck's test is carried out as follows: After spraying the inferior turbinate with 1 in 1000 adrenalin one waits a few minutes until the vasoconstrictor action has taken effect. Then one strokes the anterior end of the inferior turbinate with a blunt probe using moderate pressure. Muck described three kinds of reactions:—

1. A reddish streak on a pale ischæmic background which disappears after 2 to 15 minutes.

2. An intensely red streak which may persist up to an hour.

3. A "white streak" which is particularly noticeable when the vasoconstriction due to the adrenalin wears off. This white area often disappears after a few minutes, but it may remain for an hour or longer.

Reaction 1 is the normal response. Reaction 2 is said to indicate an increased tonus of the vasodilators found in "Vagotonic Neuroses" (vasomotor rhinitis, asthma). Reaction 3 is supposed to show an increased tonus of the vasoconstrictors or "Sympathicotonia," and is typically seen in patients with migraine, the "white reaction" occurring only on the affected side.

The *superior cervical ganglion* supplies the sympathetic fibres to the blood vessels of the nasal mucosa and of the brain, and it may be looked upon as the main centre of the reflex phenomenon under discussion.

The "white streak" reaction has been found by Muck in epilepsy, migraine, Ménière's disease, in cerebral concussion and in cases of brain tumour. Further, Muck's "Adrenalinsondenprobe" is said to have a definite diagnostic and localising value in practically all cerebral conditions. More recently it has been found that the "white streak" can result from such simple measures as pressure with the finger over the carotid vessels or by turning the head fairly forcibly to one or other side (compression of the cervical sympathetic).

The author of the present article has investigated the clinical value of Muck's "Adrenalin-and-probe" test and reports his observations in 480 patients. He finds that the "white streak" reaction occurs in 10 to 30 per cent. of normal people. It is frequently found in tonsillitis and after tonsillectomy, when it is due to the irritation of the cervical sympathetic. The influence of brain conditions on the vessel tonus of the nasal mucosa is confirmed. In the author's experience the intense "red streak" (Reaction 2) is obtainable only after very vigorous stroking with the blunt probe. Therefore this reaction may be considered useless as a sign of vagotonia.

It is clear that some of Muck's claims are confirmed, but the main conclusion is that this special test has little practical value, although a certain theoretical interest must be recognised. J. A. KEEN.

PHARYNX.

Tonsillar Extract in the Treatment of Chronic Pharyngitis. G. HALÁSZ (Buda-Pesth). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvi., Heft 4, p. 461.)

The chief type of pharyngitis referred to is the one following tonsillectomy called by Pollatschek "Pharyngitis-tonsillopriva." It begins generally as a simple pharyngitis and develops into a glandular,

lateral or granular form. There is a slight leucocytosis after the operation but subsequently leucopenia with relative lymphocytosis takes place. In treatment an albumin-free extract of calf's tonsil is used, 1 c.cm. (equal to the extract from 1 grain of tonsil) is injected daily. Eighteen cases which had lasted over a year were treated with successful results. The condition is attributed to the absence of an internal secretion in the tonsil. JAMES DUNDAS-GRANT.

Gouty Deposits in the Pharyngeal Mucous Membrane. Dr. HANS LOLLKE (Berlin). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvi., Heft 4, p. 359.)

A middle-aged, gouty man, after numerous attempts at cure of his goutiness, experienced local attacks of the disease in the throat in the form of pain in swallowing and difficulty in speaking. In the mucous membrane of both anterior pillars, close to the free border, there were numerous yellowish-white shiny, partly striped spots of various sizes (shown in a coloured illustration). Only a few projected above the level of the mucosa. There were two spots on the right tonsil, and one in the tongue of the size of a millet seed. The posterior wall of the pharynx was roughened by a number of round yellowish masses which extended down to the hypopharynx. The surrounding mucous membrane was slightly reddened. There were gouty changes in the toes, fingers and ears and on the side of the root of the nose was a swelling produced by a large tophus, well shown in a radiogram. No ordinary local treatment gave relief except a weak solution of yatren and a salicylic combination called neurolenitivo. Crystals of mono-urate of sodium were found in a fragment removed for microscopic examination. JAMES DUNDAS-GRANT.

Rheumatismus Infectiosus Specificus of the Upper Alimentary Channels and Larynx. S. YOSHITAKE (Taihoky, Japan). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvi., Heft 4, p. 366.)

The post-mortem microscopic appearances correspond to those found in other parts of the body. The changes described are interpreted as the results of direct dissemination from a primary focus in the tonsil. The conflicting opinions expressed as to the effects of tonsillectomy in relation to rheumatism are explained by disregard of the very various causes of rheumatic symptoms.

JAMES DUNDAS-GRANT.

Acute Tonsillitis in Cases of Acute Leukæmia. RAYMOND GUYOT. (*Les Annales d'Oto-Laryngologie*, May 1931.)

The purpose of this paper is to draw attention to the possibility of a mistake in diagnosis when dealing with an acute tonsillitis associated with a condition of acute leukæmia. The author quotes two cases of

his own, and briefly refers to nine others which he has collected from the literature on the subject. Acute leukæmia is a fatal disease and a disease of youth. In the cases which he mentions, the ages were respectively 3 to 6, 11 to 13, 16 to 19, 19 to 24, 24 to 32. The longest period of survival was six weeks, and in one case the patient died ten days after an operation for the removal of glands.

One must be particularly apprehensive in cases of acute tonsillitis which are long in subsiding, and which do not follow a normal course. In view of the frequency of pathological bucco-pharyngeal processes in acute leukæmia, it has been suggested that the tonsil is the portal of entry of the causative agent of the disease. This purely hypothetical suggestion has received no confirmation from bacteriological investigation of the lymphoid tissue of the fauces.

The author's final injunction is that all cases of acute tonsillitis which show no signs of subsiding after a period of seven days call for an analysis of the urine and the blood. M. VLASTO.

Local Anæsthesia in Children for the Removal of Tonsils and Adenoids. ROBERT RENDU (Lyons). (*Les Annales d'Oto-Laryngologie*, May 1931.)

The great majority of laryngologists fear the use of local anæsthesia in children, although they may never have given the method a trial. This fear appears to the author to be groundless.

Local anæsthesia by topical application with cocaine and by infiltration with novocaine has successfully been employed by the author in 500 cases in children over the age of 6 years. He finds that local anæsthesia is better tolerated by children than by adults. The advantages of local anæsthesia over ethyl chloride are threefold: (1) There is less risk; (2) it is of much longer duration, allowing the removal of tonsils by dissection; (3) the preservation of the reflexes prevents the entry of foreign matter into the respiratory tract. For these reasons, the author prefers the use of local anæsthesia to ethyl chloride.

The technique of local anæsthesia administration is given in detail. M. VLASTO.

971 *Cases of Tonsillectomy by the Methods of Sluder and Popper. A Critical Study of the Methods Employed. An Operation Demonstration.* J. M. LE MÉE. (*Les Annales d'Oto-Laryngologie*, July 1931.)

Apparently last October, Vandershuren of Gramont, and Popper of London demonstrated their methods of operating for the enucleation of tonsils with a single instrument. Popper secures hæmostasis by compression and Sluder by the stretching and rupture of the vessels.

A critical study of the two methods is given. Of the 971 cases which were operated upon by one or the other method, 120 were selected at random and investigated after a period of six weeks to four months to note the later results of their operation. Twenty-one of these showed a degree of defective cicatrisation. Fourteen showed that the inferior pole of the tonsil had been left behind. The author draws attention to the fact that it is only after the lapse of a considerable time that the presence of tonsillar remains are discovered. At first it appears as if enucleation were complete, and the author stresses that the rawed tonsillar fossa should not be left to itself, but that from the tenth day after the operation it should be inspected and treated in the manner of a radical mastoid cavity. M. VLASTO.

Post-anginous Pyæmia; a further Contribution to its Pathogenesis. R. WALDAPFEL (Vienna). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvi., Heft 4, p. 429.)

The author's observations support Uffenorde's view that the infection passes by lymphatic channels to the glands and thence to the internal jugular vein, not Fraenkel's view that there is a primary thrombosis of the tonsillar veins in this complication. In a number of serial sections the infiltration of the perivascular spaces, the involvement of some glands while others remain normal, and the formation of mural thrombosis in the internal jugular vein are very clearly demonstrated. JAMES DUNDAS-GRANT.

Complication after Tonsillectomy arising from Circulatory Disturbance. E. STAMBERGER (Buda Pesth). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxvi., Heft 4, p. 442.)

During the last decennium the number of post-operative emboli and thromboses appear to have increased greatly, but no fatal case following rhinological operations is reported by Henderson and only with the greatest rarity following operation on the neck and head has death occurred. Kelemen has recorded a unique case following resection of the septum. Stamberger's case is a very uncommon one. The patient, aged 19, had chronically inflamed tonsils and repeated peritonsillar abscesses. Tonsillectomy was performed and the next day there came on a stabbing pain in the right lower half of the thorax and subsequently a sero-fibrinous purulent effusion into the pleural cavity, as shown by exploratory puncture and aspiration. Three days later the symptoms diminished and recovery took place. The condition appears to have been due to embolism rather than to infection.

JAMES DUNDAS-GRANT.

Abstracts

ŒSOPHAGUS AND ENDOSCOPY.

Electrolysis of Traumatic Strictures of the Œsophagus. JEAN GUISEZ (Paris). (*Revue de Laryngologie*, June 1931.)

This is a practical article describing in detail the technique of the treatment employed by the writer in those difficult cases of stricture following chemical burns of the œsophagus. He has treated 16 such cases by electrolysis with good results. Of these, 6 were children under 5 years old. The author stated that, unless the stricture is cured in such cases, the patients invariably die, as even gastrostomy fails to keep them alive for more than three years. Electrolysis affords the only means of effecting a permanent dilatation of the strictures.

The practical points on which he insists are: (1) That it is always possible by care and patience to find a way through the stricture with a filiform bougie introduced under direct vision by the endoscope. (2) The bougie, when passed, should be left *in situ* for four or five hours. (3) The withdrawal of a bougie should immediately be followed by the introduction of one of larger size. The presence of the bougie in the stricture causes the absorption of the fibrous tissue in its walls, so that a step up of two or three sizes in the next instrument to be passed may often be made forthwith. Guisez recommends bougies that screw on to one another, so that the pilot bougie need never be removed, but can be pushed on and allowed to curl up in the lower œsophagus or stomach when another bougie of larger size has been attached to it.

The strictures are usually multiple, there being one in the upper and another in the lower third of the œsophagus. No attempt should be made to force a bougie through the lower stricture until the upper one has been dilated, and an endoscope passed through it.

In most cases, after simple dilatation, the stricture shows an inveterate tendency to recontract. To prevent this, treatment by electrolysis is required. The instrument used is of the "railway" type, *i.e.*, it is introduced over a filiform bougie which has first been passed through the stricture. It is provided with an olive end of pure nickel, the rest of the length of the bougie being insulated. An endoscope having been passed, and the filiform bougie introduced through it into and beyond the stricture, the hollow electrode is passed over the bougie down to the face of the stricture. Contact between the metal olive and the endoscope tube must be avoided. The olive forms the negative terminal of the electric circuit, and the positive plate makes a wide contact with the patient's chest. The current is gradually increased up to 12 to 15 milli-amps, and is maintained whilst the olive is held against the stricture, and until it passes through it. The electrolysis should be repeated every seven or eight days, using

larger olive terminals each time, until the full lumen of the œsophagus is restored. In the intervals of the treatment, simple dilatation is employed. G. WILKINSON.

The Frequency of Abscess of the Lung following Tonsillectomy. C. E. BENJAMINS (Gröningen). (*Revue de Laryngologie*, February 1931.)

The writer quotes American statistics as to the frequency of abscess of the lung following tonsillectomies in the United States. Cutler and Schleuter record 1908 abscesses of the lung, over 500 of which followed various surgical operations, and of these more than half (257 cases) occurred after tonsillectomy. The statistics of the Mayo clinic show 48 cases following tonsillectomy, 14 after tooth extraction, and 38 after laparotomies. Flick's statistics give a total of 172 abscesses of the lung, of which 97, *i.e.* 56 per cent., followed tonsillectomy.

These proportions seem very much larger than those shown by European statistics. Kourelsky (Paris) records 52 cases of abscess of the lung, none following tonsillectomy, and Kindberg observed the sequence in about 50 cases only.

The writer is of the opinion that the statistics quoted show that the incidence of this formidable complication of tonsil operations is much higher in the United States than on the Continent. He recognises two possible portals of infection of the lung: (1) inhalation of septic material during or immediately after the operation; (2) embolism of the lung from entry of septic material into the veins during operation.

That aspiration from the mouth and pharynx frequently occurs is shown by the observations of Meyersohn, who examined 200 infants with the bronchoscope after tonsillectomy under general anæsthesia, and found blood in the trachea and bronchi in 77 per cent. Similar observations by Iglauer gave positive results in 40 per cent. The latter observer found approximately the same proportion in patients operated upon under local anæsthesia. The frequency of aspiration from the pharynx has also been demonstrated by suffusing the tonsils and pharynx with lipiodol before the operation, and by the demonstration of the presence of the opaque material in the chest on subsequent X-ray examination.

As for the cause of this discrepancy between American and Continental figures, the writer indicates the chief difference in the technique employed; viz. that local anæsthesia, with the patient in the sitting position, is employed in the majority of cases on the Continent, whilst in the United States general anæsthesia with dorsal decubitus is the rule. The observations quoted show that aspiration of blood and septic material is liable to occur in a large proportion of cases with either method, but in the non-narcotised patient there is less likelihood

of the inhaled matter remaining in the lungs for a time sufficient to do harm. Another point of difference is the more frequent practice of resection of acutely inflamed tonsils in the States.

In response to a circular inquiry to his colleagues in Holland, Benjamins was able to trace only two cases of lung abscess following tonsillectomy. In the first case it was admitted that the operation was performed whilst the tonsils were acutely inflamed. The other case was operated on *à froid*, under infiltration anæsthesia without adrenalin. He suggests that in this case the cause was probably septic embolism to which the omission of adrenalin from the infiltrating solution may have contributed. He suggests the following deductions:—

1. Tonsillectomy should be performed in the non-inflammatory stage. 2. The condition of the lungs and upper air passages should be as healthy as possible. 3. General anæsthesia should be employed only exceptionally. 4. It is preferable to add adrenalin to the infiltrating mixture. G. WILKINSON.

Syphilis of the Œsophagus particularly from the point of view of its Anato-histo-pathology. RAYMOND GUYOT. (*Les Annales d'Oto-Laryngologie*, May 1931.)

Syphilis of the gullet is a very rare disease. Fournier's statistics show that only 4 out of 1000 clinically proven cases of syphilis showed luetic lesions of the œsophagus. More recently Guisez states that he diagnosed a syphilitic lesion only once in 800 œsophagoscopies. When lesions do occur, they are usually found in middle-aged men in whom the disease has either been untreated or is very severe.

The author has collected altogether 55 cases from the literature on the subject. Of particular authenticity are regarded 11 cases which were proved by autopsy, and 15 cases which were proved by endoscopy, and which responded to treatment. He describes in detail two of his own cases; the post-mortem findings are very minutely described.

The latter part of the paper is concerned with a study of the etiology, pathology, symptomatology, diagnosis and treatment of the condition, based on a study of the 57 cases to which he refers.

M. VLASTO.

MISCELLANEOUS.

Modern Methods of Exploration of the Salivary Glands. ALBERT BARRAUD (Lausanne). (*Revue de Laryngologie*, 31st July 1931.)

The writer draws attention to the applicability of the lipiodol method to the exploration of the salivary glands. For twenty years he has been practising the method of dilating the ducts by injecting them

with various solutions, as a means of evacuating salivary calculi. The mouth of the duct is first dilated by probing, a cannula *à bouton* is then introduced and the duct is ligatured around it. The fluid is slowly injected into the gland under pressure from a syringe, so that all the branches of the salivary duct are dilated. Frequently the calculus has been spontaneously extruded within a few days of the injection. In recent cases this procedure has been modified by the injection of lipiodol in the place of "physiological serum." This has been equally successful in facilitating the passage of the calculus, and has had the additional advantage of allowing a skiagram of the ramifications of the salivary duct to be taken. Dilations along the course of the main duct have indicated the presence of small calculi, not previously detected, which have subsequently been expelled. The number of salivary gland cases attending most laryngological clinics is not large, and the writer admits and deplores the smallness of the material on which his observations are based. The method is, naturally, more applicable to the submaxillary than to the other salivary glands, though the parotid may also be dealt with by the same technique. It is also capable of yielding valuable information in tumours of the glands, and obstructions of the ducts. Lipiodol is somewhat difficult to inject by reason of its viscidity. Iodipin is probably more suitable. G. WILKINSON.

The Dangers of Local Anæsthesia. G. JUNG. (*Arch. Ohr., u.s.w., Heilk.*, 1931, Band cxxix., pp. 307-316.)

The author has collected all the available reports of cases in which serious symptoms and occasionally fatal results were attributed to the injection of a local anæsthetic solution.

Adrenalin is first considered and the author states definitely that the amount of adrenalin used as an addition in the usual proportions is never sufficient to cause death, even if the solution is injected directly into the blood stream, as may happen accidentally.

Of the local anæsthetics used, only *novocain* (0·5 to 1 per cent.) and *tutocain* (0·2 per cent.) are considered. For infiltration of the tonsil beds 20 to 30 c.c. is always sufficient. For more extensive operations in general surgery 200 c.c. or more has been injected without any mishap. Therefore the *quantity* of the local anæsthetic, *e.g.* in tonsillectomy, can never be sufficient to endanger the patient's life. Yet accidents do occur and the only possible explanation is that the solution has been injected directly into the circulation. Animal experiments have shown that minute doses of novocain can rapidly be fatal if the solution is injected intravenously.

By the aspiration test one can make certain that the point of the needle is not in a large vessel. But the author doubts whether this test is always reliable; *e.g.*, when the needle-point lies in a small vein,

aspiration may suck the opposite wall of the vessel against the opening of the needle and no blood enters the syringe.

In order to avoid the danger of injecting the local anæsthetic directly into the blood stream, Dr Jung advises that the solutions be injected separately. First the adrenalin, *i.e.* a few drops of 1 in 1000 diluted with physiological saline. Then, after a few minutes, when the vasoconstrictor action of the adrenalin has taken full effect, one injects the 0·5 per cent. novocain solution. This plan has proved very successful in practice, but the numbers of the cases in which the method has been used are not yet large enough to prove that the dangers of local anæsthesia can always be avoided in this way.

J. A. KEEN.

Cases of Localised Osteitis Fibrosa (of von Recklinghausen) of the Mandible. VLADIMIR HLAVÁČEK. (*Oto-Laryngologica Slavica*, 1931, Vol. iii., Fasc. 3.)

Three cases of osteitis fibrosa are described. The patients, two female and one male, varied in age from 14 to 30 years (in this last patient the tumour had been present for fifteen years), and in all there was a history of a suppurative lesion of the mandible immediately prior to the development of the tumour. Treatment consisted of an operation for the local removal of the tumour and resulted in cure in all cases.

E. J. GILROY GLASS.

REVIEW OF BOOK

Modern Otology. J. C. KEELER, M.D., F.A.C.S. Philadelphia: F. A. Davis & Co. 1930. 858 pp., with 90 illustrations and 15 coloured plates.

In this book Dr. Keeler embodies his teaching as Professor of Otology at the Jefferson Medical College, and offers a commentary based on his experience of "more than a quarter of a century."

There are full anatomical descriptions of the structures concerned, and compressed but adequate summaries of the more recent work on the physiological side are given. A separate section is devoted to "Otology in Children," which includes a short but practical chapter on deaf-mutism; another section is devoted to "Medico-legal Aspects of Otology." This deals, amongst other subjects, with occupational deafness, insurability, and the giving of expert evidence. The article on insurance risks is not really helpful. The principles on which the premium is "loaded" are not clear; on the whole the loading appears