Abstracts

Dr JOBSON HORNE said he regarded the lesions in the larynx as due to tuberculosis. He advised treatment by absolute silence in a sanatorium where it could be more easily carried out than in the patient's home.

Sir JAMES DUNDAS-GRANT said examination of the sputum frequently gave negative results until an enforced cough, which could be brought about by sniffing oil of mustard, was produced. If that failed, the administration of iodide of potassium for a few days often brought about a positive sputum.

Laryngo-Scleroma (?). Case for Diagnosis — R. J. CANN (for Mr W. M. MOLLISON).—Male, aged 46. Complained of hoarseness three years ago. Attended out-patients' department in 1927. Has had dyspnœa for the past twelve months; this became acute in May 1929. Tracheotomy performed in St Giles' Hospital, 29th May 1929.

Wassermann reaction negative.

Sputum examined several times; no tubercle bacilli found.

Sir JAMES DUNDAS-GRANT said there was a growth below the right cord, and he suggested the removal of a portion of it with Mackenzie's forceps, to make a diagnosis and possibly, at the same time, to relieve the breathing.

ABSTRACTS

EAR.

The Comparative Anatomy and Physiology of the Perilymphatic Space. H. M. de BURLET. (*Acta Oto-Laryngologica*, Vol. xiii., Fasc. 2.)

The perilymphatic space forms a protective covering for the membranous labyrinth, which it separates from the cartilaginous or bony capsule. In many of the lower vertebrates the space is filled with a loose connective tissue containing in its meshes the perilymph. The nerves and vessels on their way to the sensory end-organs in the wall of the membranous labyrinth pass along strands of this connective tissue mesh-work.

Many of the fishes have a completely encapsuled labyrinth with a well-developed and closed perilymphatic space. In others the capsule is incomplete on the inner or cerebral side, so that the membranous labyrinth is applied directly to the brain. In a few, like the sea-horses, the outer or lateral wall is also absent, so that the labyrinth lies free beside the brain in the cranial cavity, and there is nothing to distinguish the perilymphatic from the subdural space.

The author passes in review the changes of form and function which the perilymphatic space has undergone during the course of its phylogenetic development. The sensory end-organs of the vertebrate

labyrinth may be divided into two groups, to the first of which belong the three cristæ ampullares, the macula utriculi, the macula lagenæ, the papilla neglecta, and perhaps the macula sacculi; these all react to movements or alterations of position of the labyrinth. To the second group belong the papilla amphibiorum and the papilla basilaris (organ of Corti). The end-organs of this second group react, even when the labyrinth is at rest, to stimuli which reach them through a conducting system formed by modification of a portion of the perilymphatic space.

The sensory end-organs of the first group are represented in all labyrinths, those of the second group in a few fishes and all other vertebrates. Accordingly in this second group we find modification of a part of the perilymphatic space adapted to the function of the second group of end-organs, and consisting of a fluid-containing canal, which is formed by a disappearance of the connective tissue network.

The degree of development of this canal, the ductus perilymphaticus, varies greatly in the different classes of vertebrates, depending in each on the relative size of the second group of sensory end-organs. As these are of great extent in the mammals, their perilymphatic system involves the whole of the inferior portion of the labyrinth.

It is sufficiently certain that in the higher vertebrates (mammals and birds) the perilymph conveys the sound waves to the sensory end-organs, and it may be supposed that the same is the case in all other vertebrates which possess end-organs of the second group. This is almost certainly true for the reptiles and certain fishes; but for the amphibia, with the exception of the frogs, proof is still lacking that they react to sound, and it is an open question whether the papilla amphibiorum is adapted for sound perception. The same uncertainty applies to the macula sacculi in all land vertebrates.

While much therefore remains doubtful in regard to the function of the various end-organs of the labyrinth, something may be learnt as to their nature and origin from a consideration of their relation to the perilymphatic conduction system.

The article concludes with a review of the literature and is illustrated by a number of diagrams and photographs showing the structure of the labyrinth in various classes of animals.

THOMAS GUTHRIE.

Vestibular Labyrinthitis without Vertigo. J. RAMADIER. (*Annales des Maladies de l'Oreille, etc.*, June 1929.)

Vestibular paralysis can arise in an absolutely silent fashion without vertigo and without spontaneous nystagmus, and thus remain unrecognised. It is true that as a rule it is accompanied by

a total paralysis of the cochlea, but unilateral cochlear deafness can itself readily pass unperceived.

This latent vestibular labyrinthitis can be seen in very different otopathies: acute or chronic suppurations of the ear; tuberculosis of the ear; syphilitic otomastoiditis; hereditary syphilitic labyrinthitis; cryptogenic labyrinthitis.

In every case where it has been possible to define the otopathy there has existed either a primary labyrinthitis or an otogenous labyrinthitis; in no case has there existed a neuro-labyrinthitis.

One must consider that this latency of vestibular destruction is due to the intense and sudden attack of the process on the internal ear; the labyrinth dies suddenly and without pain.

Vertigo and spontaneous nystagmus are really signs of vestibular irritation, not signs of destruction.

This knowledge of the possibility of vestibular labyrinthitis without vertigo is not without practical interest. In suppurations of the ear the discovery of this complication influences the prognosis and affords us sometimes fresh therapeutic indications; in the dry otopathies it can aid in the diagnosis.

Consequently one should take pains to detect this silent affection of the labyrinth; absence of vertigo does not signify integrity of the vestibule; an auricular examination is therefore not complete, nor does it warrant a diagnosis, unless it includes an examination, at least summary, of the two labyrinths, anterior and posterior.

L. Graham Brown.

The Influence of Bulbocapnin on Spontaneous Nystagmus in Man. Sture Berggren. (*Acta Oto-Laryngologica*, Vol. xiii., Fasc. ii.)

The author published in the first part of volume xi. of the same journal an account of experimental researches on the results of intravenous injections of bulbocapnin on induced nystagmus in rabbits; and showed that it is without influence on the eye muscles or their nuclei, but acts on the vestibular nuclei and perhaps also on the labyrinth.

In the present paper he gives the results of subcutaneous injections of 0.05 to 0.1 gram of bulbocapnin in patients presenting various forms of spontaneous nystagmus. He finds that the drug has no effect in cases of optical nystagmus, but in cases of vestibular nystagmus, whether of central or peripheral origin, it has an inhibitory effect and diminishes or abolishes the sensation of vertigo. This effect in most cases reaches its full strength after fifteen minutes, and with doses of 0.1 gram lasts a day. With the exception of one case in which there was, for a couple of minutes after the injection, a feeling of giddiness and nausea, no unpleasant results followed the injections.

Abstracts

The author concludes that we have in bulbocapnin a means of abolishing vestibular vertigo and nystagmus, but that its therapeutic value must be established by further research. THOMAS GUTHRIE.

The Use of the New Magnesium Alloy Tuning Forks. ROBERT SONNENSCHEIN. Chicago. (*Annals of Otology, Rhinology, and Laryngology*, September 1929.)

Dr Sonnenschein has been Chairman of the Committee on the Standardisation of Tuning Forks and Hearing Tests of the American Academy of Ophthalmology and Oto-laryngology since 1921. This Committee in endeavouring to overcome the disadvantages of unnickelled forks which rust, and nickelled forks which peel, investigated a number of metals and alloys. Mr B. E. Eisenhorn finally obtained an alloy of magnesium, aluminium, and manganese which is rustproof and very light. A complete range of forks, C_2 (16 d.v.) to c_5 (4096 d.v.), has been made. The price is 25 per cent. less than the Edelmann series. The "constant" of damping or decrement can be supplied for each fork. The author gives a summary of tests comparing steel and magnesium forks by air-conduction and bone-conduction.

In his conclusions he says that, so far as hearing by air-conduction is concerned, the magnesium forks serve as well as steel ones, with the exception of the c_4 and c_5 in cases where we wish to test the actual duration of hearing for these high tones. The alloy forks are no more brittle or liable to breakage than steel forks. They are light and can be used for long periods without tiring the fingers. They are economical. They are rustproof and therefore do not change pitch on exposure. The highest pitched fork, c_5 (4096 d.v.), does not vibrate long enough for all purposes. NICOL RANKIN.

Fibrinous Otitis with Circumscribed Labyrinthitis in the Superior Semi-circular Canal and Secondary Diffuse Serous Labyrinthitis. E. RUTTIN. (*Acta Oto-Laryngologica*, Vol. xiii., Fasc. 2.)

The author has repeatedly met with cases of otitis media characterised by the formation on the tympanic membrane of clots of fibrin, so abundant and tenacious that they required daily removal with a curette in order to prevent them blocking the perforation. Full details of a case of this sort are given in the present paper. The disease affected both ears and began without much pain. Large bullæ were present, raising the epidermis not only of the drum but also of almost the whole of the external meatus. Spontaneous collapse of the bullæ was followed in both ears by the formation of fibrin clots which covered the tympanic membrane and filled a part of the meatus. Although removed daily, they continued to re-form in the right ear for nine days and in the left for eleven; and there followed in the case

of each ear a thin purulent discharge from the tympanic cavity. The right ear soon became completely healed, but in the left there developed a circumscribed labyrinthitis with a fistula of the superior semi-circular canal, followed later by a diffuse secondary serous labyrinthitis. Operation disclosed extensive bone disease with erosion of the superior canal. Healing of this left ear was complete in two months with only small remains of auditory and vestibular function.

THOMAS GUTHRIE.

Deafness in Syphilis: an Audiometric Study. DANA W. DRURY, Boston. (*Annals of Otology, Rhinology, and Laryngology*, September 1929.)

The cases reported on are selected by the examining physician in a diagnostic service; the aurist who ultimately passes on the audiometric record takes no part in the initial selection. The use of the audiometer has been of great value in the study of ear conditions. The audiometers used are those devised by the Western Electric Company, namely the 1-A and the 2-A. The measurements are all carried out by the aurist or a trained technician. A sound-proof room is used. Broadly speaking, the shape of the audiometric curve determines six general types. These are illustrated and explained. The examination of a long series of audiograms showed the recurrence of a type, with what is called a "dipper curve" at 4096 d.v., with significant frequency.

In 792 audiograms 10 per cent. showed this form of curve. An analysis of these cases showed a surprising incidence of syphilis. Many tables and analyses are given. Summarising the facts, the author says that syphilis shows an incidence at least twice as large as any of the other possible factors in the production of this particular curve. Other factors mentioned are: pituitary lesions, lesions of the C.N.S., cardio-vascular disease, thyroid failure, and hepatic dysfunction.

In concluding he states that the audiometer is the instrument of choice in diagnosing early involvement of the auditory nerve. In cases showing the "dipper curve" the existence of a luetic taint may be looked on as probable. When a "dipper curve" is found in a syphilitic the ear damage remains permanent although the causal factor is successfully cured.

NICOL RANKIN.

NOSE AND ACCESSORY SINUSES

Nasal Sinus Infections in Children. L. W. DEAN, St. Louis. (*Journ. Amer. Med. Assoc.*, 14th September 1929, Vol. xciii., No. 11.)

The author is impressed by the frequency with which chronic ethmoid and maxillary sinus disease is found in children at autopsy. It is quite as common as middle ear disease. Polypi are not so common as in the adult. In robust children the condition is of little

significance, but it is serious if associated with deficient diet, poor hygiene, allergy, endocrine disturbances, or diseased tonsils and adenoids. He considers all chronic nasal sinus disease in children as being allergic until that factor has been excluded. Twenty minutes are given to obtain a good history. In the treatment attention must be given to the general health. Out-of-door life is recommended, and patients are allowed to go swimming for short periods if the head is kept out of the water. In early cases 1 per cent. ephedrine is helpful. Diseased tonsils and adenoids should be removed. Operation on the ethmoid is never performed unless definite bone disease can be demonstrated, but meatal drainage of the antrum is often done with benefit in chronic cases. ANGUS A. CAMPBELL.

Perforation of the Nasal Septum in Chromium Workers. Report of Eighteen Cases. FRED W. DIXON, Cleveland. (*Journ. Amer. Med. Assoc.*, 14th September 1929, Vol. xciii., No. 11.)

Eighteen cases are reported, ranging between 19 and 36 years of age. All had a negative Wassermann and showed no evidence of tuberculosis. They all occurred in one plant where the ventilation was poor. The first symptoms encountered are those of burning sensation and sneezing. A few days later slight bleeding is noted, and still later, obstruction from crusts. Whistling is noted when the perforation is small. In two cases a perforation one-fourth inch in diameter was found after six weeks' exposure. Perforations occur only in the cartilaginous area, and are located one-fourth inch posterior to and above the antero-inferior edge of the septum. There is a moderate reaction in the area round about, which is covered by a thick, black, tenacious crust. The employees are warned not to pick their noses, and to apply white petrolatum freely to the septum. The fumes, being heavier than air, should be removed by suction through a one-inch tube placed eight inches above the fluid and passing entirely around the tank. ANGUS A. CAMPBELL.

Tertiary Syphilis of the Nose. A. DUBROWSKI. (*Acta Oto-laryngologica*, Vol. xiii., Fasc. 3.)

The rhinologist generally meets with cases of tertiary syphilis of the nose in the later stages when scarring, perforation of the septum, etc., are already present. Much less often does he see the localised gumma or the widespread gummatous infiltration. The period of activity usually passes in a few weeks or months, but in the case here reported the syphilitic infiltration of the skin and soft parts of the nose persisted for between three and four years. The particular point on which the author desires to lay stress is that the characteristic dropping of the bridge and deformity remained entirely absent during this long period of active infiltration, and became manifest only when specific treatment brought about healing. THOMAS GUTHRIE.

Larynx

X-ray Diagnosis in Antrum Suppuration. R. GOLDMANN. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, Bd. 19, November 1929.)

A short article with illustrations and description of cases. The catarrhal-œdematous form of chronic inflammation is the most difficult to diagnose. The antra are filled with mucous polypi; proof puncture and X-ray photographs give a negative result. With the help of iodipin (20 per cent. solution) injected before the X-ray is taken, a diagnosis can also be made in these cases. J. A. KEEN.

LARYNX.

A Case of Large Horn-like Tumour of Pachydermic Vocal Cords. Stenosis. Laryngo-fissure. G. BOENNINGHAUS, Breslau. (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Vol. xxiii., Part 5, p. 462.)

A man, aged 69, had had increasing hoarseness for two years and shortness of breath for six months. The vocal cords were replaced by a white smooth substance which, when cleared from the inspissated mucus on the surface by means of steam inhalations, was seen to be formed of long white needle-shaped out-growths suggestive of fine epidermic horns. They were so voluminous as to press the ventricular bands outwards, and their bulk was sufficient to prevent the vocal processes approximating. Laryngo-fissure was performed and the growths were found to extend below the vocal cords on the left side. The cords and affected parts, including a portion of the left arytenoid cartilage, were dissected out. The microscope revealed enormous thickening of the flat epithelium, with unusual keratinisation. There was no ingrowth into the deeper layers. Three months later there was weak but resonant voice and no sign of recurrence.

JAMES DUNDAS-GRANT.

A Case of Ganglioma of the Larynx. A. SPIESS. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, Bd. 19, November 1929, pp. 1-20.)

This article deals with the pathology and classification of the various tumours which may arise from nerve tissues, viz. *gliomas* which arise from neuroglia, *neuromas* consisting mainly of nerve fibres, and *gangliomas* in which the chief elements are ganglion cells. These tumours are nearly all innocent, but rare malignant ones are described from time to time. The origin of a ganglioma is often difficult to explain, unless it arises from known collections of nerve cells such as the various ganglia of the cervical sympathetic or the ganglia at the base of the skull connected with the 9th, 10th, and 11th cranial nerves.

When a ganglioma is found in the course of a peripheral nerve or even independently of a nerve, one has to assume that small groups or

isolated ganglion cells may sometimes be found in any part of the body. Ganglion cells have been shown to occur especially in connection with the arterial plexuses of the sympathetic system.

As regards the special region of the nose and throat, the author has collected eight cases from an extensive literature. One was a ganglioma of the nose, which arose in the left ala nasi and into which one could trace a small branch of the infra-orbital plexus. Seven other examples belong to the neck and pharynx, and these are generally connected with the cervical sympathetic.

Spiess's case is an example of a ganglioma which arose in the subglottic region of the larynx. The upper part of the tumour was visible between the vocal cords; repeated hæmorrhages and severe respiratory obstruction forced him to operate. The stalked tumour was easily exposed and completely removed after splitting the thyroid cartilage, the cricoid, and the upper three rings of the trachea. Microscopic section, to the author's astonishment, showed a tumour composed of nerve tissue—a fibrous basis with numerous ganglion cells which had all the staining properties characteristic of nerve cells. This is apparently the only case of ganglioma of the larynx which has ever been described. J. A. KEEN.

Decubital Ulcers on the Posterior Surface of the Larynx and the Posterior Wall of the Pharynx. Dr K. ZISENIS (Leipzig). (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde.* Band xxiii., Heft 5, p. 451.)

Three cases are narrated of this condition, which, apart from typhoid, is uncommon. The first was a man 60 years old who had tried to strangle himself, the second 72, and the third 80, who both had lordosis of the cervical spine. In all these there was great loss of bodily strength. Tracheotomy was required on account of obstruction to respiration caused by the swelling of the parts. The cricoid cartilage was in part exposed and necrotic. The margins of the ulcers were steep. Decubital ulcer should be kept in mind when, in old cachectic individuals with cervical lordosis, respiratory difficulties supervene. The course of the condition may be fairly painless. It is important to keep up the general strength.

JAMES DUNDAS-GRANT.

The Problem of "Ausdrucksbewegungen" in the Treatment of Stuttering. G. PANCONCELLI-CALZIA. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, Band xix., November 1929, pp. 71-79.)

Certain exaggerated movements, facial or other, often accompany speech in a stutterer. These "Ausdrucksbewegungen" are an attempt on the part of the patient to overcome his disability.

Pharynx

Stuttering is often absent when words or sentences are sung instead of being spoken. Children stutter less when playing about freely with other children, and their speech may be quite spontaneous and easy under these conditions. These observations have led to a system of therapy where muscular actions of some kind are made to accompany the speech exercises designed to correct stuttering. This system of treatment is discussed in all its aspects. The patient's attention is fixed on these voluntary movements rather than on his difficulties with articulation. Thus his speech is more likely to become automatic. J. A. KEEN.

PHARYNX.

The Microflora of the Waldeyer Pharyngeal Ring. Part 1: *Qualitative Bacteriological Examination of the Tonsils in Chronic Tonsillitis.* L. A. LUKOWSKI (Woronesh). (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Vol. xxiii., No. 5, p. 468.)

One hundred cases of chronic lacunar tonsillitis were investigated. The flora of the surface were taken for comparison with those from the depths of the lacunæ (with a right-angled platinum hook). Blood-agar was found to be the best culture medium. Fifteen cases were specially examined in three groups. (1) Apparently sound or simply hypertrophied tonsils showed little or no difference between the superficial and lacunar cultures, chiefly catarrhalis and "green." (2) Chronic inflamed tonsils without simultaneous disease of the locomotor or internal organs showed chiefly hæmolytic, strepto- and staphylococci in the lacunæ. (3) The same, but with involvement of the locomotor or internal organs, showing chiefly hæmolytic, strepto- and staphylococci, except in one case in which there was a deep-lying abscess in the tonsil. The mouth and tonsil-surface yielded three forms of *Micrococcus catarrhalis* and "green" cocci, the latter chiefly *Micrococcus viridans*. These were found also in the lacunæ, but in smaller number. No hæmolytic streptococci were found in "clinically" healthy tonsils. In chronic tonsillitis strepto- and staphylococci seem to find most favourable sites in the depth of the lacunæ. Hæmolytic streptococci were found in 82·5 per cent., hæmolytic staphylococci in 42·5, the Plaut-Vincent symbiosis in 2·5. The virulence of the culture varied within very wide limits. The atrophic forms of chronic tonsillitis were bacteriologically as dangerous as the hypertrophic, and clinically perhaps more dangerous. The Plaut-Vincent combination may be present without any evidence of ulcero-membranous angina. Bacteriological examination is a valuable diagnostic aid in chronic tonsillitis. JAMES DUNDAS-GRANT.

Abstracts

The Bacterial Flora of the Tonsils. E. WIRTH, Heidelberg. (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Vol. xxiii., Part 4, p. 379.)

The question as to a definite relation between the clinical and the bacteriological data is still unanswered. Forty-three enucleated tonsils in adults, and one hundred and eleven hypertrophied tonsils in children, were examined, with the following results: Streptococcus viridans in 7 per cent. in adults and 1·8 in children. The majority of the green-growing streptococci were not identical with Schottmüller's viridans. Pneumococci were present in adults in 23 per cent., and in children in 42 per cent. They were mostly virulent for white mice. Hæmolytic streptococci occurred in adults in 53 per cent. (23 per cent. "mouse-virulent"); in children in 58 (in 18 "mouse-virulent.") Tubercle bacilli were found only once (in a pharyngeal tonsil). Mouse-virulent capsule bacilli were found in 4·6 per cent. in adults; never in children. Mouse-virulent proteus bacilli in 7 per cent. of adults; never in children. Influenza bacilli never in adults, but in 18·9 per cent. in children.

Almost invariably there were found on the surface of the tonsils (seldom in the crypts) staphylococci (mostly albus, seldom aureus, neither mouse-virulent) and micrococcus catarrhalis. Pseudo-diphtheria bacilli were found in 20 per cent. of all tonsils. In smears from the lacunar plugs there were frequently mycelia resembling actinomycosis, and also fusiform bacilli.

Six apparently normal tonsils in healthy individuals were sterile, while in seven from the subjects of general diseases, such as articular rheumatism, endocarditis, or nephritis, six gave pathogenic bacteria. Enlargement of glands was found in 53 out of 73 with enlarged tonsils. In the former there were pathogenic organisms in 88 per cent.; in those without enlarged glands only 60 per cent. Whenever the glandular enlargement was well-marked, pathogenic organisms were found. It is of great practical importance to make a bacterial examination of tonsils which look normal in patients with general affections of obscure origin. If pathogenic organisms, especially mouse-virulent hæmolytic strepto- or pneumococci are found, the tonsils must be considered unhealthy. If no other obvious cause for the "general" disease is detectable, such tonsils should be enucleated. JAMES DUNDAS-GRANT.

Aspiration during Tonsillectomy. A Roëntgenologic Study. R. V. MAY, T. W. THOBURN, and H. C. ROSENBURGER, Cleveland. (*Journ. Amer. Med. Assoc.*, 24th August 1929, Vol. xciii., No. 8.)

In twenty-five patients, ranging from 3 to 12 years, an attempt was made to ascertain the amount of material aspirated during tonsillectomy with general anæsthesia. In the first eleven cases the anæsthesia was profound; in the remaining fourteen it was lighter.

The following technique was followed: About 3 minutes after the beginning of the anæsthetic an X-ray plate is taken of the chest, and from 2 to 3 cc. of a mixture of equal parts of sterile olive oil and iodized oil is slowly instilled through a syringe on to the pharyngeal wall. Immediately after instillation all secretions, including the oil, are removed by sponges and another X-ray taken. One tonsil is then removed, and more oil instilled and removed by sponges as before. A third X-ray is taken. The other tonsil is removed, oil instilled and swabbed as before, and a fourth X-ray taken. The adenoids are removed and a fifth X-ray taken. In eight cases a sixth film was taken about 6 or 8 hours after operation. In two cases where suction was used marked aspiration occurred, and the authors are of the opinion that sponging is more efficient. Some aspiration occurs in all cases, and the location in the lung is variable. This may be diminished by extreme Trendelenburg position, by thorough removal of pharyngeal secretions, and light anæsthesia. ANGUS A. CAMPBELL.

Predominating Organisms found in Cultures from Tonsils and Adenoids. Observations after One Hundred Operations. L. M. POLVOGT and B. J. CROWE (Baltimore). (*Journ. Amer. Med. Assoc.*, 23rd March 1929, Vol. xcii., No. 12.)

In a five-column article the authors attempt to determine: (1) the predominating organisms deep in the crypts; (2) whether the organisms recovered from the tonsils in patients with some general systemic disorder (tonsillitis, arthritis, or nephritis) differed in any way from those recovered from the tonsils in patients with local symptoms only (tonsillitis); and (3) the carrier state. More than 50 per cent. were children under 11 years of age, and all had a history of repeated attacks of tonsillitis. The average time between the last attack and tonsillectomy was one month. After washing in 70 per cent. alcohol, the tonsils and adenoids were ground in sand and the cultures made. In 91 per cent. the hæmolytic streptococcus was the predominating organism found, and the staphylococcus in 8 per cent. The majority of those in whom staphylococcus predominated were over 25 years of age.

Three tables are given showing (1) classification and incidence of diagnosis; (2) age incidence; and (3) results. The writers believe a culture made by swabbing the surface of the tonsil is a reliable index of the predominating organism in the crypts, and that the predominating organism is almost always the same in patients with tonsillitis complicated by various systemic disorders.

ANGUS A. CAMPBELL.

Abstracts

ŒSOPHAGUS AND ENDOSCOPY.

Cancer of the Lower End of the Œsophagus and Cardiac End of the Stomach. P. M. HICKEY, Ann Arbor, Mich. (*Journ. Amer. Med. Assoc.*, 2nd November 1929, Vol. xciii., No. 18.)

Early diagnosis of cancer of the œsophagus by means of X-ray is always difficult, more particularly at the upper end. For the detection of early lesions of the middle and lower end the author uses soft gelatine plugs containing barium. These plugs are prepared from ordinary cooking gelatine, which is first soaked in water and liquefied by heating over a water bath. It it then thoroughly mixed with barium paste and allowed to cool. After the barium gelatine is thoroughly jellied, plugs of varying diameter are made with brass cork borers. The plugs are from 3 to 4 cm. long and from 8 to 16 mm. in diameter. The patient swallows the plug with the aid of water and is studied with the fluoroscope. Small plugs are used first and the size rapidly increased until difficulty is encountered. If one becomes lodged the body heat or a warm drink softens it and the barium trickles down. A piece of string may be threaded through the plug. If a patient can swallow a plug 14 mm. in diameter œsophagoscopy is not considered necessary. For visualisation of the lower œsophagus the right or left oblique position is used. Any irregularity of the lumen is viewed with suspicion, but the physiological break caused by pressure of the diaphragm must be kept in mind. ANGUS A. CAMPBELL.

Surgery of the Esophagus. JAMES H. SAINT. (*Archives of Surgery*, 1929, xix., pp. 53-128.)

This paper is abridged from the Heath Scholarship thesis of Durham University for 1928. The experimental work was done at the Mayo Foundation.

The paper opens with a full review of the literature of the subject up to 1927. The dangers of œsophageal surgery are summarised as:—

1. The structure and relations of the œsophagus.
2. The risk of fatal infection of the pleura and of the cellular tissues of the neck and mediastina.

Saint regards these dangers as primarily due to the poor blood supply of the viscus, and sloughing at the line of suture from constriction of the vessels. He worked on dogs, where the blood supply is similar to that in man, except that the three branches of supply from the inferior thyroid found in man are replaced in the dog by vessels from the tracheo-œsophageal branch of the innominate. Skiagrams of injected specimens showed:—

1. The supply is segmental; most of the arteries divide into ascending and descending branches, which anastomose with branches from the segments above and below.

2. This anastomosis is scanty.
3. The arteries pass through the œsophageal wall and ramify in the submucous layer.
4. The least vascular portion is the upper cervical; the most vascular, the lower thoracic.

For end-to-end anastomosis Saint used No. 0 Japanese "blood-vessel" silk and fine, straight needles. It was found essential to include the submucous layer. Anastomosis was made by two lines of suture: First an inner row of interrupted inverting mattress sutures passing through the whole thickness of the wall and taking up 2 mm. of the circumference at each stitch, thus the blood supply of the greater part of the circumference was left out; then an outer continuous suture taking muscle only and not including the submucous layer. For seven days after the operation the animals were not fed by mouth, but were given intravenous injections of dextrose in normal saline. Division of the cervical œsophagus with end-to-end anastomosis was performed on six animals, of which four recovered, although two developed a stricture later. Further work is being done to discover whether, by this means, it will be possible to join the ends of the œsophagus after resection.

The paper is well worth careful study.

F. W. WATKYN-THOMAS.

Bronchoscopy: Past, Present, and Future. CHEVALIER JACKSON. (*New England Journal of Medicine*, 18th October 1928, Vol. cxcix., No. 16, pp. 759-763.)

Bronchoscopy has developed to the point at which 98 per cent. of inspirated foreign bodies in the lungs can be removed through the mouth, even in cases of pins at the extreme periphery of the lungs, below the level of the diaphragm.

Although the actual number of foreign body cases has increased 150 per cent. in the last five years, bronchoscopy to-day is concerned more with the diagnosis and treatment of pulmonary disease due to causes other than foreign body. At the bronchoscopic clinic 98 per cent. of the cases were for disease. Only 2 per cent. were for foreign body.

Attention is called to the great importance of the bronchoscope in research. This instrument affords means of placing materials, inert or infectious, in the lungs, and of observing the local and general effects. One example cited is the evidence proving that post-operative atelectasis is due to mechanical obstruction by viscid secretions.

Great advances has been made by bronchoscopy in the diagnosis and treatment of pneumonia, chronic bronchitis, bronchiectasis, asthma, and pulmonary abscess.

Abstracts

Clinical studies at the bronchoscopic clinic have led the author to believe that the fundamental factor in all non-neoplastic pulmonary pathology is impaired defensive power of the lung due to obstruction to aeration and drainage. In addition to the obstruction incidental to diminution of lumen by swollen mucosa and granulation tissue, there is the obtunding of the cough reflex, and, most important of all, the destruction of cilia or ciliary action by stagnation of thick tenacious pus. The clogging tenacity and obstructive power of the pus is not ordinarily realised, because when expectorated into a vessel it is diluted and lubricated with saliva. As encountered in the bronchus by the bronchoscopist it clings to the walls like the thickest liquid glue. When aspirated it clings to the walls of the glass collecting-tube and will not run down by gravity when the tube is inverted. The author believes that the remarkable results obtained by so many bronchoscopists in cases of suppurative pulmonary disease are due to the restoration of the defensive powers of the lung by (*a*) removing this obstructive secretion; (*b*) liberating the clogged cilia; (*c*) opening of lumina stenosed by mucosal swelling and granulation tissue. The cause of the extreme viscosity of the purulent secretion was found to be an increase of fibrinogen due to inflammation or to congestion, passive or active. From the results obtained in the bronchoscopic clinic the author feels justified in stating that if early resort to bronchoscopic aspiration were substituted for the use of opium derivatives, fewer cases of chronic suppuration, bronchiectasis, and abscess would follow acute pulmonary diseases. He repeats his dictum that "the cough reflex is the watch-dog of the lung," and adds that the greatest mistake of modern therapeutics is the drugging asleep of the watchdog with antibechics.

At the conclusion of his presentation Dr Chevalier Jackson was awarded the Henry Jacob Bigelow Gold Medal "for contributions to the advancement of surgery." AUTHOR'S ABSTRACT.

MISCELLANEOUS.

Views on Asthma by a Rhino-laryngologist. H. BOURGEOIS. (*Annales des Maladies de l'Oreille, etc.*, June 1929.)

The writer begins with a consideration of the manifestations of asthma in the region of the nose. Here vasomotor coryza presents itself in two forms. The first, of which hay fever represents the most frequent and classical type, corresponds to cases where the disease manifests itself by an abnormal sensibility to certain exogenous proteins. The nose alone is more often affected, but very often, and especially at an advanced stage of the disease, bronchial asthma may complicate the coryza. Hence it must be considered as no more a nasal affection

than urticaria is a disease of the skin, but dependent upon an initial systemic disturbance. Observations are quoted in support of this theory.

The second form of spasmodic coryza, conveniently called cryptogenetic, is altogether an equivalent of asthma. That is to say, a crisis of spasmodic rhinitis is for the nose the equivalent of the crisis of asthma for the bronchi. They are parallel manifestations of the same morbid condition, and the one is neither the cause nor the consequence of the other. It reveals itself as an unstable equilibrium of the nasal reflectivity, which is upset by an occasional minimal cause bringing about extremely intense reactional phenomena. The pathology here is much less clear than for hay fever and its analogous conditions.

After discussing the various theories put forward to explain the causation of vasomotor coryza, the writer inclines to the theory of mechanical excitations, especially contact between the two walls of the nasal fossa such as may be produced by hypertrophied mucosa, osteocartilaginous spurs, and mucous polypi. This leads next to the question of the value of, and the indications for, endonasal surgery in asthma. Briefly stated, one should remove any nasal cause of obstruction, the existence of which sensibly aggravates the initial disease. This gives much relief to the sufferer without a definite promise of influencing the asthma itself.

Next are described the other equivalents of asthma, namely, the various asthmatic forms of cough. These are classified according to the region of the upper air passages affected, viz., the nasal, pharyngeal, laryngeal, and tracheal mucosa. Their differential diagnosis from other lesions producing reflex coughing is fully described.

The article ends on the usual note of inquiry as to the true nature of asthma. The writer believes that, although a disturbance of sensibility is a common basis for the explanation of the various manifestations studied, this is not the primary cause of the asthma. The latter will surely be found in the systemic nature of the disease.

L. Graham Brown.

Tonsillar Cyst of the Neck. Rebattu and Partheot. (*Revue de Laryngologie*, 31st December 1928.)

The tumour was the size of "an adult fist," and was situated in the anterior triangle of the neck of a man of 40. It was dissected out under infiltration anæsthesia. In order to reach the deep-lying portion of the cyst it was necessary to evacuate the contents—thick greenish pus, which was afterwards found to be sterile. A small portion of the deepest part of the cyst was cut off and left *in situ*, as it was adherent to the pharyngeal wall. The lining was destroyed by the cautery. The cyst was thick walled (1 to 2 c.m.). The lining resembled buccal mucous membrane. There was no cornification of the superficial epithelium. The wall contained abundant lymphoid

tissue. In the opinion of the author, the origin and mode of formation of these cysts is easily explained by regarding them as sequestered remnants of the pharyngeal ends of the second and third branchial fissures where they unite to form the tonsillar fossa. G. WILKINSON.

A Contribution to the Surgery of the Pituitary Gland. A. BLUMENTHAL. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, November 1929), Band xix.

The various methods of approaching pituitary tumours are briefly discussed. Apparently the operations via the anterior fossa of the skull are being given up on account of their great severity. The pharyngeal route, the operation through the maxillary antrum, and that via the anterior nares after complete resection of the nasal septum (Hirsch), have the common disadvantage that the hypophysis is approached from below upwards; the distance is great and the access is poor.

Schloffer and Eiselsberg reflect the bony part of the nose upwards. Chiari reflects a skin flap at the side of the nose and removes the frontal process of the maxilla. These two operations have the advantage that one starts at the level of the pituitary fossa and therefore the route is comparatively short. The author's operation is modelled on that of Chiari, but it also has certain features which are found in the operation via the maxillary antrum (Lautenschläger).

A skin and periosteal flap is reflected downwards from the side of the nose.

The inner incision is close to the midline and reaches nearly to the tip of the nose, the outer incision follows the line of the lower margin of the orbit as far as the infra-orbital foramen. Dr Blumenthal chose the right side in his patient because the right optic nerve was more affected than the left. After reflecting the skin flap downwards he removed the inner half of the nasal bone, the frontal process and upper part of the body of the maxilla, also a small part of the frontal bone, so that both frontal and maxillary sinuses are exposed. Intranasally the following structures were resected:

(1) The right middle turbinate and ethmoid cells, including the lamina papyracea and, if necessary, part of the inferior turbinate.
(2) The posterior portion of the nasal septum.
(3) The anterior walls of both sphenoidal sinuses.

After removing these structures very good access to the pituitary was obtained; the opening was so large that the author could palpate the floor of the sella turcica with the finger. Post-operative crusting, so marked after the Hirsch operation, is avoided to a large extent, because the anterior part of the septum is left intact. J. A. KEEN.