pus.) " Bipp " and loose dressing ; 30 c.cm. antiscarlatinal serum intramuscularly.

July 3rd: General condition unchanged ; very thirsty ; nystagmus, facial paresis less ; temperature 100° F. Lumbar puncture, after intravenous injection of 40 c.cm. collosol argentum ; magnesium sulphate per rectum. *July 4th*: Same treatment. *July 5th*: Enormously better, temperature 99·2° F. No headache, little neck rigidity. *July 6th*: Treatment as on *July 3rd*. Convalescence uneventful.

September, 1934 : Healed ; some deafness and humming tinnitus on right side.

November, 1934 : No change ; still has severe headaches at times as before the attack : recent exploration of nasal sinuses negative.

ABSTRACTS

EAR

The caloric reaction in Morbus Ménièri. A. THORNVAL, Copenhagen. (*Acta Oto-Laryngologica*, xx., 3-4.)

The caloric tests in cases of *Morbus Ménièri* were carried out using water at 7° C. above or below rectal temperature, and with patients lying down in the prone or supine position. The irrigation apparatus held a thermometer which had been built into it so that the temperature of the water could be accurately observed as it flowed into the ear under examination.

In these investigations an increased caloric reaction was never observed in the affected ear, but a difference in the reaction between the diseased and healthy sides was found in a number of the cases. This difference might not have been observed except under the particular conditions described in these experiments.

The writer considers that the question might be asked how, on the basis of these observations, may we explain the violent paroxysmal attacks of patients with *Morbus Ménièri*. He gives the following reply to this question—" Ménière attacks are brought on by a sudden, often almost explosively developing hyperfunction of the vestibular system on one side. For analogy, consider a periodic neuralgia in a nerve such as the trigeminal ; the slight decrease in function, shown in certain cases, may correspond to a mild anæsthesia in the peripheral area supplied by the nerve."

H. V. FORSTER.

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Abstracts

Some experiments with veno-sinography. A contribution to the diagnosis of otogenous sinus thrombosis. P. FRENCKNER, Stockholm. (*Acta Oto-Laryngologica*, xx., 3-4.)

Certain cases of otogenous sinus thrombosis do not exhibit typical symptoms, and in bilateral otitis media one may be sure of the presence of a sinus thrombosis but may find it difficult to decide on which side it is. In recent years attempts have been made to achieve more definite diagnosis by using the Queckenstedt test which Tobey and Ayer have modified. In the Sabbatsberg Clinic, however, this has been found to be unreliable, and whilst searching for a more reliable test in these cases the author began his experiments in veno-sinography.

The principle lies in the injection of a radio-opaque substance into the blood stream so as to gain information by Röntgen photography as to where the obstruction in the blood stream lies ; in the transverse sinus, the sigmoid sinus or the jugular bulb. There are two methods of injection into the blood stream, either into the jugular vein against the stream and relying on gravity by placing the patient in a suitable position or, secondly, into the longitudinal sinus distal to the obstruction. The latter method has been found more satisfactory, the substance being distributed equally into the blood stream on both sides.

A cannula is used to introduce the radio-opaque substance (Thorotrast is suitable). The Röntgen exposure is carefully timed with relation to the injection. The experiments have been carried out in both dead and live monkeys and on the human cadaver. In the living monkey the sigmoid sinus was occluded by packing after mastoidectomy.

The method is suggested for those cases of bilateral otitis media with clinical evidence of sinus thrombosis and for those unilateral cases in which a thrombosis cannot be found at operation, and may be present in the jugular bulb, the jugular vein, or some part of the lateral sinus which is difficult to reach.

The writer hopes to have the opportunity of testing the value of these experimental findings in clinical material.

H. V. FORSTER.

The establishment of the Upper Tone Limit. D. DEDERDING. (*Arch. Ohr-, u.s.w., Heilk.*, 1935, cxxxix., 174-80.)

It is usual to fix the upper limit of tone perception for air-conducted sounds only. The author shows that it is necessary to determine the upper tone limit for bone-conducted sounds also before a correct diagnosis of perception deafness can be made. Thus, in many cases of otosclerosis, in patients with radical mastoid cavities and in patients with the Ménière syndrome, the upper tone limit for air conduction may be well below normal. If, however,

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the upper tone limit for bone conduction is estimated in the same patients, it is often found to be quite normal (see tables in text).

If the *upper tone limit for bone conduction* is taken into consideration when making a differential diagnosis between lesions of the middle ear and those of the inner ear, the tendency will be to diagnose lesions of the conduction apparatus more often and lesions of the organ of perception less frequently. J. A. KEEN.

Contribution to the Pathological Anatomy of the Ear. H. RICHTER. (*Arch. Ohr-, u.s.w., Heilk.*, 1935, cxxxix., 181-8.)

The case described is one in which a radical mastoid operation on the right side was followed by a rapidly developing labyrinthitis, meningitis and death of the patient after three days. The histological examination of the temporal bone gave the explanation: The footplate of the stapes had been displaced inwards and was found lying in the vestibule. A feature of special interest was a focus of otosclerosis around the oval window, which had caused a deformity of the stapes with complete ankylosis. On the left, or non-operated side, there were also foci of otosclerosis with fixation of the stapes.

The author is unable to decide whether fixation of the stapes caused by otosclerosis should be looked upon as constituting a special danger when performing a radical mastoid operation. In any case this point would not have to be considered often, as it must be so unusual to find otosclerosis combined with a chronic middle-ear suppuration which requires a radical mastoid operation that the author's case is probably unique. One would not be justified in concluding from an isolated instance, like the present one, that an ankylosed stapes is more liable to be pushed through the oval window than a movable one.

Another interesting feature in this specimen of temporal bone was an excessive development of very vascular granulation tissue; this filled the whole middle-ear cavity and extended as far as the jugular bulb. The granulation tissue was so extensive and vascular that a clinical diagnosis of angioma of the middle ear had been made before operation. After the histological examination it was decided that this tissue was not an angioma but was of inflammatory origin. The microphotographs which appear in the text are very clear and interesting. J. A. KEEN.

Remarks on the X-ray Findings and the X-ray Results in another case of Gradenigo's Syndrome. D. G. W. VAN VOORTHUYSEN (Soerabaja). (*Acta Oto-Laryngologica*, xxi., 2-3.)

The case is described of a young girl aged 6 years who developed an acute otitis media on the right side followed by discharge. About a month later the patient was attacked by severe pain in the right

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eye; the pains became less severe, but in about a week a slight squint was noticed on the right side.

X-ray pictures by Dr. Eichhorn (Stenvers method) showed considerable decalcification of the right pyramidal apex extending as far as the dense bone of the labyrinth capsule. A mastoid operation revealed pus in the mastoid antrum but no mastoiditis.

The case eventually recovered and the author believes the X-ray exposures to have had some actual therapeutic effect, an opinion he had expressed previously in this *Journal* (xviii., 265) when writing on apicitis.

A year later when the child was X-rayed the roof of the right pyramid was found to have become recalcified to a degree almost as perfect as in the left side.

A series of five X-ray pictures showing the petrous apex on either side is illustrated.

H. V. FORSTER.

Recent studies on the Anatomy and Physiology of the Terminal Cupula in the Ampullae of the semicircular Canals. W. STEINHAUSEN. (*Z. Laryng.*, 1935, xxvi., 29-34.)

Professor Steinhausen's researches into the minute structure of the cupula are becoming well known. Up to comparatively recent times we had no real conception of the structure of the cupula, the very existence of which was denied in certain quarters. The reason is that, in the study of small structures, we have relied exclusively on the histological method which is unsuited for the investigation of this particular sense-organ. In the living subject the cupula is about 1 mm. long and it reaches the opposite wall of the ampulla. It is an elastic, gelatinous mass consisting largely of water. In all histological processes water is extracted, and what remains is either nothing at all or very small remnants placed on top of the crista.

Briefly, the author's method consists in making an opening into a semicircular canal and forcing in a small amount of Indian ink. This becomes deposited around the transparent cupula and renders it visible. In this way the cupula has been studied in various animals, in fresh human labyrinths, and also in living animals, especially the pike. A film has been prepared showing the movements of the cupula in the pike under the influence of rotation and caloric stimulation.

It is assumed that the physiological response of the cupula to stimulation is a to-and-fro movement and that this conception requires no further proof. Professor Wittmaack's criticism (see previous abstract) is dismissed in a footnote as entirely unfounded. It is evident, so the note runs, that his hydrostatic theory is absolutely untenable (völlig unhaltbar).

J. A. KEEN.

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NOSE AND ACCESSORY SINUSES

The Influence of Types of Breathing on the Injection of the Mucosa of the Nose after Subarachnoid Introduction of China-Ink. V. A. TCHUDNOSOVETOF (Kazan). (*Acta Oto-Laryngologica*, xxi., 2-3.)

The writings of Professor M. F. Tsitovitsch have contributed further points of interest concerning the importance to the organism of nasal breathing ; the nervous system, for example, is particularly sensitive to the difference between the nasal and tracheal type of breathing.

Tchudnosovetof, in an earlier paper, has written on the problem of the connection between the lymphatic system of the nose and the cavity of the skull, and also between that system and the regional lymph nodes, but the work has been founded more on anatomical than on physiological grounds. In the present work the research is continued with a different object in view, namely, to demonstrate the effect of physiological injection of China ink in an isotonic Ringer solution into the subarachnoid space. It has been observed that a solution of China ink injected into the subarachnoid space at the caudal end of the spine tends to diffuse along the base of the skull into the *filorum olfactorium*.

Some authors explain the mechanism of the flow as an attempt on the part of the organism to remove foreign bodies from the central nervous system into the peripheral lymphatics.

The injections were carried out in anæsthetized dogs of two groups. The first were tracheotomized and the throat, mouth and nose were shut off. The second breathed entirely through the nose, the mouth being securely masked and bandaged, the mask being fittted with a small tube for nasal breathing only.

In the second group the result of macro- and microscopical examination showed an almost complete lack of injection of the nasal mucosa, though rather more was noted in the retroglossal lymph nodes. In the group which had breathed only through the trachea quite a different picture was seen. The meninges of the brain were found to be considerably stained as well as the mucosa of the nasal septum, particularly at the point where the olfactory nerve filaments emerge from the cribriform plate. The retroglossal lymph nodes were also found to be well injected. The appearances are said to resemble the results after injections in dead animals.

Some experiments were carried out on animals breathing both through nose and trachea (mixed type of breathing), but the results lacked the uniformity which was found in the two main groups already described.

The author, in expressing his conclusions, believes that in the presence of tracheal breathing alone there follows a stagnation of

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the fluids in the cavity of the nose which endangers the well-being of the organism by giving rise to conditions favourable to the penetration of all kinds of infectious agents into the central nervous system.

H. V. FORSTER.

Resection of the Nasal Septum as a Method for the Treatment of Severe and Recurrent Epistaxis. E. BRUCH. (*Z. Laryng.*, 1935, xxvi., 53-6.)

In rare instances of obstinate and constantly recurring bleeding from an ulcerated area on the septum, a submucous resection of the cartilage has proved a life-saving measure. The author describes one case in detail and gives references to the literature on this subject. In such cases the mucosa over the bleeding area has become chronically ulcerated and it is no longer capable of producing the necessary scar tissue in order to close the wound after cauterizing. Also, as long as the edges of the ulcer are in contact with cartilage, healing cannot take place. If the cartilage is removed the ulcerated mucosa unites with the healthy mucous membrane of the other side and the ulcer heals. If the area is very extensive a perforation may result ; or a perforation may be deliberately made. The end-results are equally good.

J. A. KEEN.

Diphtheria of the Frontal Sinus. H. BARTH. (*Z. Laryng.*, 1935, xxvi., 57-60.)

Dr. Barth describes the case of a boy, aged 15, with acute frontal sinus suppuration and orbital abscess which was opened and drained by the external route. The special interest lay in the bacteriological findings. The pus from the frontal sinus empyema gave a pure culture of Klebs-Löffler bacilli. The examination was repeated on the next day with the same result, and a few days later the diphtheria organisms were still isolated from the wound secretions. The nasal swabs, on the other hand, showed only isolated organisms on culture.

Clinically there was nothing to point to the diagnosis. It appears that a diphtheritic infection limited to one frontal sinus has not yet been reported in the literature. The presence of diphtheria organisms in infections of the maxillary antra is not unknown (see references).

J. A. KEEN.

Some considerations concerning the Methods of treating the Front Portion of the Septum in the Submucous Resection Operation. W. BEHRMAN (Upsala). (*Acta Oto-Laryngologica*, xxi., 2-3.)

The writer calls attention to the disappointment which sometimes results from not treating sufficiently radically the front part

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of the nasal septum in this operation and, having discussed the subject and referred to the opinions expressed by various workers, describes in detail the method employed at the Upsala Clinic.

Under local anæsthesia the incision begins always on the right side unless the operator is left-handed. It starts from one to two centimetres behind the free border of the cartilage and extends forwards, parallel to the bridge of the nose, as far as the muco-cutaneous junction, then changes direction and follows this junction downwards to the floor of the nose ; but in cases of deformity near the floor this incision following the same guide of the muco-cutaneous junction passes across the floor to the outer wall of the nose. The cartilage is freed from the mucoperichondrium in the usual way on both sides, taking proper care to avoid perforating the muco-perichondrium on the left side, and is then resected according to the accepted method, though starting at the free border and leaving a supporting bridge above about 1 centimetre in height.

If it is necessary to deal with the bony crest and nasal spine he does not divide the periosteum over the bony crest from above but proceeds to elevate this from below through the extended incision across the floor, and to continue to do so as far back as the vomerine knuckle or shelf so constantly found. It is then an easy matter to divide the thin tissue which remains as a partition between the upper and lower pockets. The spine and crest are then removed from before backwards with Hajek's chisel and any obstruction at the level of the pyriform apertures is satisfactorily removed.

H. V. FORSTER.

A New Knife for Dacryocystorhinostomy. Y. MEURMAN (Helsinki). (*Acta Oto-Laryngologica*, xxi., 2-3.)

The most difficult phase in dacryocystorhinostomy is the cutting of a sufficiently large flap in the medial wall of the sac. The well-known method of using forceps to seize the inner wall of the sac so that it may be presented for excision means a further complication when the holding of the speculum and the cutting knife do not leave a spare hand for the forceps.

Nuhsmann's suggestion, to fill the sac with solidifying paraffin before excising the inner wall, also has its disadvantages. The writer describes and illustrates a knife which can be used equally well on both sides. It is curved on the flat and both edges are sharp, the point also is sharp.

The lower pole of the sac is transfixed and a flap with its hinge below is cut by sawing upward movements. The flap may now be punched off or laid over the denuded bone. The knife will be delivered on request by the firm Kifa, Stockholm.

H. V. FORSTER.

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Abstracts

Chronic Suppurative Sinusitis. H. I. LILLIE. (*Archives of Otolaryngology*, March, 1935, xxi., No. 3.)

The necessity for radical external operations on infected nasal sinuses has been urged by many surgeons. The writer cannot accept this point of view, as, in his experience, it is unnecessary to remove every vestige of lining mucosa in operating for chronic sinus suppuration. It has not been proved that the mucous membranes regenerate after such treatment, and many patients make a satisfactory recovery after simple drainage of the cavities without any removal of the lining.

Before proceeding to radical operation milder measures should be tried. Simple intranasal drainage of the antrum may be followed by improvement so definite that the need to explore the ethmoid cells and frontal sinus is obviated. There is no need to hold extreme views regarding the " conservative " or the " radical " treatment of sinusitis, but it is distinctly advisable to adapt the treatment carefully to the individual case rather than to follow any routine procedure.

DOUGLAS GUTHRIE.

Fulminating Sinus Disease ; Study of the Pathogenesis. F. LEDERER. (*Surgery, Gynecology and Obstetrics*, March, 1935.)

The author considers under the above heading that group of accessory nasal sinus infections in which there is swelling about the face, osseous involvement, and intracranial signs and symptoms. The opinion is held that spread to the cranium is usually by means of a thrombophlebitis and not, as is usually thought, by the perineural sheaths. In this he is in agreement with Turner and Reynolds (Edinburgh).

The condition is commonest in children, in whom the walls of cavities are thin, where natural dehiscences exist, and where there is a good blood supply. The clinical picture of frontal and ethmoid involvement with swelling of the upper and lower lids respectively is described, and it is pointed out that those cases with considerable external swelling are sometimes the ones in whom severe constitutional symptoms are absent. In one series reviewed the fatal cases were all in children under two years of age.

Treatment should be conservative when only simple œdema of the lids is present. If the disease becomes more advanced, operation should be planned so that the most direct and least damaging approach is obtained ; this may be intranasal or extranasal. It is probable that the bad results which have been attributed to surgical intervention in the later stages are due to the nature of the disease, and that a similar result would attend a policy of inactivity.

The pathology of osteomyelitis of the upper jaw is next considered at some length, and the author accepts Eagleton's view that

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the osteomyelitis is secondary to the thrombophlebitis. For this reason drainage of the associated orbital abscesses is futile, since the cavernous sinus is already involved. The condition in infants is reviewed and is shown to be commonest in the first three weeks. Most published cases describe the advanced condition; the site of entry of the infection is deduced by inference.

It is probable that while injury to the tooth germs may be the cause in some cases, nevertheless the causes are variable and, despite the small size of the antra and ethmoids yet, in view of the clinical picture, a sinusitis undoubtedly initiates some cases.

There is a detailed clinical and pathological report of a fatal case in an infant, 3 weeks of age. Following a purulent nasal discharge, which was observed to come from under the inferior turbinate, there was much external swelling. A fistula developed in the region of the first molar and, later, over the cheek. Suppuration also involved the mandible *viâ* the pterygoid fossa. *Post mortem* examination showed the most extensive disease to be in the inferior turbinate bone, and the disease had presumably started from there. Suppuration had involved the antrum and ethmoidal labyrinth, and from here septic thrombi had involved the cavernous sinus. The tooth germs showed a pad of tissue between them and the oral cavity, which suggests that infection did not enter there.

A good series of microphotographs substantiate this picture.

T. D. DEIGHTON.

Conservative Surgical Treatment of Hypertrophic Rhinitis. H. V. DUTROW. (*Archives of Otolaryngology*, January, 1935, xxi., No. 1.)

In patients whose chief complaint is complete or intermittent nasal obstruction the tendency of the surgeon is to look at once for a local cause. High deviation of the septum, latent accessory sinus suppuration and, above all, allergic reactions must be sought for. Hypertrophy of the inferior turbinates often demands treatment and the conservative procedure recommended by the writer aims at the replacement of the cavernous tissue by scar tissue. The operation, described by Parsons in 1915, consists in undermining the mucous membrane of the turbinate and separating it from the bone, at the same time scarifying the periosteum with the edge of the knife before it is withdrawn. In this manner much more scar tissue is produced than by the galvanocautery. The second stage of the operation consists in fracture and outward displacement of the inferior turbinate by a nasal divulsor. The writer has operated on eighty-three cases with uniformly good results. He considers that turbinectomy should be a last resort, and then only part of the lower margin of the bone should be removed.

DOUGLAS GUTHRIE.

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Abstracts

So-called Mucoid Cysts of the Nose. A. F. LASZLO. (*Archives of Otolaryngology*, January, 1935, xxi., No. 1.)

The writer describes three cases of nasal cyst and discusses the various views regarding its nature. The apparent rarity of the condition is probably due to the fact that the majority of cases are seen by the dental surgeon and not by the rhinologist.

Brown Kelly was the first to describe the microscopic structure ; the lining consists of pseudo-stratified columnar epithelium similar to the lining of the nasal cavity, but is devoid of cilia. In the writer's series, as in all cases other reported, the cyst was on the nasal floor close to the nostril and, as is the rule, unilateral. Early observers regarded the swellings as retention cysts of the mucous glands, although it is difficult to explain why they always appear at the same site. Beck, Klestadt and others, noting that the cysts were at the point of junction of the medial and lateral nasal processes, regarded them as developmental in origin, arising from remnants of the ectoderm. This raises the question—why are dermoid cysts frequent in the upper part of the cranio-facial fissures while mucoid cysts are located at the entrance of the nose ? Brüggemann was of opinion that these cysts were remnants of a misplaced opening of the naso-lachrymal duct, while Schaeffer stated that a cyst might arise from persistence of a portion of the embryonic nasopalatine canal. None of the above theories, however, can be regarded as conclusive. Their sponsors exclude the possibility that the cysts are dermoids, on account of the microscopic structure and, for the same reason, they deny that the cysts are of dental origin. Furthermore, they do not contain cholesterol. This is true in the majority of cases but Rohmer has proved that some dental cysts may actually be lined with ciliated columnar epithelium, and his observations have been confirmed by Adloff and Blum, who each reported two cases. The absence of cholesterol is no argument against a dental origin, as many dentigerous cysts also do not contain cholesterol. The writer considers that Rohmer is correct in his assertion that mucoid cysts of the nasal floor develop from the epithelial sheet of Hertwig or from misplaced enamel germs, and that they should be classified as cysts of dental origin.

DOUGLAS GUTHRIE.

The Influence of Mouth Breathing on the Bacterial Content of the Oral Cavity. H. REPLOH. (*Z. Laryng.*, 1935, xxvi., 1-4.)

The author first describes a simple method of determining the number of organisms in the mouth cavity. In three normal persons who were nose breathers, the nostrils were completely occluded by cotton wool plugs impregnated with paraffin wax. After eight hours of mouth breathing the number of organisms, expressed in millions

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per c.cm. of the sterile fluid used for washing out the mouth, was found to be approximately doubled.

The explanation of the increase in the number of organisms is as follows :

1. A thickening of the saliva and consequently a lessened activity in washing out the mouth cavity. Apart from this mechanical action, saliva also possesses a certain degree of bactericidal power.

2. The interference with the function of the nasal mucosa. The columnar, ciliated epithelium of the nasal cavities has an extremely important function in filtering out organisms from the inspired air.

The results of this research are brought into line with previous work on silicosis (Lehmann). In some workmen in the special industries concerned, up to 80 per cent. of the inhaled dust particles were retained by the nasal mucous membranes ; in others only 5 to 20 per cent. Silicosis of the lungs affected the latter group more.

J. A. KEEN.

LARYNX

Practical Remarks on the Treatment of Laryngeal Tuberculosis. SIR JAMES DUNDAS-GRANT. (*The Medical Press and Circular*, April 17th, 1935.)

While stressing the importance of general treatment in cases of tuberculosis of the larynx the writer calls attention to certain methods of local treatment which may give the patient much relief. Pain in swallowing is the symptom which makes the most urgent call for special treatment. It may be controlled by the inhalation, through a Leduc's tube, of equal parts of anæsthesin and orthoform. Painful tonsillitis in the tuberculous subject is strikingly relieved by painting with equal parts of guaiacol and glycerine. Pain on waking, from accumulation of dried secretion, is best treated by a warm alkaline gargle.

The regurgitation of fluids into the larynx during swallowing, fraught with danger to life from pneumonia, is avoided by the Wolfenden method of drinking. The patient, lying face downwards, is made to drink through a tube, the fluid in a jug is placed below the level of the mouth. The relief experienced by the patient who adopts this method is often dramatic. Hoarseness is the most frequent and the earliest symptom of laryngeal tuberculosis. The first step is to give complete rest to the parts by the " silence " treatment which must be rigorously carried out. Burney Yeo's inhaler with creosote or essential oils appears to quiet the cough and fulfils the useful function of scaring away undesirable visitors.

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Great benefit is derived from argyrol, 12 to 25 per cent., injected by means of a laryngeal syringe under the guidance of the laryngoscope. Chaulmoogra oil has been found beneficial. When there is much discharge from the larynx, it may be washed out with 1 per cent. solution of bicarbonate of soda. The relation of the nose to the tuberculous larynx merits special consideration. Post-nasal discharge may so irritate the larynx as to cause a " pseudo-phthisis " which is really a " rhinitic laryngitis ". The use of a nasal wash in tuberculous cases is often followed by great improvement. The lotion should be isotonic and alkaline. It should be remembered that only fluids may be injected into the larynx by the transnasal route. The patient sits with his head well back and mouth widely opened while the surgeon injects with a small urethral syringe, 2 or 3 c.cm. of a 1 in 20 solution of eucalyptol in sweel almond oil. The hard useless cough may be relieved by this means.

Sometimes it is advisable to induce cough, as when there is difficulty in securing a specimen of sputum, and this may be done by asking the patient to inhale, through the open mouth, the fumes from a few drops of mustard oil.

The writer describes in detail the technique of alcohol injection of the superior laryngeal nerve for the relief of pain and refers to the galvanocautery and to surgical removal of diseased parts. He pleads for a more frequent use of the original indirect method of laryngoscopy and advises constant practice in using the mirror with the left hand so as to acquire facility in treating the larynx.

DOUGLAS GUTHRIE.

Cancer of the Larynx. GABRIEL TUCKER. (*Archives of Oto-laryngology*, January, 1935, xxi., No. 1.)

In his review of 200 consecutive cases the writer found that in 144 cases (72 per cent.) the site of the lesion was originally intrinsic and he urges the necessity for early diagnosis and for a more widespread education of the laity and the general practitioner in this matter, so that the disease may be recognized while still amenable to surgical cure.

Vocal abuse and excessive use of tobacco were predisposing causes in one-half of the cases. The early symptoms, noted in every case, were: 1, hoarseness, and, 2, local discomfort. Dysphagia, dyspnœa and pain were symptoms of the later inoperable stage. Metastatic extension and glandular involvement were noted in 30 per cent. of the cases.

Biopsy by direct laryngoscopy was done in every case, the type of cancer being squamous epithelioma in 95 per cent., and the cases were graded according to Broder's classification.

112 cases (56 per cent.) were suitable for surgical treatment. In fifty-eight cases laryngofissure was performed with no mortality.

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Recurrence followed in eight cases, and in five of them laryngectomy was carried out with apparent cure in four cases. Total laryngectomy was performed in thirty-one cases with three deaths, and partial laryngectomy in seventeen cases with no deaths. Radium and Roentgen rays were used in fifty-four cases. In three cases of advanced cancer apparent cure followed, without surgical treatment, but the writer considers it unfair to attempt to estimate the results of irradiation treatment as he could not in all cases obtain reliable data regarding the dosage. Following McKenty's advice, laryngectomy was not attempted in any case after extensive external irradiation.

DOUGLAS GUTHRIE.

Diagnosis and Surgical Treatment of Tuberculosis of the Larynx. H. P. SCHUGT. (*Archives of Otolaryngology*, February, 1935, xxi., No. 2.)

Tuberculosis of the larynx has too often been regarded as a fatal complication of pulmonary tuberculosis and the treatment has been neglected in consequence.

The local treatment of the larynx should not, however, be applied to all cases. It is important to diagnose the laryngeal disease at an early stage and not to wait for hoarseness, which may be a late phenomenon. The earliest signs of the disease may be in the laryngeal ventricle or on the inner aspect of the arytenoid cartilage, sites which are apt to be overlooked but which demand careful scrutiny. The writer finds that galvano-puncture is a useful prognostic test. If the puncture heals within two weeks further local treatment is indicated.

Rest of the larynx is all-important, but the vocal cords move when the patient breathes or whispers. Furthermore the writer prefers to paralyse the recurrent laryngeal nerve on one side by alcohol injection, a valuable though little-known method devised by Leichsenring. A straight needle is pushed along the first tracheal ring to the vertebral column, then withdrawn 1 cm., and 1 c.cm. of an 80 per cent. alcohol solution is injected. The paralysis lasts from four to eight weeks, and the injection may then be repeated.

The galvanocautery is of great value, but deep puncture of the arytenoid cartilages may lead to perichondritis. Tracheotomy is condemned as an unsound practice. Dysphagia is relieved by blocking the superior laryngeal nerve, and in tuberculosis of the pharynx by blocking the pharyngeal plexus. Both methods are described and illustrated.

DOUGLAS GUTHRIE.

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Abstracts

TONSIL AND PHARYNX

On the relation between Agranulocytosis and Infective Mononucleosis from the point of view of Ætiology. T. SKOOG. (*Arch. Ohr-, u.s.w., Heilk.*, 1935, cxxxix., 189-97.)

Both these disease processes are characterized by throat symptoms and blood changes which resemble each other to some extent. Certain authors have described transition forms and are inclined to connect the two diseases, but according to Dr. Skoog this view is based on wrong observations. Agranulocytosis and infective mononucleosis must be sharply differentiated, as their clinical course and prognosis are entirely different. Agranulocytosis very often ends fatally, but the prognosis in infective mononucleosis is quite good.

It seems fairly established that certain drugs, particularly those of the amidopyrin group, can play a rôle in the ætiology of agranulocytosis. This rôle cannot be a very important one, as these drugs are freely taken by the public but cases of agranulocytosis are rare. In one patient who had had a previous attack of agranulocytosis, the administration of amidopyrin could produce a sudden disappearance of all the granulocytes from the blood stream within a few hours. The extremely rapid way in which this symptom can arise is very much like an allergic reaction.

The treatment of agranulocytosis by the recently introduced pentose-nucleotide is also described. The injections are given twice daily until the leucocytes begin to show a marked increase; then daily until the figures have been normal for three days.

J. A. KEEN.

Chronic Tonsillitis. W. SCHUTZ. (*Arch. Ohr-, u.s.w., Heilk.*, 1935, cxxxix., 198-215.)

This is an interesting histological study with numerous illustrations of sections of diseased tonsils. The author distinguishes two main types:

1. Chronic *hypertrophic* tonsillitis which is characterized by an hypertrophy of the lymphoid follicles and few signs of inflammation in the fibrous network and peritonsillar tissue.

2. Chronic *atrophic* tonsillitis characterized by atrophy and often by disappearance of the lymphoid follicles with marked signs of inflammation in the fibrous network and peritonsillar tissue.

Clinically one would expect a less marked tendency to complications in the hypertrophic than in the atrophic type, and this is confirmed by an analysis of a series of cases. Of 100 pairs of tonsils removed by operation, sixty-eight belonged to the hypertrophic group and thirty-two to the atrophic group. Clinical complications,

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such as peritonsillar abscess and rheumatic arthritis, had occurred in 45 per cent. of the first group and 72 per cent. of the second group.

When making a clinical diagnosis of either hypertrophic or atrophic tonsillitis one must also consider hypertrophy of the nasopharyngeal adenoids. If adenoids are present the case more likely belongs to the hypertrophic type, and this sign is especially helpful in adults. In children the pharyngeal tonsils may be affected by the atrophic process even in the presence of adenoids.

J. A. KEEN.

Acute Lymphatic Leukæmia with Gangrenous Tonsillitis. DR. YASUKUNI NAGASAWA (Yonago). (*Oto-Rhino-Laryngologia*, viii., 4, 327.)

In the course of anæmia and swelling of the lymphatics a patient, aged 4, complained of very sore throat with high fever. The soft palate was of a deep red colour ; the upper pole of the swollen left tonsil was necrotic. Bleeding from the gums and from the intestines supervened, but without either splenic or liver enlargement. The microscopic examination of the blood showed the presence of acute lymphatic leukæmia, and the patient died a week later.

JAMES DUNDAS-GRANT.

MISCELLANEOUS

The Pollen-disease (hay-fever), its Diagnosis and Treatment. VINKO I. VULETIC. (*Acta Otolaryngologica*, xxi., 2-3.)

This disease seems to be little discussed in the writer's country of Yugoslavia where treatment by the general practitioner is symptomatic, but hay fever appears as frequently in this as in other European countries.

Historically, it is mentioned that in the sixteenth and seventeenth centuries several authors, such as Botallus and Vitus Riedlinus, called attention to the peculiar symptoms amongst individuals who came in contact with certain kinds of flowers.

Approximately 1 per cent. of the total population of Europe is affected in the spring by pollen coryza. In the U.S.A. there are also the autumnal type and the so-called perennial hay fevers, which persist from April until October. In general, pollen coryza affects the well-to-do, appearing with comparatively greater frequency in large cities. The disease is most prevalent in the fourth decade of life.

Comparing the studies of Hoffmann (U.S.A.) and Venzmer (Germany) it is found that nearly all the plants which flourish in the

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U.S.A. and Germany and from which the harmful pollen is libera ted grow in Yugoslavia. The flowering time is as follows :

Family—trees. From March to July, but most commonly from April to May.

Family—*Gramineae.* From April to October, more frequently, however, during the months of June and July.

Family—*Dicotyledones.* From May to November but with particular intensity from June to September.

In addition to the last group certain peculiar species belonging to the genera *Ambrosiaceae, Iva* and *Artemisiae,* which are the cause of late pollen coryza (Autumnal catarrh) in U.S.A. do not vegetate in Yugoslavia.

Pollen spreads with such ease and to such an extent that Sheppegrell, using an aeroplane, made the interesting observation that from a height of 130 to 1,300 metres it is present in about the same amounts as upon the ground, and even at 5,000 metres certain of the lighter pollens belonging to the species *Ambrosiaceae* are found.

With regard to the pathogenesis of pollen coryza, which according to present-day ideas is an allergic disease, the affected patients possess a vulnerable and permeable mucous membrane. The so-called toxic action does not, however, indicate a toxin in the sense of the Ehrlich theory.

In diagnosis the disease must not be confused with other cases of allergic rhinitis, or the so-called " Pharmacist's asthma " which is excited by ipecacuanha and such cosmetics as skin powders. There is also a definite group of cases of bronchial asthma, with skin reactions positive to pollens, which do not react to climatic and animal allergens.

For the diagnostic tests the conjunctival reaction is considered to be unpleasant and at times dangerous, and the intradermal test to be too sensitive and not always to yield specific reactions. For practical purposes the skin-scratch method of Chandler Walker is preferred, and the author's method for using this is described in detail. Mixed extracts of test allergens are chosen for diagnosis and for desensitization therapy, although with a warning against occasional severe reactions and dangerous anaphylactic shock.

With regard to therapy : The various symptomatic or palliative measures are reviewed. Psycho-therapy should not be neglected, and under the heading of causative or ætiological therapeutic methods, passive immunization is first considered, with mention of the use of Pollantin (Dunbar) and Graminol (Weichard).

Finally, in active immunization (specific desensitization) he prefers the polyvalent extract prepared under Storm van Leeuwen's direction by the Saechsisches Serumwerk, Dresden, but he remarks

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on John Freeman's preference for the use of only one species of graminae—*phleum pratense*.

A small dose (0·5 c.cm.) of the polyvalent extract is injected at intervals of 3-5 days for a period of 10-12 weeks starting for preference 2½-3 months before the hay fever season. Transient immunity lasts 2-4 months, but a relative immunity results if injections are made each year. Subcutaneous injections of adrenalin are used to counteract unexpected unpleasant symptoms.

The author concludes with his personal experiences and mentions particularly a group of five serious and obstinate cases, describing more fully one of severe anaphylactic shock. He expresses the hope that he may have awakened a wider interest in the treatment of hay fever in Yugoslavia. A list is given of twenty-three references to the literature.

H. V. FORSTER.

OBITUARY

FRANK ATCHERLEY ROSE, M.B., B.Chir.(Camb.), F.R.C.S.(Eng.)

FRANK ROSE'S death will be deeply felt, not only in medical circles in which he was highly esteemed and recognized, but also by a large number of personal friends and grateful patients.

Rose was born on Sunday, October 5th, 1873, the third son of Mr. Edward Paine Rose, of Bedford, whose wife was formerly Miss Fanny Atcherley. He was educated at Bedford Modern School and in 1892 proceeded to Cambridge where he gained a science scholarship at St. John's College. In 1895 he obtained first-class honours in the Natural Science Tripos. He then entered St. Bartholomew's Hospital, where he gained the Shuter scholarship and completed his medical training. In 1902 he became a bachelor of medicine and of surgery at Cambridge and in the following year was admitted Fellow of the College of Surgeons. He had a fine brain, was a very studious and careful worker and possessed such a retentive memory that he passed all his examinations with ease and became house surgeon to Mr. Henry Butlin, serving him and his assistant, Mr. C. B. Lockwood, so well that both these great men were impressed with his knowledge of surgery and by the strength of his character. Probably it was partly due to the influence of his chief, Mr. Butlin, that he decided to become a specialist in laryngology. At this time he obtained the post of Demonstrator

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