ABSTRACTS.

THE EAR.

Pulsation and Visibility of the Bulb of the Jugular Vein with Intact Tympanic Membrane. Several personally observed Cases. M. SLOBODNIK (Berlin). (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Band xix., Heft 3, p. 240.)

In 3866 patients Slobodnik found this condition bilateral in two cases, right-sided only in one. In one case the pulsation was synchronous with the radial pulse and was increased in force by deep respiration, talking and laughing. Pressure on the neck made no difference. The possibility of injuring the projecting bulb in paracentesis should be kept in mind, especially in rachitic individuals and children.

JAMES DUNDAS-GRANT.

The Elasticity of the Tympanic Membrane in Dogs. FRANZ ZICKERO. (*Monats. f. Ohrenheilk.*, 1927, Vol. 8.)

This article represents a report on the investigation of 21 dogs of varying ages, with a view to determine the elasticity of the tympanic membrane and its breaking strain. For this purpose an elaborate instrumentarium was required, consisting of a mercury manometer and a special arrangement of micrometers along with microscopic examination.

The investigator comes to the conclusion that the average range of elasticity in the adult dog is 0.012 μ and for young dogs 0.0095 μ, whilst the breaking strain for the adult dog on the average is represented by 66.952 cm. of mercury, and for young dogs 72 cm. of mercury. The detailed description of these investigations indicates the extreme care and elaborate preparation which such experiments necessarily demand.

ALEX. TWEEDIE.

An Improved Method for Testing the Hearing with the Spoken Voice. D. NUSSBAUM. (*Laryngoscope*, Vol. xxxvii., No. 3, p. 176.)

The testing of hearing is best done by means of the human voice, because the average patient is seeking help on account of the difficulty of understanding conversation. By testing the hearing by means of the spoken voice, we gain an insight into the cause of deafness, whether of middle-ear or nerve type. The whispered voice is the best because the louder we talk, the less will hard-hearing people

understand us. The increase in the intensity of the vowels in loud speech drowns the consonants. The whispered voice enables us to use a level pitch while making the test. Our spoken language is a complex of words whose hearing distance is not uniform, but varies in conformity with the hearing distance of their individual component sounds. Vowels are heard at a greater distance than consonants, therefore the consonants are the determining factor in the perception of words and consequently are of greater testing value.

Bezold used numbers instead of words and this system was defective because there were few words and the guessing factor could not be eliminated. By hearing one consonant, the patients could construct the remainder of the numeral.

Bárány introduced the idea of the "changeable sound," which means the testing of hearing by a scheme of words wherein all the constituent sounds are of a uniform acoustic quality, except one which steadily changes. It is upon this changing sound that the attention of the listener is concentrated. A synthetic table of words was constructed on this principle, consisting of twenty-four rows each containing four to twelve words, but unfortunately they do not conform to the rule of acoustic quality.

Lampert endeavoured to strengthen the weak points in Bárány's system by a careful arrangement of a new scheme of words based on the following. (1) Each word must have an understandable meaning for an individual of average intelligence. (2) All the constituent sounds must have a uniform pronunciation, except the key or testing sounds. The words are arranged in two main divisions, consonant and vowel, according to their initial sound. The beginning and end of each row is represented by sounds at both extremes of the tone scale, while the middle contains representatives of the intermediary tone sections. Testing is commenced with the consonant row first, and in this way the intensity or loudness is expressed.

Lampert concentrates on the patient's ability to perceive the key sound upon which the understanding of the entire word depends. In order to reduce guessing to a minimum, he transmutes the same sound from the beginning to the middle, and to the end of the test word. A table of words is appended. The consonant row is divided into the three groups as follows: (*a*) interchangeable key sound in the initial, as in sat, bat; sell, bell; sap, gap; din, tin; nun, run; (*b*) key sound in the middle as in water, warmer; coffer, cotter; rubber, runner; (*c*) key sound in the terminal as in safe, sake; rub, rug; rose, rope. The vowels are treated in the same way. Group 1, inn, on; at, it; axe, ox. Group 2, fall, fell; will, wool; tall, tell. Group 3, ma, may; saw, say; hah, hoe.

Lampert has succeeded in creating a system of words where all

sounds called "parallels" are strictly of the same pitch, timbre and carrying power, while the one that effects the perception is alternately transmuted from one end of the word to the other. Moreover, the test words are part of an average person's vocabulary, and consequently readily understood for repetition. ANDREW CAMPBELL.

Scarlet Fever:—(1) "Report on the City Hospitals," Dr E. H. R. HARRIES, Medical Superintendent; (2) "Aural and Nasal Complications of Scarlet Fever," Report by Mr F. BRAYSHAW GILHESPY, D.L.O. (*City of Birmingham Report by the Medical Officer of Health for the year* 1926.)

(1) Dr Harries refers to a test series in which every alternate admission of genuine scarlet fever, up to a total of 200, received scarlet fever antitoxin. The number of otitis media cases (mastoid complication in 1) in the antitoxin-treated group was 2, and in the untreated group 9. He concludes from his observation of the groups that there is a general speeding-up of progress towards convalesence in the serum-treated cases. As the use of serum appears to bring more cases into the "uncomplicated" category, its use will eventually diminish the average length of stay in hospital, although meantime it would seem unwise to discharge such cases earlier than thirty days from onset, as it has been shown that the specific hæmolytic streptococcus can be demonstrated in the throat even after three weeks.

It has been found that in many cases the discharged patient who acted as a convalescent carrier was one who had unhealthy tonsils and/or adenoids; it was therefore arranged that facilities for operation should be provided for those scarlet fever cases in hospital where the nasopharynx was unhealthy. Of 105 cases of convalescent scarlet fever operated upon (33 for otitis and 72 for unhealthy tonsils and/or adenoids) only one, so far as was known, gave rise to a return case. On the other hand, 42 cases not operated upon caused return cases, of which 17 had been noted as having an unhealthy nasopharynx. Similar surgical measures were eminently successful in dealing with the obstinate diphtheria carrier of proved virulence.

(2) Mr Gilhespy points out that the question of the aural and nasal complications of scarlet fever is of Public Health interest, first, because cases with otorrhœa or rhinorrhœa remain in hospital for a longer period than the uncomplicated case; and, second, because such cases, if discharged, are a source of infection. The view is held in Birmingham that the aural and nasal discharges are infectious, and Gilhespy believes that the aural discharge may remain so for three or four months. Also the modern view of scarlet fever is that even the mildest case, if possessed of an unhealthy nasopharynx, may later suffer from septic complications. Gilhespy then discusses the treat-

ment of otitis media on the lines he has previously indicated, and again states that removal of tonsils and adenoids has been adopted as a means of cutting short the otorrhœa.

He has been able to send a questionnaire to the first batch of patients treated on these lines in 1923. In only 10 cases out of 106 who replied was otorrhœa still present in 1927. Six of these were mastoid operation cases, in 3 of which the mastoiditis was not due to scarlet fever. A detailed analysis of the persistent otorrhœa cases is made. Of the 92 otorrhœa cases in 1924, out of 76 which replied 5 had "moist ears" in 1927. The writer believes that opening the tympanic antrum merely for drainage is not to be recommended, unless signs of definite involvement of the antrum are present.

In 1925, more cases had tonsils and adenoids removed in the effort to cure nasal discharge, or to lessen the danger to the community from children with diseased tonsils acting as carriers. In 1926, the incidence of otorrhœa diminished, and more cases of rhinorrhœa were dealt with: in 35 such, tonsils and/or adenoids were removed, and in 25 the discharge had stopped within three weeks.

From one series of 76 consecutive cases of otorrhœa, Gilhespy concludes: (1) the majority of perforations are anterior to the malleus or near the umbo; discharge in these cases tends to natural cessation under routine treatment: (2) a reduction in the duration of the otorrhœa will be achieved by removal of septic foci in the nose and throat, tonsils, adenoids, sinus infections: (3) a posterior inflammation of the middle ear should be watched carefully; early paracentesis should be aimed at; if the discharge persists for 28 days, if the membrane shows a boggy condition with nipple perforation, drainage of the tympanic antrum should be considered. The author's impression is that scarlet fever otitis is seldom dramatic in damage to membrane or to hearing, but that the danger lies in lax treatment in the early stages in hospital. The child must go out with a dry ear, a healed membrane, and, if possible, a clean nasopharynx.

Finally, Gilhespy investigated the important question whether cases discharged without having had otorrhœa in hospital developed it later, as the result of residual infection in the nasopharynx. He sent a questionnaire on this point to 800 patients who passed through a fever hospital in 1926; and out of 570 who replied, 27 had developed otorrhœa after discharge from hospital, 2 reported deafness without discharge, 10 had a recurrence of otorrhœa (in 4 of whom tonsils and adenoids had been removed), and 4 had persistent nasal discharge. Of the group of 27, 15 had been noted, while in hospital, as having abnormal tonsils and, in some cases, adenoids. It was found that the onset of otorrhœa occurred some months after discharge and could not have been prevented by a longer stay in hospital. A detailed analysis of these 43 cases is given. H. Ross Souper.

Abstracts

Prevention of Ear Disease by removal of Tonsils and Adenoids. A. J. WRIGHT, M.B., F.R.C.S. (*Brit. Med. Journ.*, 5th Nov. 1927.)

Mr Wright set himself the task of finding from the statistics of his own cases in private practice what influence the more frequent removal of diseased tonsils and adenoids during the past twenty years had had on the incidence of middle-ear disease. Taking his records from 1910 till 1926, he found a total of 1077 cases of middle-ear disease had been dealt with. Taking all classes of cases together the number of cases and the average age remained pretty constant from year to year. Taking chronic non-suppurative cases separately, the curve of incidence showed an appreciable downward tendency and the average age an upward tendency, suggesting that cases are now being drawn chiefly from the period prior to that in which the tonsil and adenoid operation had become more common. In the chronic suppurative group there is a less marked diminution in the incidence and a less marked rise in the average age.

Acute suppuration, on the other hand, shows a decided increase in the number of cases without any obvious change in the age incidence. This increase is probably explained by the recent prevalence of influenza. Fortunately these acute cases seldom lead to deafness and there is therefore a decided diminution in the number of cases of adult deafness, and this diminution should be progressive. T. RITCHIE RODGER.

Radiography in Mastoid Disease. STEPHEN YOUNG, M.B., Ch.B. (*Brit. Med. Journ.*, 5th Nov. 1927.)

This paper is based on a study of the radiographic pictures of 500 cases, normal and abnormal. The development of the mastoid cells at different ages is first dealt with and attention is drawn to the different landmarks which should guide us in interpreting an X-ray plate. In the normal cases examined the mastoid processes were consistently symmetrical, *i.e.*, both were pneumatic in type or both were diploëtic. Where there was no ear complaint and the X-rays revealed apparently asymmetrical mastoids, investigation showed, without exception, the presence of either a mastoiditis or a healed condition often previously unknown to the patient. This false asymmetry due to some previous pathological condition is a very common occurrence. The question whether sclerosis is the determining cause of the chronic type of mastoiditis, or is caused thereby, is discussed, but the author favours Wittmaack's theory that hyperplasia of the mucosa with incomplete or arrested pneumatisation is caused by the entrance into the tympanum of amniotic fluid, meconium, etc., during fœtal life or at birth, or the entrance of vomites during the first year of life. In this series the ivory sclerotic type of mastoid was never met with apart from chronic

mastoiditis. The author finds that valuable help is obtained from X-ray examination before deciding the question of operation in mastoiditis. Such findings cannot be relied upon alone, but taken in conjunction with the other signs and symptoms they provide valuable aid. T. RITCHIE RODGER.

On the Development of Cholesteatoma of the Middle Ear. An Observation on the Rabbit. J. H. NEINHUIS (Groningen). (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Band xix., Heft 2, p. 186.)

The writer describes the appearance on microscopical examination of a small cholesteatoma accidentally found in the middle-ear of a rabbit whose external meatus was full of desquamating epithelium. He concludes that the replacement of columnar by squamous epithelium is accomplished by the latter pushing its way under the former. It thus destroys it by pressure or disturbance of nutrition and takes its place. JAMES DUNDAS-GRANT.

A Case of Bezold's Mastoiditis which opened into the Pharynx. LANDRY and BILLARD. (*Acta Oto-Laryngologica*, Vol. xi., Fasc. 3.)

A case is reported of Bezold's mastoiditis on the right side with evacuation of pus through the postero-lateral wall of the pharynx and secondarily a large postero-lateral cervical abscess. The mastoid cells which had caused the affection were not the cells of the mastoid tip which had been resected during the first operation but a vast cell situated under the digastric and corresponding to the occipito-jugular group, which explains the pointing of pus towards the pharynx.

H. V. FORSTER.

PHARYNX AND NASOPHARYNX.

A Research into the Vital Staining of the Tonsils. Dr A. A. WASSILIEFF, Leningrad. (*Zeitschrift für Laryngologie, Rhinologie, etc.*, Band 16, Sept. 1927, pp. 121-30, with 33 references and 8 illustrations.)

This is an important study of the lymph circulation of the mouth and nose in relation to the tonsils. Many experiments have been carried out with injections of coloured particles (carbon, carmine, indian ink) under the mucous membrane of the nose and mouth, and these particles are said to have been demonstrated in the tonsils after removal. There are also many negative experiments of this nature. The author states that minute black particles can be

demonstrated in the sections of many tonsils, quite apart from any injections; this fact may have misled some observers.

The experiments which are described in this article were carried out on adult male patients at a military hospital in Moscow. In these patients operation was considered necessary for septic tonsil conditions. Dr Wassilieff injected various dye solutions (trypan blue, carmine) under the mucous membranes of the mouth, gums and nasal cavities. From six to forty-eight hours were allowed to elapse before removal of the tonsils by dissection. On microscopic examination these tonsils never showed any trace of the dye in their interior.

In one special group of patients the dye was painted on to the surface of the tonsils, but the results were equally negative; the dye had penetrated into the crypts and had to some extent stained the epithelial debris, but it had never reached the interior of the follicles.

One illustration is particularly striking. The dye which had been injected into the posterior pillar region gradually spread into the posterior pharyngeal wall, the anterior pillar and the soft palate as far as the uvula. The pinkish tonsil which remains quite free from any stain appears surrounded by a "blue frame."

Then comes a series of experiments where the dye is injected into the tonsil substance. Here the colouring matter remains localised and never spreads to the surrounding mucous membranes. Histological sections show the distribution of the carmine particles in the tonsil substance, and their collection in special star-shaped cells called "histiocytes."

The author's main conclusion seems to be that there is no direct lymphatic connection between the nasal and buccal mucous membranes and the tonsil, a conclusion strikingly at variance with the generally accepted views. He maintains that the lymph glands draining the nose, nasopharynx and mouth cavities are the retropharyngeal group. The tonsil is a separate organ with its own lymph circulation and there exist no *afferent* lymph vessels from the mouth or nose.

J. A. KEEN.

The Function of the Tonsils. VIGGO SCHMIDT, Copenhagen. (*Acta Oto-Laryngologica*, Vol. x., Fasc. 3-4.)

The writer reviews from about 1880 the opinions of various authors upon the supposed functions of the tonsils, drawing particular attention to the meritorious work of Schlemmer in 1921. This observer did not agree with the theory which had been put forward that the tonsils were regional lymph glands. At a discussion at Kissingen in May 1923, where the problem of the tonsils was under discussion the debate came to an end with Schlemmer's hypothesis:—"The lymphatic tissue forms an integral part of the pharyngeal

tissue without any separate functions." Since the beginning of the 'eighties it appears from the above review of theories that the theories themselves have gone round in a circle bringing one back to the starting-point, *i.e.*, to divest the tonsils of any organic function.

The last three years have brought a new phase into the comprehension of the functions of the tonsils. The new ideas are based upon the later investigations into the immunising properties of leucocytes, firstly concerning the polymorphonuclears but later concerning the lymphocytes. Reference is made to the work of Heiberg on the microscopic function of the germ centres in the tonsils, and the writer concludes that the germ centres do not produce lymphocytes but destroy them. Just as polymorphonuclear leucocytes probably exude antitoxins during their destruction it is suggested that the lymphocytes do likewise during their destruction in the germ centres of the tonsils. Thus, this production would be a weapon of defence at the main port of entry to the body.

The writer has shown in one of his earlier works how clinically slight inflammatory changes in the tonsils caused a considerable leucocytosis in the peripheral circulation with a decided increase of the polymorphonuclear cells. He proceeds then to describe a series of experiments. The tonsils of certain patients were massaged and then a leucocyte count was taken from the peripheral circulation. In cases with normal tonsils an actual decrease of leucocytes, especially lymphocytes, occurred. In patients whose tonsils had been removed there was no change in the capillary blood count after massage of the empty fossæ.

In cases, however, of chronic tonsillitis where toxic matter in the crypts or tissue was surmised, a polynuclear leucocytosis resulted, and in such cases at the stage where the tonsils were expected to contain only minimal quantities of toxin there was no change. The author assumes that healthy tonsils produce antitoxins which are of importance in the prevention of bacterial attack in the tonsils.

The elaboration of antitoxins is supposed to take place in the germ centres during the destruction of lymphocytes. H. V. FORSTER.

X-Ray Study of Movements of the Tongue, Epiglottis and Hyoid Bone in Swallowing, followed by a Discussion of Difficulty in Swallowing caused by Retropharyngeal Diverticulum, Post-Cricoid Webs, and Exostoses of Cervical Vertebræ. H. P. MOSHER. (*Laryngoscope*, Vol. xxxvii., No. 4, p. 235.)

In the act of swallowing, the first movement of the tongue is a depression of its tip, whereby a pocket is made between the tip and the teeth in which the barium meal first accumulates. The dorsum of the tongue is next hollowed out slightly and the barium flows through this.

The tip of the tongue now reaches the roof of the mouth and remains there, thus preventing the barium from escaping forward. The base of the tongue is now depressed so that the barium is caught between this base, the anterior half of the body of the tongue and the posterior pharyngeal wall. The base of the tongue is now shot backward like the plunger of a piston and the barium is propelled downward. As the base of the tongue moves upward and backward to strike the posterior pharyngeal wall, it carries the epiglottis with it and forces the tip of the epiglottis also against the posterior pharyngeal wall. As the barium goes backwards, it flows into the valleculæ and meets the epiglottis which divides the stream into two, into the right and left pyriform sinus. These streams unite below before entering the œsophagus as a narrow stream. In continuous swallowing, the stream not only runs on each side of the epiglottis, but cascades over it in a full stream.

Both the fluoroscope and the X-ray show that the epiglottis actually turns downwards to cover the larynx in the act of swallowing, besides rising with the tongue and being forced backward against the posterior pharyngeal wall. When an epiglottis is Omega-shaped, it cannot spread over the pharynx, but it nevertheless straddles the arytenoid and aryepiglottidean fold and completely closes the larynx from a mechanical standpoint.

The body of the hyoid bone also follows the upward movement of the tongue the width of one cervical vertebra. The greater cornua of the hyoid are forced back against the posterior pharyngeal wall. This partial fixation of the hyoid is necessary in order to get the epiglottis quickly back into position so as to avoid difficulty in breathing. The arytenoids are approximated to the cushion of the epiglottis.

Asymmetry of the larynx is ascribed as a cause of pharyngeal pouches; two factors probably play a part in the formation of such pouches. There is an embryological tendency, and asymmetry of the mouth of the œsophagus brings undue pressure on an anatomically weak spot in the lower pharynx.

Webs may be found in the pyriform sinuses, behind the cricoid or immediately below it. Bilateral webs are probably congenital, but when single, are due to an ulceration. Globus hystericus may be due to a web. If the web completely encircles the œsophagus, it causes severe difficulty in swallowing, but divulsion results in a spectacular cure. The most frequent symptom of webs is strangling in eating, this being due to the pocket filling with fluid which slopes into the larynx, causing spasm. It is well worth while to look out for these webs and the results of treatment by removal are excellent.

Exostoses of the body of the cervical vertebræ are rare causes of difficulty in swallowing, but the author has, since his first case, seen

a number which have caused difficulty in swallowing by themselves or in association with œsophageal webs. A man who suffered from slight difficulty in swallowing showed a large exostosis from the sixth cervical vertebra. An œsophageal tube could not be made to pass it. From the posterior surface of this mass two well-marked fibrous adhesions ran forward to the œsophageal wall.

The article is well illustrated with X-ray pictures of the various conditions described in the text. ANDREW CAMPBELL.

Congenital Occlusion of the Choanæ with Report of Two Cases. W. T. GARRETSON. (*Laryngoscope*, Vol. xxxvii., No. 4, p. 263.)

The history of congenital atresia of the choanæ is briefly given since Emmert described his case in 1853. It is still undecided as to which bone is responsible for the occlusion. In Boulay's report, covering sixty-five cases, bony occlusion was found in fifty-one cases, a mixture of membrane and bone in seven, while seven were membranous. The symptomatology is carefully described. Thick tenacious mucous discharge with a peculiar bluish colour is emphasised. The differential diagnosis is considered in full.

Two cases are described in detail. A female, aged sixteen, had nasal obstruction since infancy on one side and absence of smell on the same side. The mucous membrane of the affected side was pale, while on posterior rhinoscopy, there was a complete occlusion of the right choana. Submucous resection with removal of the posterior end of the vomer was done. The obstruction was partly bony and partly membranous, and this was removed by "biting" forceps. Eighteen months after operation the patient was able to breathe freely and the sense of smell had almost completely returned.

The second case was a female aged twelve with a history of complete nasal obstruction on the right side from infancy and with absence of smell on that side, while a thick tenacious mucous discharge was present. Here again was a complete obstruction of the right choana. Submucous resection of the nasal septum and removal of the posterior end of the vomer was done. The obstruction in this case, also, was partly bony and partly membranous. The obstruction was completely removed and rubber dam packs were placed on both sides. One year after operation there was free ventilation on both sides, while the sense of smell had returned completely.

There is a bibliography. ANDREW CAMPBELL.

Nasopharyngeal Atresia. JOHN E. MCKENTY, M.D., New York. (*Archives of Oto-laryngology*, Vol. vi., No. 1, July 1927).

McKenty reviews the scanty literature on the subject, and is convinced there is a congenital type in which a thin membrane divides the nasopharynx into an upper and lower chamber. This is easily

broken down and the condition cured. Syphilis is the common cause of the scarring but it also follows trauma, diphtheria, tuberculosis and simple inflammation. The actual cases he believes are due to a "cicatrising diathesis" which in turn may be an attenuated hereditary or acquired syphilis. The diagnosis is evident. The prognosis is good after operative treatment if the atresia is shallow and the pharynx has a fairly normal look. There is usually an opening into the nasopharynx which will admit a probe.

As regards treatment, one must remember that the condition is one of a dense fibrous scar surrounded by soft yielding flexible tissue. Dilatation rarely succeeds except in minor cases. Dilatation with incision is only successful if the outer angles of the incision are epithelialised in the first instance, as pointed out by Nichols who obtained this by the use of several strands of silk threads at the sites of the outer angles of his incisions. McKenty has two methods of operating. (1) A flap method when there is a fairly sound posterior pharyngeal wall. (2) A non-flap method.

Method 1.—After outlining with a probe the lateral extent of the adhesions in the nasopharynx two flaps are dissected up from the posterior pharyngeal wall equal in width to the nasopharynx. The nasopharynx is now open as in a normal person, and the soft palate with two flaps hangs free with a raw surface behind. By means of particular suturing the flaps are folded up posteriorly so that their raw surfaces are in contact with the raw surface of the soft palate and the mucous surfaces face the posterior pharyngeal wall.

Method 2.—This produces a cleft in the soft palate as far towards the hard palate as seems necessary for permanent opening. A horizontal opening is made in the soft palate from one pillar to the other and, from the centre, a perpendicular incision through the soft palate well above the atresia. The adhesions are separated. In the edges of these triangular flaps of soft palate a V-shaped trough is made and the anterior and posterior surfaces united by sutures.

After both operations dilatation should be carried out for such a period as seems indicated. The operations are illustrated by fifteen excellent woodcuts which show exactly how the sutures are placed.

DONALD WATSON.

THE NOSE AND ACCESSORY SINUSES.

Mucocele of the Frontal Sinus with Report of a Case. W. T. GARRETSON. (*Laryngoscope*, Vol. xxxvii., No. 5.)

The definition, clinical picture, etiology, pathology, and differential diagnosis are reviewed in brief. The case recorded is the youngest which the author has been able to find, a male aged thirty-three, complaining of double vision and a protrusion of the left eye. A

number of years ago he had been struck over the eye by a baseball. The diplopia had been noticed for eight years previous to advice being sought. The left eye protruded downwards, outwards, and forwards. A definite tumour mass fluctuating in character, projected from the inner side of the orbital roof. The bony floor of the frontal sinus was absorbed. Vision of the left eye was 6/60, and the eye grounds showed optic atrophy with engorgement and tortuosity of the retinal veins. X-ray showed an indefinite crescent-shaped shadow in the upper and inner portion of the orbit. A modified Killian operation was done, which confirmed the diagnosis of mucocele. It completely filled the frontal sinus and fully one-third of the orbital cavity. The dura mater of the anterior fossa was exposed for an area of about $\frac{3}{4} \times \frac{1}{2}$ inches in diameter. The floor of the frontal sinus was completely destroyed. The anterior ethmoid cells were normal but compressed. The mucous membrane of the frontal sinus and its orbital projection were not removed. A year and a half after operation, apart from a little ptosis, no other abnormality was detected, except that slight optic atrophy was present, but the vision was now 6/30 and the nose and frontal sinus appeared to be healthy. ANDREW CAMPBELL.

Remarks on the Evolution and Treatment of Frontal Sinus Mucoceles. A. GIGNOUX. (*Archives Internationales de Laryngol.*, May 1927.)

Mucoceles of the frontal sinuses have hitherto been studied with special reference to their manifest phase. Are we to infer that there is a silent evolutionary phase devoid of symptoms, or is there, as the author believes, a quiescent phase difficult to diagnose and frequently unrecognised?

Of the six cases of frontal sinus mucocele described by the author, four of them were diagnosed and treated before the evidence of any external swelling.

This quiescent phase may extend over a period of several years. The chief symptom associated with this period is that of severe headache: a facio-orbital neuralgia. Less frequently there are visual disturbances of an inflammatory nature.

Transillumination will show that the sinus is opaque on the affected side. But still more characteristic are the radiographic findings which reveal the outlines of the frontal sinus wall as very indistinct. This latter feature is an important point of differentiation between frontal sinus mucocele and frontal sinusitis.

The treatment recommended by the author is an external incision, complete removal of the cystic capsule and closure of the external wound after providing for adequate drainage through the nose.

MICHAEL VLASTO.

Abstracts

Intracranial Complications of Fractures of Skull involving the Frontal Sinus. FRANK R. TEACHENOR, M.D. (Kansas City, Mo.). (*Journ. Amer. Med. Assoc.*, 26th March 1927, Vol. lxxxviii., No. 13.)

The author states that during the last three years, at the Kansas City General Hospital, there have been ten deaths from intracranial trauma, in which the frontal sinus was involved in six cases, the ethmoid in one, the sphenoid in one, and the mastoid and middle ear in two. Most of these fractures involved the vault of the skull rather than the base.

He also cites sixteen cases of fracture of the skull involving the frontal sinus. The sixteen cases are divided into two series of eight each. In the first, with a total mortality of seven, three were operated on after onset of complications. In the second series prompt operation was employed as a precautionary measure, and there were only three deaths. The author urges, therefore, the importance of early external operation with insertion of drainage-tube to allow drainage of the infected blood clot and the exit of air during sneezing or strain.

ANGUS A. CAMPBELL.

Optic Neuritis. Discussion in the Section of Ophthalmology at the Annual Meeting of the Brit. Med. Assoc., Edinburgh, 1927. (*Brit. Med. Journ.*, 12th November 1927.)

Dr J. V. Paterson (Edinburgh), who opened the discussion, dealt in the latter part of his paper with the association between acute retrobulbar neuritis and sepsis in the posterior nasal sinuses. He expressed the opinion that the proof of such association in any degree of frequency is altogether wanting. He admitted that many cases of retrobulbar neuritis, mostly of a chronic persistent type, have arisen from involvement of the nerve in the inflammatory infection of a sinus, and that these cases have undoubtedly been cured or relieved by free operation on the diseased sinus. In the case of the common acute retrobulbar neuritis he did not think the connection was proved. During many years his department had worked in close association with the nose and throat department of Edinburgh Royal Infirmary, both departments fully alive to the possibilities of these cases. While he had had occasion to send to the nose and throat department many cases which applied to him for treatment because of pain in the frontal or ethmoid region, none of these patients came on account of visual disturbance, which is the essential symptom in retrobulbar neuritis. Conversely he had rarely seen a case of sinusitis sent from the neighbouring department on account of a coincident complaint of loss of visual acuity. Retrobulbar neuritis has always been regarded as a disease in which the prognosis is almost certainly favourable. He had seen several cases where operation had been suggested but for

some reason was deferred and recovery set in, rendering operation unnecessary.

Dr A. J. Ballantyne (Glasgow), referring also to the rhinological aspect of the subject, said he was inclined to adopt a conservative attitude. The universally admitted fact that the great majority of cases of acute retrobulbar neuritis recover without interference does not preclude one from believing that such cases are due to nasal sinus disease but it is quite a sufficient argument against operation in the earlier stages. If it is true, as Van der Hoeve says, that degeneration of the nerve does not take place in rhinogenic cases and that recovery can be obtained even when blindness has been of some duration, immediate operation is not called for unless for reasons connected with the sinuses themselves. It will usually be safe to recommend medicinal treatment for six or eight weeks. If there is no improvement in that time, and the condition of the nose is suspicious, operation should be considered.

Dr de Schweinitz (Philadelphia), Dr W. H. Wilmer (Baltimore), and Dr Wilder (Chicago) all spoke to the fact that in America greater emphasis was laid than was the case in this country, on the causative relationship of sinus disease to the condition under discussion.

T. Ritchie Rodger.

THE ŒSOPHAGUS.

A Case of Mega-œsophagus. Giuseppe Tizianello. (*Archivii di Italiani di Laringologia*, Anno xlvi., Fasc. 3, May 1927.)

A case of mega-œsophagus or dilated œsophagus is described in a woman of forty-one. She had had difficulty in swallowing for several years and had been treated medically for some time with definite alleviation. The symptoms had recurred and an operation was performed in which the intra-abdominal cardiac canal of the œsophagus was incised through its muscular coats, the mucous tube being left. Definite improvement of a temporary nature was observed but again obstruction was experienced and death took place two months later.

The œsophagus was found to be very markedly dilated and the lower two-thirds were undergoing carcinomatous degeneration.

The therapeutics of mega-œsophagus vary from lavage of the œsophagus and dilatation of the cardia to resection of portions of the gullet. Some authors have injected atropin in the hope of reducing spasm of the cardia. Sencert had drawn down the œsophagus through the diaphragm and fixed it there. Resinger and W. Meyer had successful cases of resection by the mediastinal route, but, on the whole, treatment on medical lines by lavage and dilatation is more satisfactory and should be followed.

F. C. Ormerod.

Abstracts

Œsophagoscopy in Relation to Emphysema in Perforation of the Œsophagus. A. SEIFFERT, Berlin. (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Band xix., Heft 3, p. 295.)

Seiffert is convinced, as the result of experiment, that it is not swallowing of air that brings about the emphysema in œsophageal perforation. He attributes it to inspiration, with the possibility of such a valve-like action of the lips of the perforation as to prevent the escape of the air while permitting of its entrance. In most of his cases of such emphysema, œsophagoscopy had previously been performed. While the œsophagoscope is still in position the walls of the œsophagus may during inspiration be drawn away from the instrument, allowing of the entrance of air, while during expiration they are pressed against it and the air is retained. Perforation may be present without emphysema occurring. Fortunately complete recovery is usual.

JAMES DUNDAS-GRANT.

Cardiospasm. CROSSAN-CLARK. (*Canadian Med. Assoc. Journ.*, Vol. xvii., No. 12, p. 1445, Dec. 1927.)

A general account of this affection based largely on the observations of transatlantic workers is given.

The author considers that in the past too little attention has been paid to the ailments preceding the onset of cardiospasm. The nature of these and their relative frequency are illustrated by reference to the statistics of Smithies and Vinson. Of 23 cases reported by the former writer, cardiospasm is stated to have followed an attack of bronchitis and asthma in 8, to have been precipitated by shock, fright and acute fatigue in 7, to have occurred in 5 men who smoked excessively, and in 3 patients with gastric ulceration: in the last group the cardiospasm was influenced in no way by the operation. In 301 cases reported by Vinson, 41 had associated neurotic complaints and 6 had syphilis.

Under symptoms, the author emphasises the well-known fact that although the patient may drink large quantities of water to wash masticated food into the stomach, cold water alone is apt to be held up.

Epigastric pain of varying severity was noted in 262 out of 500 cases according to the Mayos' report; and in the same series of cases nocturnal regurgitation was met with in 181 patients.

The methods of examination described are:—Auscultation, the passing of bougies, fluoroscopic examination and œsophagoscopy. The last is indicated according to the author, when there is some doubt as to whether the disease is complicated by carcinoma, peptic ulcer or foreign body or when powerful contractions of the cardiac sphincter persistently recur. Distinguishing features of carcinoma of the œsophagus are mentioned, but in the abstractor's opinion when this is situated at or near the cardia, œsophagoscopy is invaluable.

In treatment the best results have been achieved by the use of the hydrostatic dilator. This is guided into the stomach on a previously swallowed silk thread where it is distended and pulled back forcibly against the cardia. The water pressure is then reduced, so as to allow the proximal end to slip up into the œsophagus. The constricted middle portion of the bag being now grasped by the cardia, this is dilated by renewed water pressure.

Plummer and Vinson obtained the following results with dilatation in 246 patients traced:—hospital deaths 0·66 per cent.; cured 76 per cent.; improved 17 per cent.; no better 6 per cent.

The author reports the case of a girl aged 5, who for six months before admission had vomited every meal each day. She would vomit unchanged food into her plate and then continue to eat until she had ingested the entire meal. Cure was effected by a series of dilatations. The vomiting ceased after the first dilatation.

A. Brown Kelly.

MISCELLANEOUS.

Blue Sclerotics, Fragilitas Ossium, Deafness. Terrien, Sainton and Veil. (*Archives d'Ophthalmologie*, 1927, Vol. xliv.)

The patients were a mother, aged 35, and her daughter, aged 12½.

The maternal great-grandmother had blue sclerotics, but no fractures or deafness. The grandmother had blue sclerotics, and was blind from bilateral glaucoma and cataract, but had neither fractures nor deafness.

The mother had two sisters and three brothers. One brother and one sister have blue sclerotics; the sister is deaf, but has had no fractures; the brother has good hearing, but already has sustained three fractures from trivial injuries.

The elder patient is very deaf, has very blue sclerotics, and has sustained several fractures. The teeth are brittle, and there is a deficient blood-calcium content. Her daughter shows similar symptoms. In both, there is in addition an abnormal slackness of joint ligaments and tendons. The Wassermann reaction is negative. The oculocardiac reflex is reversed in both patients. An endocrine disturbance is regarded as the most probable cause.

The blueness of the sclerotics is explained by a thinning of the membrane which allows the pigment of the uveal tract to shine through. The conjunctival and episcleral circulation is described as normal; conjunctival hyperæmia was easily produced. The authors suggest that the disturbances of calcium metabolism which cause the triad of van der Hoeve are due to an endocrine-sympathetic lesion.

F. Watkyn Thomas.

Abstracts

A Study of Noma or Cancrum Oris. O. G. KALINA (Odessa). (*Zeitschr. für Laryngologie, Rhinologie, etc.*, Band 16, September 1927.)

It is generally admitted that this severe, gangrenous form of infection is not due to any specific organism, as far as we know up to the present. Yet an extensive literature has grown up on the subject of the bacteriology of this disease, and the various views which have been advanced from time to time are fully and critically considered.

The organism which is most frequently found is the *spirillum*, which is present in enormous numbers in the necrotic tissue. As a rule the *Bacillus fusiformis* is also present, but it is found nearer the surface. Noma appears to be an infection involving the same two organisms as are described in Vincent's angina, although Kalina does not speak of the *spirillum* and *Bacillus fusiformis* as the specific cause.

Noma only occurs under special conditions :—

(1) For practical purposes it is limited to childhood.

(2) It is always preceded by a severe debilitating illness, such as typhoid or scarlet. J. A. KEEN.

Relation of Focal Sepsis to Mental Disease. WM. HUNTER. (*Brit. Med. Journ.*, September 1927.)

Dr Hunter recalls that in 1900 he first advanced the thesis that many medical diseases, including mental disorders, were dependent on septic foci, especially in the mouth and secondarily in other parts of the intestinal tract. There was little response to his appeal of that date till twenty years later Dr Cotton in America, disappointed with his experience of mental work, began to treat all apparent disease of teeth, tonsils, nasal sinuses, stomach, intestine, colon, and genito-urinary tract. Cotton soon reduced the average stay in hospital from ten months to three months. The sepsis with which the surgeon is concerned is something obvious, but the features of the sepsis operating in medicine are of a different and more complex character. Its foci are small, hidden, chronic, and cause generally no local effects drawing attention to themselves. The predominant organism concerned is the streptococcus of which there are at least 16 strains. Their characters are represented not by their cultural features or by their behaviour towards sugar, but by their selective action on the different systems of the body. This elective specificity is demonstrated in a remarkable manner by Rosenow's experiments on animals. Strains of streptococci from the mouth and tonsils of patients suffering from particular diseases, rheumatism, myalgia, arthritis, and nervous diseases, produced similar diseases in the animals injected. An interesting comparison is made between the statistics of Dr Cotton and those of Dr Graves of Birmingham. The former found tooth sepsis in 100 per cent. of a series of 200 cases, tonsil sepsis in 76 per cent. Graves' figures are

76 per cent. and 40 per cent. respectively. On the other hand, Cotton seems not to have been much impressed by the importance of the nasal accessory sinuses or the ear, whereas Graves found the sinuses infected in 10 per cent. of cases and the ear in 39 per cent. Hunter thinks that sepsis in connection with teeth, nasal sinuses, and the middle-ear may be of greater importance than infection of the tonsils because of the intimate relationship to bone tissue which always enhances the virulence of a septic infection. T. RITCHIE RODGER.

A Manifestation of Uræmia in the Pharynx, Larynx, Trachea, and Bronchi. M. C. MYERSON, (New York). (*Journ. Amer. Med. Assoc.*, Vol. lxxxix., No. 9, 27th August 1927.)

In his study of 11 cases the author has observed a peculiar dough-like coating on the mucous membrane of the oral cavity, pharynx, larynx, trachea, and bronchi during the onset of uræmia. In the early stages, on removing the coating, the mucosa was found to be dry but not ulcerated: subjectively there was a dryness and feeling of heat. At a later stage superficial, or deep ulcers, red in appearance and painful to touch, may be observed. These ulcers attack the cheeks and lips but never the tongue, tonsils, or pharynx. When seen in the early stages this coating is diagnostic of impending uræmia. The presence of the coating in the trachea and bronchi may lead to physical signs which are mistaken for broncho-pneumonia or laryngeal obstruction. A short bibliography is given. ANGUS A. CAMPBELL.

REVIEWS OF BOOKS

Handbuch der Speziellen Chirurgie des Ohres und der Oberen Luftwege. Volume I., 2nd half. Edited by Professor Dr F. BLUMENFELD, and Professor Dr R. HOFFMANN. pp. 1080. 729 illustrations in the text. Leipzig, Curt Kabitzsch. 1927.

The second half of the first volume of this compendious *Handbuch* offers a most complete and helpful guide to the existing knowledge of anæsthesia, Bier's congestion treatment, the medico-legal position of the subjects of operation, the treatment of stenosis, the various cosmetic or plastic operations, the uses of the X-rays in diagnosis and radiation in treatment, the phlegmonous inflammations of the upper air-passages and the septic diseases arising within the scope of our specialty.

Anæsthesia is considered under the two headings, general and local. Dr F. v. d. Hütten of Giessen deals in considerable detail with general anæsthetisation, while local anæsthesia is entrusted to Dr Paul Heymann of Berlin in relation to the nose and throat, and to Professor