Abstracts

F. C. CAPPS said he thought that the tonsils were enlarged. If one held the head down and prevented the boy from raising his larynx under his tongue, he produced a normal voice, and also for a short time after letting the head and larynx go; then he produced a falsetto voice again. Re-education of the voice should be tried before any decision was made with regard to operation.

ABSTRACTS

EAR.

Creatin Bodies in Conditions of Cochleo-vestibular Angiospasm. V. FAIREN (Saragossa). (*Acta Oto-Laryngologica*, Vol. xvii., fasc. 2-3.)

Availing himself of the micro-method, the author has studied the quantity of guanidine base present in the blood and the urine of patients who, with or without an injury of the kidneys, were suffering from tinnitus or vestibular claudication of the paroxysmal type and has obtained curves representing the correlation existing between the increase of guanidine base and certain vascular disturbances of the anterior and posterior labyrinth. The author has also studied the effect of liver extracts and insulin on these vascular contractions.

Author's abstract.

Temporo-sphenoidal Abscess following Fractured Base involving Petrous Bone: Recovery. W. GRETE. (*Arch. Ohr., u.s.w., Heilk.*, June 1932, cxxxi., pp. 245-264.)

Cerebral abscess is a very rare late-complication of fractured base. The author describes a case in which he opened and successfully drained a temporo-sphenoidal abscess. The complication arose six months after the original injury, a cycle accident with severe concussion and fractured base.

The literature on the subject is scanty. This particular "Spätkomplikation" has been described more often in connection with basal fractures involving the anterior fossa of the skull and the nasal cavities. Every fracture of the base of the skull which involves either the tympanic cavity or a nasal sinus is, strictly speaking, a *compound fracture.*

Certain general rules can be laid down for cases in which the basal fracture includes the temporal bones:

Longitudinal fractures of the temporal bone are very rarely followed by cerebral abscess, as in the above case; while *transverse fractures* through the labyrinth are more often followed by meningitis. When the skull injury is followed by a persistent middle-ear discharge, the patient must remain under close observation. There is a constant

danger that a late cerebral complication may arise. Slight signs of aggravation should be followed by an urgent operation, viz., opening the mastoid and exposing the fracture area. If the patient is carefully watched there is no need to follow the teaching of Prof. Voss, who operates in all cases of fractured base which involve the tympanic cavity. J. A. KEEN.

Thrombo-phlebitis of the Sigmoid Sinus and Jugular Vein. GEORGES PORTMANN. (*Revue de Laryngologie*, 15th October 1931.)

The author declares himself in favour of active surgical intervention in all cases in which the general symptoms indicate infection through the blood stream in the course of mastoiditis. Only in those cases in which the sinus, on being exposed, is found to be completely blocked by clot, and in which symptoms of general infection are absent, or have subsided previous to the operation, should the vein be left intact. In such cases the presumption is that further spread of sepsis within the vein is barred by the presence of an organised thrombus.

On the other hand, he recommends opening of the sinus and subsequent obliteration by tamponage, in all cases in which the usual symptoms of septicæmia are present, unless there is some obvious focus of infection other than the mastoid, even though the wall of the sinus appears healthy and the flow of blood within the sinus be unaltered. In such cases, in the writer's opinion, the absorption of infective organisms or of toxins must be taking place through the wall of the lateral sinus which is in direct contact with infected bone. Opening the sinus gives rise to a violent gush of blood, which carries away septic matter from the immediate neighbourhood of the incision. This flow is quickly arrested by tamponading the vein, and the incision quickly becomes sealed, preventing further infection. He regards ligation of the internal jugular as a necessary part of the operation. The jugular bulb must also be exposed and obliterated if necessary. The jugular vein is resected in cases in which its walls are infected.

Prof. Portmann justifies the forward policy he advocates in dealing with these cases by the statement that, proceeding on these lines, he has not lost a single case of sinus phlebitis during the past five years.

G. WILKINSON.

Tinnitus and the General Blood Pressure. The Local Vascular Dystonia. D. VAN CANEGHEM. (*Les Annales D'Oto-Laryngologie*, April 1932.)

From an elaborate study of this subject the author's chief conclusions are as follows:—

General circulatory disturbances do not in themselves produce noises in the ear. The latter are the subjective expression of an irritation of the cochlear apparatus, determined by a local circulatory

dystonia. This local circulatory disorder is generally brought about by local causes which will be pointed out in a later communication.

The local circulatory dystonia can exist in an isolated fashion, but it is natural that the disorder should be favoured by general causes, toxic or otherwise, which have, moreover, a special affinity for the cochlear circulatory system.

The general causes can find their clinical expression in the anomalies of the general circulation; these anomalies, in order of frequency, are the anomalies of the differential pressure, then those of the systolic pressure, and finally those of the diastolic pressure.

L. GRAHAM BROWN.

Remarks on a particular variety of Epilepsy. Complete Loss of the Tonus of Posture. R. CAUSSÉ. (*Les Annales D'Oto-Laryngologie.* April 1932.)

The author describes five cases in detail to demonstrate the essential characteristics of this type of epilepsy, which are as follows:—

(*a*) The suddenness, (*b*) the absence of any accompanying symptom (no vertigo, cramp, loss of consciousness, visual disturbance, preceding aura, nor succeeding malaise), (*c*) the participation of the whole musculature of the body at the crisis, (*d*) an instantaneous return to the normal condition. These seizures occur, moreover, in subjects free from any apparent pathological condition.

The author concludes that the same seizures with identical characteristics are found in the course of neurological affections greatly dissimilar, but that in all cases this symptom is indeed the same. Whatever may be the name given to it, this phenomenon has a clinical appearance too characteristic not to merit special mention in medical semiology.

Moreover he admits that this disturbance can be of a vestibular nature, although here the conclusion as to the pathogeny is only of hypothetical value. The truth of this hypothesis is, however, borne out by the data collected from the patients observed, and by the fact that in the neurological affections in which the seizures described figure, *e.g.* disseminate sclerosis, Friedreich's disease, and tumours of the fourth ventricle in particular, the vestibular symptomatology plays a very important part.

L. GRAHAM BROWN.

Underlying Factors in the Zinc Ionisation treatment of Middle-Ear Infection. D. M. LIERLE and R. A. SAGE. (*Annals of O.R.L.*, Vol. xli., No. 2, 1932.)

An experimental investigation has been made to determine the rationale of zinc ionisation.

Five series of experiments were undertaken.

In the first, the ionised tissues were examined by X-rays, with negative results.

In the second, a buffer was placed round the cathode, but after the usual current of four milliampères had been applied for twenty minutes, no deposition of zinc was found.

In the third and fourth series, tissue removed from the tympanic cavity after ionisation was examined qualitatively, firstly by chemical methods and secondly by the spectroscope, but in neither case could the presence of zinc be detected.

All these experiments having proved negative, cultures of staphylococcus aureus, streptococcus viridans, streptococcus hæmolyticus, pneumococcus, diphtheroids, and bacillus coli were subjected to ionisation, while a control series of cultures were subjected to exposure to zinc sulphate solution without passage of the current, and it was found that the bactericidal action of the zinc sulphate alone was equally effective, as when combined with an electric current.

From these experiments, the authors conclude that:—

1. The possibility of the deposition of metallic zinc in living tissue is remote and open to question.
2. The spectroscope is particularly adapted to the detection and estimation of small amounts of zinc in tissue.
3. The use of small electric currents in the treatment is of doubtful value so far as the bactericidal effects of such currents are concerned.
4. The value of zinc sulphate as a bactericide has been studied. The beneficial effects of the treatment are probably due primarily to the destruction of bacteria by the zinc sulphate; the effect of the current is only of slight importance.

E. J. Gilroy Glass.

NOSE AND ACCESSORY SINUSES.

Lachrymation without Stenosis and the Mechanical Obstruction of the Inferior Orifice of the Lachrymal Apparatus. Treatment by Partial Inferior Turbinectomy. Maurice Jacob (Lyons). (*Archives Internationales de Laryngologie*, May 1932. *Les Annales D'Oto-laryngologie.*)

The line of insertion of the inferior turbinate to the outer wall of the nasal fossa is highly arched, and the curvature is dependent upon the orifice of the lachrymal duct. This orifice, which is situated at the junction of the middle and anterior thirds of this arc, is very liable to be obstructed by the many pathological processes which affect the mucous membrane of the nasal fossa. This article contains a report of six cases of lachrymation due to various causes of obstruction. The

treatment of these cases is discussed. The galvano-cautery and subluxation of the turbinate have never given permanent results, whereas an adequate inferior turbinectomy has effected cures. One must not, however, expect immediate results. It takes about three weeks for an improvement in the condition and, indeed, the immediate post-operative effect is to aggravate the symptoms. M. VLASTO.

Diagnosis and Treatment of Sinusitis by the Displacement Method of Proetz. J. M. LE MÉE and M. BOUCHET.

The method of displacement consists in replacing the air which normally fills the sinuses by a radio-opaque fluid which is both of diagnostic and therapeutic value. The physical principles of this method are first explained by the help of diagrams, the basic principle being an application of the law of Mariotte that "the volume of a gas is inversely proportionate to the pressure to which it is subjected." The technique of the method is described in detail. The chief difference between the method described and former methods of injecting lipiodol is that the introduction of the fluid is not made by puncture injection but by so positioning the head that the fluid is introduced into the sinuses by gravitation combined with negative suction of the air by a special syringe. Radiography is carried out with the head in the vertical position and with a horizontal beam. The displacement method is particularly useful in studying the ethmoidal cell system. In many cases it reveals those aberrant cells beneath the orbit and close to the sphenoid which are so difficult to detect by other methods. The theoretical objection to this method has been raised that the fluid might enter into the middle ear: in actual practice this has never been found to occur. M. VLASTO.

Experimental Investigations on the Physiology of Nasal and Oral Breathing and on the Physiological Significance of the Accessory Cavities of the Nose. W. DÖDERLEIN (Berlin). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Vol. xxx., Part 4, p. 459.)

Döderlein made important thermometrical observations on a tracheotomised patient, and found the temperature of the air in the trachea the same whether the subject breathed through the nose or the mouth. He concludes that the turbinal bodies take no part in the regulation of the warmth of the inspired air, although they take an important share in moistening it. With a thermometer introduced into the antrum he found that the inspired air is warmer in the sinuses than in the trachea. In mouth-breathing it is not the mucous membrane of the mouth which warms the air but that of the nose, and if the nose is closed the air in the nose and naso-pharynx takes part in the respiratory movement inasmuch as the pressure in these cavities is lowered during inspiration

and restored during expiration. The accessory cavities exercise no influence on smell. They may be included in the *schädlicher Raum*, that is the space between the nasal opening and the bronchioles, the air of which does not take part in the oxygen intake and the carbon-dioxide outgo. They act as air-reservoirs from which, as required, warm well-oxygenated air can be added to the inspired air. Unused, expired air is stored up in them. Mouth-breathing may be physiological, as in violent corporeal efforts such as prolonged swift running or climbing when the amount of oxygen obtained by nasal breathing is insufficient. It is always accompanied, however, by nasal breathing. In pathological conditions producing considerable or even complete occlusion of the nose, mouth-breathing admits of the air in oral inspiration being warmed by mixing with the air in the reservoir formed by the naso-pharynx. JAMES DUNDAS-GRANT.

The Biochemical Study of Sinus Disease. SIDNEY ISRAEL, M.D., and H. O. NICHOLAS, Ph.D. (Houston, Texas). (*Journ. A.M.A.*, 14th November 1931, Vol. xcvii., No. 20.)

This presentation is in the nature of a preliminary report. A chemical analysis was made of the blood, bone, mucous membrane, polypi, and pus associated with sinus infection. As yet the authors have not been able to determine any characteristic or constant chemical observation that could be looked on as having any bearing on the diagnosis, prognosis or treatment of sinus disease.

The article occupies four columns and has a bibliography.

ANGUS A. CAMPBELL.

LARYNX.

Functional Aphonia. F. D. MARSH. (*Lancet*, 1932, ii. 289.)

The writer summarises sixteen cases to show the frequency with which functional aphonia is associated with sepsis in the upper respiratory passages. In the sixteen cases, only two showed no discoverable sepsis; in the remaining fourteen there were four with septic tonsils, five with septic teeth, and six with antral disease. Marsh suggests the division of functional aphonia into two classes: (*a*) primary or hysterical, (*b*) secondary, starting with laryngitis following a septic focus. MACLEOD YEARSLEY.

The Significance of Blood-examination in Tuberculosis of the Lungs and Larynx. A. BRÜGGEMANN and C. AROLD (Giessen). (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Vol. xxx., Part 4, p. 487.)

For purposes of comparison, 124 cases of combined pulmonary and laryngeal tuberculosis were classified as to prognosis in three groups, 34 favourable, 44 doubtful, and 46 unfavourable. Of the first

group, the larynx improved in 28 (85·3 per cent.), of the second in 32 (72·7 per cent.) and of the third in 2 (4·3 per cent.). The sedimentation of the blood-corpuscles accorded with the change in the lungs rather than with that in the larynx, as in 28·2 per cent. of the cases the laryngeal condition improved in spite of a raised and deteriorating sedimentation, and the larynx never got worse in any case in which the sedimentation test showed improvement. The leucocyte "picture" kept parallel with the changes in the larynx rather than with the changes in the lungs. JAMES DUNDAS-GRANT.

Paralysis of the Vocal Cord. GORDON B. NEW and JOHN H. CHILDREY. (*Archives of Otolaryngology*, Vol. xvi., No. 2, August 1932.)

The authors are inclined to doubt the accuracy of Semon's law, as they have observed that, in cases of injury to the recurrent laryngeal nerve at operation for goitre, the vocal cords are usually in the median line and seldom in the cadaveric position. Later, the affected cord either resumes a normal function or it pulls to the median line within a few months and remains there. In no case has a change from the median line to the cadaveric position been noted. In the present paper the writers analyse their records of 217 cases of vocal cord paralysis (one cord, 185 cases; both cords, 32 cases). Twenty-four cases were of central origin, the paralysis being of the abductor type, but only in three cases was it bilateral. Nine cases were caused by tabes, and in six of these the paralysis was bilateral, but only one case required tracheotomy. Of the 190 cases due to a peripheral lesion, six may have been due to toxic neuritis. In 13 cases, a syndrome of the jugular foramen was due to a malignant tumour. In 34 cases cancer of the hypopharynx or œsophagus had caused the paralysis. Ten cases were the result of syphilis of the larynx, the paralysis being of the complete abductor type in six cases, and demanding tracheotomy in two cases. Benign goitre accounted for 32 cases, and malignant goitre for ten cases. Mediastinal growths caused unilateral vocal cord paralysis in 28 cases; 22 were left-sided and six right-sided.

Aneurysm of the aorta was the cause of 24 cases, of which nineteen were left-sided, four bilateral, and one right-sided. In the writers' experience bilateral laryngeal motor paralysis is not rare as a sequel to aortic aneurysm.

Opinions differ as regards the mechanism of the recurrent laryngeal paralysis which may accompany mitral stenosis. It has been attributed variously to pressure by the dilated left auricle, to traction on the aorta by the dilated heart, and to pericarditis or mediastinitis. In the present series ten cases were ascribed to cardiac lesions. Tuberculous conditions in the thorax caused eleven cases of paralysis of the cord.

All cases were unilateral; in eight it was on the left side and in three on the right side. This is contrary to the observation of other writers, who find the right nerve more frequently paralysed, owing to its proximity to the apex of the right lung.

It is said that in one third to one half of the cases of vocal cord paralysis no cause can be demonstrated, and 105 cases of the present series were in this category.

In order to determine the ultimate appearance of the larynx, twenty-six of the entire series of cases were re-examined at varying intervals, and it was found that:—

1. A partially paralysed vocal cord (abductor type) may completely recover its function (six cases).
2. A vocal cord fixed in the median line usually remains in this position (twelve cases).
3. A vocal cord fixed in the cadaveric position may remain unchanged, but as a rule it swings to the median line within a few months and remains there. (Six cases came to mid-line, two cases unaltered.)

Thus the ultimate position of the cords in eighteen of the twenty-six cases was in the median line. None of those in the median line was ultimately found in the cadaveric position.

The duration of laryngeal symptoms was longer in the cases in which the cord was in the median line than in the cases in which the cord was in the cadaveric position. Patients whose cords were in the median line had shown symptoms for an average of twenty months, while those with cadaveric cords had had symptoms on an average for only four months. This is further evidence to prove that complete recurrent paralysis results in a median line position of the affected vocal cord. DOUGLAS GUTHRIE.

TONSIL AND PHARYNX.

Carcinoma of the Tonsil: a Review of 122 *Histologically proved Cases Treated* 1921 *to* 1928 *inclusive.* JAMES J. DUFFY. (*Surg., Gyn. and Obst.*, 1932, Vol. liv., No. 3.)

Carcinoma of the tonsil is not a rare disease; it comprises 2·23 per cent. of all malignant tumours admitted to the Memorial Hospital, New York, between the years 1917 and 1929, and 9·64 per cent. of the intra-oral malignant tumours. In the oral group of carcinomata, the frequency of tonsillar cancer was exceeded only by those of the tongue, lip and larynx.

Various possible ætiological factors are briefly discussed.

Abstracts

It is held that carcinoma of the tonsil is never a primarily operable disease, and the lesion is classified as "early" or "advanced"; an early lesion being only one, or at the most two, contiguous regions where (tonsil and tonsillar pillar, or tonsillar pillar and adjacent tongue) are involved. If three regions are involved, or wide extension into an adjacent region is found, then the case is advanced. Most carcinomata are "advanced" when first seen.

Surgery alone is inadequate to cope with the disease, and the majority of cases require to be treated by radiation therapy, both external and interstitial, although surgery has its place in dealing with certain metastases.

Each side of the neck is subjected to high voltage X-ray, the beam including the primary lesion and the lymph drainage areas. This is followed by the application of a radium pack giving a full *erythema dose*, following which a varying amount of radon, depending on the histological gradation and the clinical response to the external radiation, is implanted into the neoplasm.

Forty-nine cases were treated up to the end of 1925; the later cases are too recent to include in the results. Of the 49 cases, 13 had no cervical nodes at all and of these five (38·4 per cent.) are well; 13 developed metastases after admission and of these no one is well; 15 had operable nodes on admission and four (26·6 per cent.) are well; eight had inoperable nodes on admission and one (12·5 per cent.) is well. Of a total of 49 cases, ten (20·4 per cent.) are clinically free from disease, after a period ranging from 5 to 9 years.

SIDNEY BERNSTEIN.

ENDOSCOPY.

Pins at the Periphery of the Lung. CHEVALIER JACKSON and CHEVALIER LAWRENCE JACKSON. (*Archives of Otolaryngology*, June 1932, Vol. xv., No. 6.)

The writers have treated 372 cases of pins of various kinds in the food and air-passages. In 113 cases the pins were in the bronchi and in 42 of these, the foreign body had reached the minute bronchi at the periphery of the lung. With the aid of bronchoscopy and of radiography, removal by the peroral route is now possible in 99 per cent. of cases even when the intruder is in the costophrenic angle with the head in contact with the visceral pleura.

The cause of pins entering the tracheobronchial tree is the careless habit of holding pins in the mouth, and in almost all cases the patients were females. In one of the few cases occurring in a man, the patient had been using the pin as a toothpick. Pins with heads always lodge head-downwards and progress towards the periphery of the lung by a ratchet-like action, the point sticking into the bronchial wall and

resisting upward movement, the head moving onwards with the respiratory elongation and shortening of the bronchi, gravity playing only a small part in the downward progress. As the area obstructed by the pin is small, pathological changes may for a long time be of limited extent and the pin may remain at the periphery of the lung for six months or longer without causing symptoms. Sooner or later, however, suppuration occurs, with impairment of health, cough, fever, and all the signs of pulmonary sepsis. A most important early sign is limitation of expansion of the chest on the affected side. Radiography is the most important diagnostic aid, as a lateral diagram shows the costophrenic angle clearly. In cases of extensive pulmonary suppuration the entire disappearance of all pathological changes after removal of the foreign body is often very remarkable.

To remove pins from the peripheral bronchi, Jackson uses a costophrenic bronchoscope, 4 mm. or 2 mm. by 45 cm. for adults and 2 mm. by 35 cm. for children. Pin-bending forceps may be used to seize the shank of the pin and double it into the tube, always remembering the principle that advancing points perforate, retreating points do not. Of course needles or steel shawl-pins cannot be bent in this fashion; for these the standard forceps are used to draw the foreign body into the tube. In all cases of pins or other foreign bodies in a bronchus large enough to admit a bronchoscope, the use of the fluoroscope is often undesirable and dangerous. Only a double-plane should be used, and the utmost patience is necessary.

The duration of exposure to the rays should not exceed forty-five minutes, the rays being directed on the side and back alternately, not always on the same spot, and only for a few minutes at a time.

The writers describe fifteen cases in detail, their records being illustrated by a series of excellent radiograms.

In case 1, laparotomy had been performed, as the pin was believed to be in the stomach. In case 4 the pin had been in the bronchus for thirteen years, and in case 6 for twenty-four years.

Case 7 was a baby aged 13 months, and case 14, a Scottish boy aged 5 years. Commenting on the last-mentioned case, the writers remark upon the relative rarity of foreign bodies in the lung in children in Scotland, although in his own records the number of Scottish names is proportionate to the percentage of Scottish people in the population. Possibly, as suggested by Dr. Logan Turner, the more careful supervision of children in Scotland is a factor. DOUGLAS GUTHRIE.

A Simple Bronchial Neoplasm. S. ALSTEAD. (*Lancet*, 1932, ii. 339.)

The author describes the case of a man, aged 69, who, sent into hospital as suffering from broncho-pneumonia of the right lung, suddenly collapsed and died after a quick movement in bed. *Post mortem*, a

pedunculated polyp was found attached to the wall of the right bronchus just below the bifurcation of the trachea. The polypus consisted of fibro-areolar tissue with fat, covered with columnar epithelium and infiltrated with chronic inflammatory cells. The author makes the comments that—(1) Although histologically "benign," the polypus certainly caused death by suddenly occluding the right bronchus. (2) Autopsy showed no evidence of bronchiectasis although there was, microscopically, fibrosis of the lung. (3) Probably the polypus was originally a small submucous leiomyoma which developed a long pedicle owing to traction and partial impaction in the bronchus. (4) As in the great majority of such cases, the condition was undiagnosed before death. MACLEOD YEARSLEY.

MISCELLANEOUS

Laryngology in Relation to Disease of the Hæmatopoietic System, especially Purpura and Agranulocytosis. C. L. LA RUE. (*Journ. Amer. Med. Assoc.*, 26th September 1931, Vol. xcvii., pp. 920 and 921.)

The laryngologist must recognise certain constitutional diseases which at times have local manifestations in the nose and throat. Striking examples are those hæmic dyscrasias, purpura hæmorrhagica and agranulocytic angina, conditions in which thrombocytes and granulocytes respectively almost entirely disappear from the blood stream. In purpura there is a paucity of platelets in the blood and a tendency to uncontrollable bleeding. It may occur spontaneously or follow minor operative procedures, such as dental extraction, tonsillectomy, or submucous resection. In agranulocytic angina the polymorphonuclear leucocytes are strikingly reduced or entirely absent, and marked prostration accompanies a rapidly progressive ulcerative sore throat. The prognosis in each, even as to life, is very unfavourable. Treatment seeks to stimulate the blood cell-producing function of bone-marrow to increased activity. At best it is unsatisfactory, but possibly early transfusion of well-matched blood is the best. However, the laryngologist can best serve his patient and prevent embarrassment to himself by being sure beforehand that he is not about to operate on a purpuric individual or, in the case of agranulocytosis, that he is not treating the ordinary angina in which the blood constituents are normal, and resistance good. In either case this is best accomplished by co-operation with internist and laboratory technician.

Author's Abstract.