of the heart. Changes in position are due mainly to distension of the left auricle. The nerve is squeezed between the left pulmonary artery on the one hand and the aortic arch or ligamentum arteriosum on the other.

Reports of cases in which paralysis of the left recurrent laryngeal nerve is attributed to auricular pressure in the course of mitral stenosis should be accepted with much caution, especially in the absence of a *post-mortem* examination. *Thomas Guthrie.*

Flatau, Theodor S. (Berlin).—Surgical and Functional Treatment of Vocal Nodules, with Special Reference to the Question of Occupational Injury (Berufsschädigung). "Zeitsch. f. Laryngol., Rhinol., etc.," Bd. iii, Heft 4.

Small symmetrical nodules may be present in singers—especially in sopranos—without functional disturbances; in fact, these nodules probably serve a useful purpose. If these patients get a laryngeal catarrh which does not quickly pass off, the nodules become larger. After voice-rest, etc., the nodules usually return to their normal size. In such cases, the result of interference—by means of forceps, or the cautery—is not favourable. If a nodule causes functional disturbance it is usually unilateral, and is really a small cyst or polypus; such cases should be treated surgically. It is, however, not uncommon to find that, after surgical interference, the singing-voice is still unsatisfactory, though the speaking-voice may have improved, and the cords may present normal appearances on laryngoscopy. Endoscopy, however, shows a concavity on the cord opposite to that from which the nodule was removed. Vocal gymnastic training brings about a cure in a few weeks. In cases in which there is a broad-based projection from the edge of the vocal cord Flatau used a special chromic acid carrier. *J. S. Fraser.*

EAR.

Shearer, D. F.—A Method of Determining the Existence of Deafness. "Lancet," May 13, 1911, p. 1305.

The author suggests the use of a noise-producer. When applied to the ears of a patient reading aloud, the voice is raised automatically. The apparatus is controlled electrically, so that the sound made can be gradually increased in volume. *Macleod Yearsley.*

Harper, Jas.—Diffuse Latent Labyrinthitis: Its Dangers in the Radical Mastoid Operation. "Lancet," February 18, 1911, p. 430.

The author draws attention to the grave danger of operating on the mastoid before having tested the condition of the labyrinth. The caloric test should be applied to all cases. *Macleod Yearsley.*

Kerrison, Philip D.—Clinical Studies of Five Cases of Suppurative Labyrinthitis. "Laryngoscope," March, 1911, p. 161.

The first case, a nurse, aged twenty-one, developed acute otitis media and mastoiditis during an attack of hæmorrhagic measles. The right mastoid antrum and cells were opened, and five days later the patient developed vertigo and vomiting with rotatory nystagmus to the left. The mastoid cavity was curetted six weeks later for persistent discharge, and the nystagmus and vertigo then ceased. Testing ten weeks after the

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onset of labyrinth symptoms, complete deafness with absence of caloric reaction was found on the right side. A double labyrinthotomy was performed, a fistula being found into the external canal.

The second case, a girl, aged fourteen, had had a right radical mastoid operation six months previously. The discharge persisted, and she was now bed-ridden, with much muscular weakness, slight vertigo, but no nystagmus. There was marked inco-ordination of the arms with severe headache and vomiting. Total deafness on the right side with absent caloric reaction. Double labyrinthotomy was performed with complete recovery.

The third case, was a man, aged sixty, with chronic suppurative otitis of the right ear since childhood, with complete deafness and absence of caloric reaction on that side. A radical mastoid operation was performed, and the patient died suddenly six months later, the autopsy showing suppuration in the labyrinth with a cerebellar abscess and meningitis.

The fourth case, a male, aged thirty-six, had a discharge from the left ear since childhood. Symptoms suggestive of labyrinthitis had been present twelve years previously. The left ear was now totally deaf. A radical mastoid and labyrinth operation showed pus in the labyrinth.

The fifth case, a female, aged thirty-five, had suffered from chronic suppurative otitis on the left side for years. There was now fair hearing with normal caloric reaction on the diseased side, with a marked fistula symptom, compression of the air in the meatus inducing horizontal nystagmus to the left.

The author concludes that:

(1) Labyrinth operations are most safely performed when the condition has become latent, and therefore one should wait for a few days or a week when acute labyrinth symptoms are present to allow them to subside before operating.

(2) It is unnecessary to open each canal if the vestibule and cochlea are freely drained.

(3) A radical mastoid operation should always include a labyrinthotomy in cases showing evidence of a previous labyrinthitis.

(4) It is probably unwise to do a radical mastoid operation where a labyrinth fistula is present from the risk of causing extension of the infection. *John Wright.*

Nuernberg, F.—Spontaneous Erosion and Rupture of the Internal Carotid after Ligature of the Internal Jugular. "Arch. f. Ohrenheilk," Bd. lxxxi Heft 3 and 4, p. 200.

The patient was a male, aged fifteen. Acute suppuration of the left middle ear was followed by mastoid symptoms necessitating operation. The wall of the sinus groove was found to be carious and about 2 cm. of the sinus was exposed. Some days later the existence of an oscillating temperature led the author to open up the sinus and to ligature the internal jugular vein. Seven days after, the ligature round the vein came away. The wound in the neck was granulating well, although at first some tendency to ulceration had been present. The fever persisted, however, with occasional rigors, and an abscess formed in the right gluteal region. After it had been opened and drained diarrhœa set in, but was checked by the administration of opium. Seventeen days after the ligature of the vein the author noticed that some blood was oozing from the wound in the neck. On closer inspection it was seen to consist

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of a thin stream of arterial blood, apparently from a small vessel. In order to seize the bleeding point with forceps the edges of the wound were drawn apart, and then it became evident that the bleeding was from the carotid artery. The patient was hurriedly anæsthetised while the bleeding was controlled by digital pressure, and the artery was ligatured 3 cm. below the site of the jugular ligature and of the erosion into the artery. The tissues in the depths of the original wound were so necrotic that it was deemed impossible to attempt to tie the artery above the bleeding point. The tying of the artery was not followed by vertigo, paralysis, headache, or any disturbance save hoarseness, which unilateral paralysis of the crico-arytenoideus posticus showed to be due to injury of the recurrent laryngeal nerve. With this exception recovery was proceeding satisfactorily.

The author is confident that the rupture of the arterial wall was due to infective arteritis, and not to any mechanical injury inflicted when the jugular vein was tied.

The accident appears to be unique. *Dan McKenzie.*

Tiefenthal, G. (Freiburg).—The Technique of Operations on the Jugular Bulb. "Arch. f. Ohrenheilk.," Bd. lxxx, Heft 3 and 4, p. 198.

There are two routes of access to the jugular bulb: the one, represented by Grunert's operation and its modifications, from below and from the side, and the other, represented by Voss's operation, along the lateral sinus groove from above.

Grunert's Method.—The mastoid having been opened and the sinus exposed, the post-auricular incision is enlarged downwards. The inferior and anterior walls of the bony meatus are freed from soft parts and the membranous meatus raised off the bone. In this way the osseous meatus is cleared up to the fissure of Glaser, and it is removed as far as the hypo-tympanic recess, the styloid process being resected if it is in the way. This removal of bone in the anterior and inferior walls of the meatus leads direct to the external wall of the jugular foramen, and that in turn is broken down. In this way the junction of the bulb and the jugular vein is laid bare. The sinus is opened above and the jugular vein and bulb are slit up below, the facial nerve being contained in the bridge of bone between the two openings.

By this plan of Grunert's the bulb and vein are converted into an open gutter, and it possesses the advantage of easy after-treatment. But it is open to several objections, to some of which Grunert himself has drawn attention, and to meet which several modifications have been devised. It is a long operation. The facial nerve is endangered if the styloid process has to be resected, and it may also be torn or stretched in the retraction of soft parts. In order to obviate this difficulty Panse and others advocate the exposure of the nerve in the Fallopian canal and its removal therefrom, but, in addition to the difficulty of accomplishing this delicate manœuvre successfully, such a proceeding leaves the nerve-trunk without any protection during the healing of the wound. Further, the jugular bulb not infrequently does not lie in the axis of the external meatus, and then there is a risk of the operator penetrating the carotid canal by mistake. Moreover, in all operations in this region the important nerves in the immediate vicinity of the jugular vein are exposed to injury; the spinal accessory, for example, has been divided in slitting the vein. In order to get more room the anterior tubercle of the trans-

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verse process has been removed, and on several occasions the vertebral artery has been wounded in so doing.

None of these drawbacks exist in *Voss's operation from above*. In this method the lateral sinus groove is followed downwards and inwards, first along its vertical and then along its horizontal limb, the bony wall being shaved away by the chisel. That part of the groove where the sinus turns up to pass into the jugular bulb is in like manner removed, the chisel being held at an acute angle to the bone, so as to avoid the Fallopian canal. The sharp edge of bone which intervenes between the sinus groove and the bulb having been got rid of, the bulb is now exposed and can be opened up. In Voss's operation the external wall of the jugular foramen below the bulb is not removed, and that length of the vein which lies between the wound in the neck below and the opening in the bulb above is not, as in Grunert's operation, converted into an open gutter.

Voss's operation is easier, safer, and quicker than Grunert's, and the facial nerve is not endangered. There is, however, some risk of opening into the posterior semi-circular canal in removing the bone near the bulb. For most cases Voss's operation will be found sufficient. The intact length of the vein can be curetted from below, and it acts as a drainage-tube to the bulb. Voss's method has this further advantage, that in a case of doubt it permits of an examination of the bulb without exposing the patient to the risks of a severe operation, such as Grunert's. It occasionally happens, however, that Voss's simple opening of the bulb is insufficient. This is especially the case when thrombosis in the jugular bulb and vein have led to circumvenous infiltration. If that complication is present Voss's operation must be followed by a method like Grunert's.

Voss's operation is most difficult of accomplishment when the sinus and dura are equally covered with granulations, so that it is difficult to follow the sinus.

The author narrates several cases exemplifying the various points in his argument. *Dan McKenzie.*

Alexander, G.—Contribution to the Surgery of the Labyrinth. "Arch. f. Ohrenheilk.," Bd. lxxxi, Heft. 3 and 4, p. 209.

Four cases of operation on the labyrinth are reported as illustrating the author's views on the indications for operation.[1]

Case 1.—Female, aged twenty-five. Chronic suppuration in both ears of many years' duration. History of violent vertigo and vomiting seven weeks previous to her first appearance. While always subject to headache, this had recently got much worse. There was fœtid discharge from the right ear, which had diminished considerably a few days earlier. In the left ear the discharge had been very trifling for several years. There was great loss of hearing in the right ear, and the vestibular reactions were absent on this side. Disturbances of equilibrium were observed, but no vertigo was complained of. The temperature was raised, and slight stiffness and pain were experienced on bending the head back. These symptoms, together with persistent occipital headache and fever, induced the author to perform the radical mastoid and the labyrinth operation at one sitting. Although the fistula symptom had not been positive, a fistula was found on the prominence of the external canal. From the superior canal a sinus led upwards towards the middle fossa; the bone around was softened, and

[1] See Journ. of Laryngol., Rhinol., and Otol., vol. xxv, p. 451.

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the dura in the neighbourhood was covered with granulations. The dura in the posterior fossa was incised. Recovery.

CASE 2.—Girl, aged eighteen. Chronic suppuration in right ear. Attacks of headache and vertigo and the history of occasional attacks of loss of consciousness led to the radical mastoid operation. The vestibular reactions were normal. Six weeks after operation symptoms of acute labyrinth suppuration (vertigo, spontaneous nystagmus, absolute deafness) appeared, but quickly subsided, although they did not entirely disappear. Granulations formed on the inner tympanic wall, the discharge became fœtid, and small sequestra were exfoliated from the region of the promontory. Vestibular reactions were now found to be absent on right side. The persistent vertigo and discharge showed that spontaneous recovery was not to be expected, and the labyrinth was, therefore, operated upon after the author's method. The dura of the posterior fossa was incised for drainage. Recovery.

CASE 3.—Male, aged twenty-one. Chronic suppuration of left ear with recent acute exacerbation. Deafness not severe. Some disturbance of equilibrium was present, but the vestibular reactions were not destroyed. Fistula symptom positive. Radical mastoid revealed dura of middle fossa covered with granulations. No fistula of labyrinth found. Three weeks after radical mastoid operation the patient had an attack of severe headache with vertigo and abdominal pain. These symptoms lasted only a few hours, but a fortnight later marked spontaneous nystagmus to the right was observed and the vestibular reactions were found to be absent. Operation on the labyrinth was postponed in the hope that the disease would settle down, but the persistence of active symptoms ultimately led to operation two months after the radical mastoid had been performed. The dura of the posterior fossa was incised for drainage. Recovery.

CASE 4.—Female, aged thirteen. Chronic suppuration in both ears for many years. Facial paresis had appeared on the right side a fortnight before she was first seen. This was followed a week later by an attack of vertigo and vomiting of only one day's duration. Spontaneous nystagmus to the left was observed, but there was no disturbance of equilibration. The caloric reaction was absent in the left side, but both galvanic and rotation nystagmus could be elicited. Fistula symptom negative. Operation five days after admission, the labyrinth being opened because of the facial paresis and the presence of softened bone in the region of the promontory. The cochlea was filled with granulations. A fistula 3 mm. long led into the external canal.

The author does not operate on the labyrinth unless evidence of some complication is present, as a large proportion of cases of labyrinth suppuration get well naturally. In addition to the usual signs of labyrinth disease, then, occipital headache, stiffness in the muscles of the neck, facial paralysis, persistent vertigo or pyrexia, the discovery at the mastoid operation of serious disease of the bony capsule of the labyrinth—not merely the presence of a fistula—should be present before the labyrinth is opened. If those signs exist before the mastoid operation, the labyrinth should be dealt with at the same time as the mastoid.

The deceptive character of the "fistula symptom" is well brought out in the above cases. *Dan McKenzie.*

Sewell, Lindley.—A Case of Deafness Arising from Epidemic Parotitis. "Lancet," February 18, 1911, p. 436.

Female, aged thirty-six, who had become deaf during an attack of mumps three months previously. Functional tests showed nerve-deaf-

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ness on the right side. She was unsteady in her gait, stumbling to the right. No nystagmus. Strychnine and quinine improved the vertigo.

Macleod Yearsley.

THYROID GLAND.

Burt, R. Shurley.—Manifestations of Thyroid Disease in the Upper Respiratory Tract. "Laryngoscope," March, 1911, p. 145.

A large number of patients, the subject of thyroid disease, refer their first symptoms to the throat. The faucial tonsils appear to be in physiological and pathological relationship to the thyroid gland. It has been noted that thyroid enlargement has subsided after enucleation of the tonsils, and also that septic processes involving the lymphoid tissues, *i. e.* tonsillitis, quinsy or scarlet fever, are often direct ætiological factors in the occurrence of Graves's disease. It is therefore possible that tonsillectomy may have a place in the prophylaxis of Graves's disease. In cases of hypothyroidism, slowness and difficulty in articulation are often present. Slight motor insufficiency of the laryngeal muscles also occurs, but the affection of speech is not proportionate to this paresis. A perversion of taste is also often present. Two myxœdematous cases complained of tinnitus, but no lesion could be found on aural examination to account for this. In hyperthyroidism, or Graves's disease, taste, hearing and smell are less commonly affected. Cases of myxœdema sometimes present a peculiar infiltration of the nasal mucosa as an early sign, and later the membrane is found much thickened and the nose obstructed by a gelatinous yellow secretion. A cough with dry throat and husky voice may be the initial symptoms of Graves's disease, and cause the patient to first consult the laryngologist.

John Wright.

Bahri, Ismet (Constantinople).—A Case of Acute Suppurative Thyroiditis after Influenza. "Rev. Hebd. de Laryngol., d'Otol., et de Rhinol.," February 4, 1911.

A man, aged forty-two, who was just recovering from an attack of influenza, observed a swelling of the front of his neck, which became painful, gradually increased in size, and finally pointed. There was pain in deglutition and respiratory distress, owing to œdema of the ary-epiglottic folds and ventricular bands. After evacuation the symptoms subsided, but the thyroid remained swollen. The pus contained streptococci.

Chichele Nourse.

MISCELLANEOUS.

Coakley, C. G. (New York).—The Association of Suppurative Disease of the Nasal Accessory Sinuses and Acute Otitis Media in Adults. "Amer. Journ. Med. Sci.," February, 1911.

The subject is dealt with in two portions, namely, (1) statistics and (2) personal impressions. The former are based on a series of cases observed during a period of six months, consisting of sixteen cases of acute suppurative otitis media; twenty-six cases of acute rhinitis without sinus involvement; thirty-one cases of acute sinusitis (all of which also had acute rhinitis), and thirty-six cases of chronic sinusitis. Of the cases of acute otitis media 81 per cent. suffered also from sinus disease; of the cases of acute rhinitis 11·5 per cent. had acute suppurative otitis media; of the cases of acute sinusitis 42 per cent. had acute suppurative otitis

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