Herxheimer considers that the cells of this region have the power to develop in either direction, *i. e.* into squamous or into cylindrical cells. From a clinical point of view the hard papillomata appear to be somewhat malignant, though microscopically they seem to be simple tumours; they really occupy a middle place between innocent and malignant growths. Billroth recorded a case in which the tumour existed for eleven years without causing glandular involvement, but out of twenty-four cases collected by Blumenthal seven were malignant. Herxheimer himself has collected thirty-eight cases up to date in almost all of which the tumour was situated on the septum. There are only four cases hitherto described of malignant tumour of the frontal sinus, and in all but one instance the growth has been a sarcoma. The present patient was a woman, aged sixty, who suffered from myxœdema and had to take thyroid tablets. For two years she had suffered from a swelling on the forehead over the right eye, and later from symptoms of brain pressure along with double vision and exophthalmos; nasal examination was negative. At the operation a greyish cauliflower-like tumour was exposed protruding from the right frontal sinus. The tumour had destroyed the posterior wall of the sinus completely and a part of the anterior and inferior walls, and had thus broken through into the orbit and displaced the eyeball; it had also invaded the left frontal sinus. Suppuration followed in the wound cavity, and continued till bismuth paste (33 per cent.) was injected. Herxheimer calls the tumour, no doubt with justice, a "cylindrical-celled papillary fibro-epithelioma." *J. S. Fraser.*

Karbowski. B. (Munich).—Bilateral Dilatation of the Frontal Sinus. "Zeitschr. f. Larngol.," Bd. iv, Heft 5.

In rare cases dilatation of the frontal sinus may be due to new growths, traumatism, syphilis, etc., but it is usually caused by inflammatory changes in the mucosa with consequent narrowing (or even closure) of the frontal duct; the contents of the dilated sinus may be purulent (pyocele) or mucoid (mucocele). The process of dilatation is often slow, and may take twenty years; the ethmoidal, and even the sphenoidal sinuses may be involved. Karbowski records a case of symmetrical dilatation of the frontal sinuses with perforation of the floor. The patient had suffered from nasal discharge for about a year, but for several months the flow had ceased, and the patient had complained of supra-orbital headache. The case was first seen by an oculist, and later by a surgeon, who punctured the swelling and evacuated thick fluid. When observed by Karbowski the case presented the well-known features of frontal mucocele. At the operation the fluid proved to be thick, greenish, odourless pus; the ethmoidal regions were not involved. The fluid was sterile. Microscopical examination of the polypoid mucosa showed that in places the epithelium was absent, while in others it was reduced to a layer of flat cells; the submucous tissue was thickened and infiltrated; osteoclasts were not observed in the bone removed. *J. S. Fraser.*

LARYNX.

Barach, J. H. (Pittsburg).—Observations on Sound Production and Sound Conduction along the Respiratory Tract. "Amer. Journ. Med. Sci.," October, 1911.

The author called attention in a previous paper to the fact that, owing to the properties of sound transmission possessed by the framework of

the thorax and adjoining bones, tubular breathing is to be detected in the normal subject at the acromial end of the clavicle, and cavernous breathing over the uppermost portion of the spinal column and over the occipital and other bones of the cranium. Discussing the sources of these sounds, he concludes that those heard over the acromial end of the clavicle originate at the manubrium sterni, which receives sound vibrations from the trachea behind it. The cavernous breathing heard over the cranial bones, particularly the occipital, takes origin in the nasal cavity, which acts as a resonator. That the "nasal resonator" is an important factor in the production of the sounds heard on ordinary auscultation of the chest is appreciated on observing the weakening of the breath sounds which occurs when respiration takes place through the mouth. It should therefore be borne in mind that the larynx is only one of the factors in the production of auscultatory sounds, and that the latter are largely dependent on the condition of the "nasal resonator."

Thomas Guthrie.

Henke, Fritz.—Some Observations upon the Effects of Salvarsan in Syphilis of the Larynx. "Münch. med. Wochens.," August 1911, p. 1670.

In the treatment of late syphilis (gummata, etc.) of the larynx and trachea, with dyspnœa due to stenosis, marked success has followed the administration of salvarsan in the hands of many, amongst them the author of this article. The two patients, whose cases are briefly recorded, had suffered from dyspnœa and dysphagia, and had been energetically treated by mercury and iodides with little result. Complete healing eventually followed one injection of salvarsan, and it was remarkable that improvement showed itself within twenty-four hours. Similarly favourable results have been recorded by many authors. It is claimed that in these cases salvarsan possesses many advantages over both mercury and the iodides. (1) Its action is rapid; the painful symptoms in particular may be relieved in a few hours; (2) the healing seems not to be followed by secondary stenosis; (3) even already existing cicatricial fibrosis is as a rule greatly lessened if not entirely removed; (4) the injection of "606" is not followed by any appreciable reactionary swelling such as follows the use of iodides. This last claim is important, because on theoretical grounds, based on the reaction of Herxheimer, some writers consider the opposite to be the case. The explanation given in the text is that, besides acting upon the *Spirochæta pallida*, salvarsan destroys very rapidly other spirochætæ which are always present in the lesions and which set up a great deal of secondary swelling and inflammation. Any swelling, therefore, which may be due to the reaction of Herxheimer is more than counterbalanced by this dual effect of salvarsan.

J. S. Barr.

Gluck, Th., and Soerensen, J.—Surgical Operations in Cases of Laryngeal Tuberculosis. "Zeitschr. f. Laryngol.," Bd. iv, Heft 3.

Hitherto total extirpation and hemi-laryngectomy have only been performed in malignant disease of the larynx. The authors claim that their technique renders these operations comparatively safe, and therefore suitable for other laryngeal conditions such as tuberculosis. The writers also remind us of their good work in connection with circular resection of the trachea, laryngostomy, and tracheostomy. They are of

opinion that the removal of a larynx which is the seat of active tuberculosis is likely to have a good effect upon the lung condition.

Indications.—(1) The general condition of the patient must be relatively good, and the lung disease must be localised and must not be of an acutely progressive nature. (2) The trachea and the pharynx must be sound. (3) The laryngeal tuberculosis, in spite of general treatment and local endo-laryngeal treatment, is getting worse.

Contra-indications. Large cavities, bronchiectasis, acute phthisis, haemoptysis, pneumonia, pleurisy, and bronchitis: in such cases only tracheotomy to relieve dyspnœa should be considered. Operation is also contra-indicated in cases of tuberculosis of the mouth, nose, pharynx, and trachea. Operation should only be undertaken when the whole of the laryngeal disease can be removed. Mild cases of tuberculosis of the mucous membrane without ulceration do not call for radical treatment but are suitable for endo-laryngeal methods; even if cases with ulceration are doing well with endo-laryngeal treatment operation is not called for.

(*a*) *Tracheotomy:* This is indicated in cases of obstruction. The writers hold that in very advanced cases of pulmonary and laryngeal disease this operation cannot be expected to do much good, but in cases in which the patient's condition is fair and the laryngeal disease not too far advanced the effects are excellent and comparable to those after fixation of a tubercular joint. They recommend upper tracheotomy under local anæsthesia. (*b*) *Laryngostomy:* The object here is to remove the diseased parts of the interior of the larynx. The results have not come up to expectation, as the wound becomes tubercular and the patient is worse than before. The writers consider this operation suitable only in chronic cases. They remove all diseased tissue right down to the cartilage, and then cover the bare area by means of rectangular flaps of skin from the neck, which they fix in position first by stitches and then by a Mikulicz tampon; the tracheotomy tube is left in position. After this operation the voice is rough and toneless. (*c*) *Resection and extirpation of the larynx:* Hitherto these operations have received little favour in cases of laryngeal tuberculosis. Chiari says that, apart from the danger of such operations in cases of tuberculosis of the larynx, a cure cannot be expected. The writers, however, state that they have done away with the danger of the operation. They have only had *one death as a result of the operation out of twenty-two cases*, although several patients died later of pulmonary tuberculosis or of tubercular infection of the wound. Their *technique* was as follows: The upper part of the body is raised; deep anæsthesia; preliminary tracheotomy is *not* performed. Larynx exposed by dividing the muscles passing up to the hyoid bone; vessels are now ligatured. Larynx (with the epiglottis attached) is now divided from the hyoid bone and from the pharynx and œsophagus; the wound in the pharynx is stitched up, and then the larynx is divided from the trachea. Finally, the trachea is stitched to the skin at the lower angle of the wound.

Indications for extirpation of larynx.—(1) Deep and extensive ulceration of the mucosa. (2) Perichondritis due to tubercular ulceration along with necrosis of cartilage, abscess-formation and perforation of the covering soft parts. (3) Extensive tumour-like tissue proliferation. (4) Ulceration and infiltration of the upper aperture giving rise to marked odynphagia and loss of nourishment.

The writers state that *partial resection* seldom is called for, but, if performed, the raw surface must be covered with a quadrilateral skin-

flap, which is united to the tracheal mucous membrane below and to that of the pharynx above: the flap is fixed and held in position in the same method as in cases of laryngostomy. The writers give the results of 34 operations (7 tracheotomies, 5 laryngostomies with plastic operation later on, 2 hemi-laryngectomies and 20 total laryngectomies). The result was comparatively successful in three of the seven tracheotomies, and in one of these very good; of the five laryngostomies one did badly (tubercular infection of wound), but the four others were cured, in one case for fourteen years, one eleven years, and one eight years; the two cases of hemi-laryngectomy both recovered (seventeen and nineteen years respectively); of the twenty total laryngectomies one patient died fourteen days after the operation, the other nineteen patients stood the operation well; four completely healed; in three others the result was comparatively successful, while the remaining twelve died within a year after the operation. *J. S. Fraser.*

EAR.

Yankauer, Sidney.—A Speculum for the Direct Examination and Treatment of the Eustachian Tube. "Annals of Otology, Rhinology and Laryngology," vol. xx, p. 421.

An instrument designed for introduction into the naso-pharynx, and illuminated by the ordinary headlight. It is simple in construction, and appears to be easy of manipulation. *Macleod Yearsley.*

Perkins, Chas. E.—Mastoiditis without Apparent Involvement of the Middle Ear. "Annals of Otology, Rhinology and Laryngology," vol. xx, p. 423.

Four cases. In all the membrana tympani was intact, and is described as "normal." In the first and second cases there were a subperiosteal collection of pus and perisinus abscesses; the fourth case died from purulent meningitis. *Macleod Yearsley.*

J. Moller.—Clinical Observations on a hitherto undescribed form of Tuberculosis of the Middle Ear. "Zeitschr. f. Ohrenheilk.," vol. lxiv, Part I.

The writer describes a type of tuberculosis of the middle ear in which the patient complains of a gradually increasing deafness, and in which, on examination, the tympanic membrane presents an appearance somewhat resembling that seen in an acute otitis media with marked exudation into the middle ear. The membrane is markedly bulged, but does not show diffuse reddening; it is golden and dull, showing many injected radial blood-vessels. If paracentesis is performed the membrane is found to be strikingly thickened and tough, and no secretion can be obtained from the middle ear, the membrane heals rapidly, and after remaining for weeks or months in the state described above may gradually regain its normal appearance. Should the process advance, a small portion of the membrane protrudes more and more, its epithelium becoming œdematous and finally shed, and a small ulcer develops with a small drop of pus on its surface. Similar ulcers develop over the rest of the tympanic membrane, which heal or may give rise to perforations, the membrane then presenting the well-known appearance of the typical middle-ear tuberculosis, but frequently the dull golden coloration is preserved for a long time. The condition starts, in fact, as a diffuse generalised infiltration of the membrana propria with marked thickening, and a