meningitic origin, (2) cases of middle-ear origin, (3) cases in which the deaf-mutism is due to primary changes in the labyrinth

In congenital deaf-mutism the author, like Siebenmann, distinguishes between two chief groups. The first includes those cases of aplasia of the whole labyrinth; the second group those cases in which the whole bony and membranous labyrinth is present, but the epithelium of single areas of the endo-lymphatic space is degenerated to a greater or less degree. The second group may further be divided into (*a*) cases where the metaplasia of the epithelium is restricted to the basilar membrane; (*b*) cases where the metaplasia is widespread, where there is absence or incomplete development of the sensory epithelium combined with ectasia and collapse of the membranous labyrinth of the pars inferior.

There were relatively only a few transitional cases between the single types of the group *b*, or cases which did not exactly correspond to one type. Whether this division into single types will hold in the future, with an ever-increasing material, cannot as yet be ascertained.

(*To be continued.*)

Abstracts.

NOSE.

Greene, D. Crosby, jun. (Boston).—*The Transplantation of Cartilage in the Correction of Deformities of the Nose.* "Boston Med. and Surg. Journ.," March 17, 1910.

The author gives a *resumé* of literature as to transplantation of cartilage and perichondrium. He reports two cases of deformity resulting from undrained abscess of septum with destruction of the quadrangular cartilage. In both cases cartilage from the submucous resection operation on other persons was used. *Macleod Yearsley.*

Citelli S. (Catania).—*On Two Cases of Chronic Suppurative Disease of the Frontal Sinus Treated by My Method.* "Zeitschr. f. Laryngol.," vol. ii, Part IV.

The method of the writer, which is founded on experiments on dogs, consists essentially in the removal of all diseased material from the sinus, the disinfection of its walls, and the filling of its cavity with Mosetig's No. 2 mixture of iodoform and paraffin.

Of the two cases here reported the first was that of a man with a very large frontal sinus. Healing at first occurred, but four months after the operation, during a very severe attack of acute catarrhal rhinitis, re-infection of the sinus took place and Killian's radical operation had eventually to be performed.

In the second case, that of a man with a relatively small sinus, the nasal opening of which had become completely obliterated, the writer's method was completely and permanently successful and the cosmetic result excellent.

The operation is performed in two stages. The first includes a sufficiently wide opening of the frontal sinus to allow access to the entire cavity, removal of diseased ethmoid cells, and curetting and disinfection of the walls of the cavity and of the fronto-nasal duct. The cavity is then packed with gauze, which is removed daily to allow of disinfection and the application, if necessary, of the cautery, particularly about the orifice of the fronto-nasal duct, in order to obtain closure of the latter. After a period of from fourteen days to four weeks, when the sinus has been completely shut off from the nose by fibrous tissue, the second stage of the operation is undertaken. This consists of careful disinfection of the walls of the cavity, the use of hot air in order to dry them, and the introduction of the iodoform and paraffin.

The method is best adapted for sinuses of moderate size. The advantages claimed are the rapidity of the healing, the impossibility of re-infection from the nose, provided that obliteration of the fronto-nasal duct has been obtained, and the excellent cosmetic result.

Thomas Guthrie.

Hajek, M. (Vienna).—*The Treatment of Empyemata of the Accessory Sinuses.* "Zeit. für Laryngol.," vol. ii, Part V.

In reference to the treatment of chronic suppurative disease of the maxillary antrum, the author gives it as his opinion that the first measure in cases of dental origin (which are much more frequent than was formerly supposed) should always be removal of the tooth and lavage through an opening in the alveolus after Cowper's method. Even in chronic cases healing not infrequently follows this procedure. In a very considerable number of cases healing follows the modified Mickulicz operation (resection of a portion of the inferior turbinal and the making of a large opening from the inferior meatus). It is essential for success that the opening should be very large, as the tendency to close is great. In obstinate cases in which conservative methods have failed the Luc-Caldwell operation will alone succeed. The results of the latter, especially since the introduction of Denker's modification, are very good, but failure may result from incomplete removal of the disease, or from the nasal communication not being made sufficiently wide. Apart from faulty technique the operation may be unsuccessful owing to re-infection of the cavity from other diseased sinuses, or because the dental origin of the trouble has been overlooked. In patients with ozæna the radical operation gives very disappointing results; in such cases, therefore, lavage after one of the conservative methods should be employed.

In reference to the treatment of frontal sinus suppuration, the writer lays stress on the serious and delicate nature of the radical operation, and refers to two of his own cases in which it was followed by death from meningitis. In neither of these cases did the operation present special technical difficulties, nor was the disease of an unusually grave type. He gives the indications for the operation as follows: (1) In all cases in which orbital or cerebral complications have already occurred or are imminent, and in cases in which bone disease is present. (2) In chronic uncomplicated cases only when, in spite of persistent endonasal treatment, serious trouble, such as profuse discharge or intense pain, continue. In the great majority of chronic cases in which endonasal treatment has

produced an improvement without complete healing, the radical operatic is at the present time not indicated. *Thomas Guthrie.*

Onodi, Prof. A.—*The Oculo-Orbital, Intra-cranial and Cerebral Complica tions of Diseases of the Nasal Accessory Sinuses.* "The Laryngo scope," November, 1909, p. 801.

A general *resumé* of the author's work upon the sinuses, containin several items of novelty and interest, of which the following may l mentioned.

It must not be supposed that the left frontal sinus is generall the larger and so the more liable to disease; radiography has shown tha the frontal sinuses are of equal size in one third of the skulls examine while in one third the right and in one third the left is the larger.

Considerable emphasis is laid upon the extension by contiguity o inflammations from the sinuses to the meninges, etc., and, in the sam connection, the close anastomotic intercommunication between the vein of the nasal, sinusal, orbital and cranial regions is insisted upon.

It should not be forgotten that contra-lateral orbital and intra cranial complications due to asymmetrical extension of the sinuses is by no means unknown. This applies to the sphenoidal no less than to th frontal sinus, since temporo-sphenoidal abscess on the side opposite to a diseased sphenoidal sinus has been reported.

We are generally accustomed to think of extension of infection from one sinus to another as travelling along continuous mucous surfaces Onodi, however, points out that disease is frequently transmitted from one sinus to another, as well as from a sinus to an adjoining cavity (orbital or cranial), directly through the bony "party-wall" common to the cavities, and, as might be expected, the facility of such extension depends upon the degree of thickness of these bony walls.

Turning to circulatory factors, the author recapitulates his description of the "semicanalis ethmoidalis," a venous trunk, which, passing from the anterior ethmoidal foramen to the anterior cranial fossa along the orbital aspect of the wall of the frontal sinus or ethmoidal cells, receives veins from these cavities, and so forms a connecting link between these accessory sinuses, the orbital cavity, and the dura mater. As a consequence of this anatomical arragement thrombo-phlebitis of the ethmoidal veins may extend directly to the veins of the orbit or dura. He further reminds us of the relationship between the meningeal spaces and the lymph channels of the olfactory mucosa.

After a discussion of the different orbital and ocular sequelæ of sinusitis the author concludes with a series of cautions, of which the following are the most striking: He is opposed to any stereotyped view associating disease of the sphenoidal sinus with affections of the optic nerves; in many cases the sphenoidal sinus itself has no relationship whatever with the optic foramen, its place being taken by the posterior ethmoidal cells. When, therefore, both ethmoidal and sphenoidal cells are found to be diseased then both of them must be treated and not the sphenoidal only. Again, he warns us against concluding too hastily that disturbances of vision are due to sinus disease, for both conditions may co-exist in the one case and yet be quite independent of each other. Retro-bulbar neuritis may get well spontaneously without any therapeutic measures whatever. Finally, the remarkable fact is commented upon that extensive nasal disease may cause no ocular disturbance, while on the other hand slight nasal disease may induce severe disturbances of vision. *Dan McKenzie.*