the ordinary culture media, and displays a marked pathogenicity. White mice die of typical septicæmia sixteen to forty-eight hours after subcutaneous injection. The power possessed by the bacillus in each of the three cases of forming acid from different kinds of sugar was compared, after the method of Bertarelli, with that of other members of the capsulated bacilli. The result was that the bacillus present in two of the cases showed, both in this respect and in general cultural characteristics, a close relationship to the *Bacillus pneumoniæ* of Friedländer and the ozæna bacillus, while the organism present in the third case resembled rather the *Bacillus ærogenes lactis*. That bacilli not completely identical with one another may be responsible for one and the same disease, the authors would explain by the presence in each case of the broad homogeneous capsule devoid of limiting membrane. Dr. Hamm has shown that this capsule consists of nucleo-proteid, a substance well known to be an excellent vehicle for the transmission of ferments. The authors regard the facility afforded by this abundantly secreted mucoid substance for the continuous action of a virulent poison upon the cells of the mucosa as the probable cause of the keratinisation of the epithelium.

Agglutination experiments were conducted with a view to deciding the question as to whether or not the bacterial products were absorbed into the general system. They were, however, not conclusive.

Thomas Guthrie.

NOSE AND ACCESSORY SINUSES.

(1) **Mosher, H. P.**—*A Case of Fatal Meningitis after Removal of the Anterior End of the Middle Turbinate*; (2) **Tobey, G. L., jun.**—*Fatal Result from Intra-nasal Operation.* "Boston Med. and Surg. Journ.," May 30, 1907.

These papers may be taken together. The first case was a man, aged fifty, whose left middle meatus was "full to overflowing with pus." The operation was done to gain room for systematic examination for the source of the pus, which had been present some years. The middle meatus was packed with sterile gauze, which was removed next day, and the antrum syringed. Severe frontal headache was complained of. The patient returned home, and became irrational; was re-admitted two days later with septic meningitis. The frontal sinus was opened and found full of pus, the antrum entered *viâ* the canine fossa, the ethmoid curetted, and the sphenoid opened. Everywhere was foul pus. Patient never regained consciousness, and died within twenty-four hours. No autopsy. Mosher believes the packing walled back the pus and infected the meninges through the cribriform plate. He wishes he had opened the cranial cavity.

The second case was a man, aged fifty-eight. Muco-pus from anterior and posterior nares fifteen years. Polypi removed at intervals of from four to six months. Complete loss of smell five years. Both sides of the nose were filled with polypi and pus. Polypi were removed, and four days later the right middle turbinate was ablated, the ethmoid cells opened and curetted. As polypi protruded from the sphenoidal foramen, the anterior wall of the sphenoid was removed. The cavity was full of

granulations and pus. Packing was removed twenty-four hours later, with more polypi, and the right antrum opened, and much muco-pus washed out. A week later the deflected septum was operated upon by the submucous method. A fortnight after the left middle turbinal was removed, the ethmoid cells curetted, and the sphenoid opened. The right side was dry in six weeks. The left side was dry, save for a polypoid mass growing from the roof a little posterior to the naso-frontal duct. This was removed with a Grunwald punch, and the man developed septic meningitis in twenty-four hours, from which he died in four days. No autopsy. *Macleod Yearsley.*

Dupuy, Homer.—*Laryngeal Tuberculosis, its Treatment, Diagnosis, and Prevention.* "New Orleans Med. and Surg. Journ.," June, 1907.

The author of this paper, which is based on 200 cases, insists upon the necessity of treating the patient, and not the larynx alone, emphasises importance of early diagnosis and routine laryngoscopy, and recommends open air, voice rest, formol, lactic acid, and the galvano-cautery.
Macleod Yearsley.

Tobey, G. L., jun.—*Essential Points in the Technique of Submucous Resection of the Nasal Septum.* "Boston Med. and Surg. Journ.," May 30, 1907.

The author considers anæsthesia, position, incision, and the best way of removing the cartilage and the incisive crest. The author thinks a horizontal incision along the base of the septum is seldom required. Extension across the nasal floor gives more room. For the incisive crest he prefers Jansen's forceps and a chisel. On account of the reactionary engorgement following the use of cocaine and adrenalin, light packing is advised. *Macleod Yearsley.*

Powers, G. H.—*Technique of Submucous Resection of Nasal Septum.* "Boston Med. and Surg. Journ.," May 30, 1907.

This paper gives the technique of the operation as performed in the Massachusetts General Hospital Throat Clinic. Anæsthesia is obtained by rubbing the mucosa with pledgets of cotton dipped in equal parts of adrenalin (1–1000) and cocain (4 per cent. to 10 per cent.). The single anterior incision is used, occasionally modified to meet special requirements by the addition of a horizontal cut along the base of the septum or by extending the incision across the nasal floor. The author prefers Ballenger's knife when possible. Sutures are used and the nose packed. Packing is removed after twenty-four hours and aristol insufflated for two days, sutures being left for from three to five days.
Macleod Yearsley.

Heimendinger, A. (Strassburg).—*Contributions to the Pathological Anatomy of the Maxillary Antrum.* "Archiv für Laryngol.," vol. xix, Part III.

The first of the two cases which form the material for this paper was one of cholesteatoma of the maxillary antrum. The patient, a

woman, aged thirty, suffered from atrophic rhinitis and empyema of the right antrum, which was opened through the inferior meatus. Three months later the purulent nasal discharge still continued, and at a second operation abundant cholesteatomatous masses were removed. These masses were arranged in lamellæ, the latter being made up of large polyhedral epidermoid cells.

Hegetschweiler has reported two other instances of this disease affecting the maxillary antrum, and in a case put on record by Weinlechner, cholesteatoma of the frontal sinus followed upon suppurative disease of that cavity of traumatic origin. No other cases in which the disease involved an accessory cavity of the nose have been recorded.

The writer gives some account of the views which have been put forward as to the pathology of cholesteatoma in general, and particularly as met with in the temporal bone. While it is certain that the condition may arise as a primary new formation, in most cases it is secondary to chronic suppuration. No instance of the primary form affecting a nasal accessory sinus has been recorded. The writer considers the association with ozæna in his case as very important. In ozæna the metaplasia of the cylindrical to squamous epithelium is one of the most prominent features, and it is suggested that in the case here described invasion of the antrum by the squamous epithelium may have taken place. The antrum, being already the seat of chronic suppuration, would then offer favourable conditions for the active proliferation of the squamous cells and the formation of a cholesteatoma.

The second case described in this paper was one of cholesterin cyst of the antrum. The patient was a woman, aged thirty-four. From both nostrils polypi had been removed four years previously. As circumstances pointed to disease of the left antrum an exploratory puncture was performed, and a syringeful of clear serous fluid containing numerous cholesterin crystals was drawn off. Later, the antrum was opened through the canine fossa, and a cyst about the size of a walnut, together with some polypoid masses, removed from its interior.

Microscopical examination showed that the cyst had originated in a polypus, by a process of central softening. While the tissue immediately subjacent to the investing layer of ciliated epithelium displayed the features characteristic of an ordinary polypus, the layers internal to this were undergoing necrosis. Both in this necrotic portion of the cyst wall, and on the boundary line between it and the still unaltered outer layer, a number of long, narrow spaces, with sharply-cut edges and pointed ends, were visible. In close association with these spaces were numerous large giant-cells, many of them packed with nuclei, but others, containing only a few, at either end, or around the periphery. The spaces had evidently been occupied by cholesterin crystals, almost all of which had been removed during the treatment of the preparation with ether and alcohol. These crystals had acted as foreign bodies and were responsible for the presence of the giant-cells. The latter were of the nature of the so-called "foreign-body giant-cells," which have been described in a number of different conditions. Some of these appear to arise by confluence of neighbouring cells, others by the growth of a single cell.

Thomas Guthrie.

Jouty, Antoine.—*A Case of Suppurative Thrombo-phlebitis of the Lateral Sinus and Bulb of the Jugular, a Sequel to Chronic Purulent Otitis, Pyæmia, Pulmonary and Articular Metastases; Radical Operation, Opening of the Lateral Sinus, and Drainage of the Bulb; Cure.* "Annales des Maladies de l'Oreille, du Larynx, du Nez, et du Pharynx," March, 1907.

Mention is made that the majority of surgeons hold it to be correct practice to ligate the internal jugular in its upper third above the thyro-lingual-facial vein, as a preliminary to clearing out and draining an infected sinus and bulb. The views of Moure and Brieger are quoted; the former considers ligature in such cases useless, and the latter never practises it.

The following case of suppurative thrombo-phlebitis of the sinus and bulb operated by the writer and cured without ligature is then detailed:

A lad, aged fourteen, had suffered from bilateral intermittent otorrhœa for twelve years, dating from an attack of measles. On June 29, when he first saw the author, he had had a copious discharge from the left ear for four days, with auricular pain and headache of the same side; he also complained of vertigo and sleepiness. The temperature was high, with marked oscillations. Examination of the ear revealed a perforation of the drumhead, partially obstructed by granulations. There was pain on pressure over the mastoid process, and palpation along the course of the internal jugular elicited tenderness. A radical mastoid was performed; the wall of the sigmoid sinus, which was found to be involved by osteitis, was removed with the gouge, exposing that vessel in its whole extent. The sinus was then freely opened, and purulent clots which occupied its lumen were removed with a curette; no hæmorrhage followed from either end; as it was possible the thrombus had extended to the bulb, the latter was exposed with a rongeur. After introducing a piece of gauze into the bulb by means of fine forceps, it was found on withdrawal saturated with pus; there was no trace of blood. Insertion of a gauze drain into the bulb and sinus completed the operation. The pyæmic temperature continued; the dressings were changed every two days, and on each occasion endeavours were made to remove clots from the proximal and distal ends of the sinus; during the third dressing free hæmorrhage occurred from the former. The pyæmia ran its usual course. The day following the operation there was a painless suppurative arthritis of the metatarso-phalangeal joint of the great toe, and some days subsequently a well-marked patch of congestion was noted in the lower lobe of the right lung; the former was opened, and the latter was treated by revulsives in the form of turpentine stupes, frictions of iodine and collargol, whilst the general treatment consisted in the abundant administration of diluents and alcohol; injections of serum were also made. Convalescence commenced one month after the operation, and two months later the operated cavity had completely epidermised.

In his final remarks the author draws attention to the altered pulse-temperature ratio observed in this case. When the temperature ranged at 40° and 40·6° C. the pulse did not exceed 76, and with temperatures of 36° and 36·5° C. it was 48 and 50. He attributes this condition of things to an irritative lesion of the vagus, the result of its contiguity to the infected sinus in the foramen lacerum posterius, thereby accentuating the normal cardio-inhibitory function of that nerve. *H. Clayton Fox.*