

escape of secretions from the drum-cavity. The case due to neuritis of the facial nerve was relieved after four months of treatment, chiefly by the constant electric current every two or three days.

Surgical Treatment of Diseases of the Attic and Mastoid Process.—A. BRONNER (*British Medical Journal*, October 17, 1896) has presented a very valuable consideration of the technique and recent modifications in the surgical treatment of the above-named diseases. In this paper we are informed that "diseases of the attic and mastoid process are very common, and if not operated on early and with great care, they are extremely fatal. Many cases are seen by the nasal surgeon in which no operation was thought necessary or performed until the disease had spread to the brain, or in which the operation has been restricted to a Wilde's incision or the use of the gouge or gimlet." The latter is practically the Schwartze operation, and is very good in acute cases—i. e., in those occurring as a complication of acute otitis media, and was in universal use in mastoiditis of all forms until 1889. In this latter year Küster recommended that in all cases in which the middle ear was extensively diseased we should not be content with Schwartze's operation, but should also remove the whole of the posterior wall of the ossaceous external meatus, and in the same year von Bergmann suggested that in addition to the posterior wall the upper wall of the bony auditory canal should be removed. In 1892 Stacke suggested his method of operating in chronic cases, and this is now adopted in such cases. In this operation of Stacke a long incision is made behind the ear, about half an inch from the line of insertion of the auricle, the cutaneous external meatus is loosened and cut across as near the drum-membrane as possible, and the whole ear drawn forward. The remnants of the membrane and the two largest ossicles are then removed, a protector is then placed in the attic, and the ossaceous wall of the attic, or the tympanic plate, is chiselled away. The upper and outer wall of the external meatus and the outer wall of the mastoid antrum are then removed in the same way. A large cavity is thus formed, consisting of the middle ear, the attic, and the antrum. The ear is then replaced and the wound stitched up or left open, according to the extent and nature of the disease.

Macewen and Horsley prolong the incision round the top of the auricle, and then draw the whole of the ear downward. Bronner prefers this method, as it gives a better view of the diseased parts, after the membranous canal is cut across and laid open at its top. Macewen also uses a hurr impelled by a dental lathe, instead of a chisel, to remove the bone. The great advantage of Stacke's operation is that we are enabled to carefully examine the affected region, to remove thoroughly all diseased parts, and to readily watch and control the field of operation during the process of healing. In order to keep open the large cavity thus formed and have it covered with epithelium, the cutaneous external meatus is cut through horizontally in one or more places, well into the auricle, and a flap or flaps are formed which are stitched to the edges of the external incision or to the periosteum. In some cases the subcutaneous tissue of the flap may be removed and the skin placed directly in contact with the walls of the cavity formed by the operation. (Lnke.) In cases of cholesteatoma a permanent opening is maintained

behind the ear, by forming a flap of the skin behind the ear and inserting it through the external wound into the cavity. Bronner further says: "The symptoms of disease of the attic and the mastoid process are often well marked and evident. Frequently, however (and these are the most dangerous cases), the symptoms are few and obscure, and it is most difficult to diagnosticate how far the disease has spread and to know if we should operate or not. If we are thoroughly acquainted with the local anatomy and the technique of the operation, the danger attending the operation is very slight. We make exploratory incisions in obscure abdominal cases, why not in obscure mastoid cases? Surgeons, as a rule, and certainly general practitioners, seem to treat diseases of the mastoid with something like contempt. They do not seem to realize the danger of cerebral complications, and they often fail to recognize that early operative treatment would frequently save the patient's life."

Otitic Sinus Thrombosis.—WEISSGERBER reports a case of otitic sinus thrombosis successfully treated by operation on the sinus and jugular (*Deutsche medizinische Wochenschrift*, 1897). The patient was a healthy woman, aged twenty years, who had never suffered from any ear-disease until a week after a slight angina in August, 1896. She was then suddenly attacked with earache, which lasted twenty-four hours, and was finally relieved by spontaneous rupture of the drum-membrane. During the three days following this event the patient lay in bed, the ear discharging a little. At the end of this period the pain in the ear and discharge from it ceased, and the patient got up; but after getting out of bed she had a slight chill. Ten days later pain began again in the ear, and fever set in. The next day the patient had a chill lasting ten minutes, and again on the two days following she had chills. The pain in the ear had ceased, but the patient complained of general weakness, and was finally put under special care on September 13, 1896. At this time the patient appeared apathetic; her general condition presented nothing of special note, and her right auditory canal contained a little pus. Externally the ear and its vicinity showed no changes, though the mastoid process was tender on percussion. There were no changes in the neck in the line of the great vessels. On the evening of this day (September 13th) the patient had a heavy chill, lasting fifteen minutes, succeeded by a temperature of 40° C. and a rapid pulse. Acute purulent otitis, involving the mastoid cells, was diagnosticated, and opening the mastoid cavity was indicated. Consequently, the next day the mastoid cortex, which was healthy externally, was punctured and an inoffensive pus escaped. Further removal of the cortex revealed softened bone and granulations in the cells, antrum, and tympanic cavity. These cavities were cleaned out with a sharp spoon. The wound was then tamponaded with iodoform-gauze. On the next day (September 15th) the general condition of the patient was unchanged. Temperature 38.9° C. to 38.2° C., and in the evening another chill. On September 16th the temperature varied from 40.4° C. to 37.2° C., and on the next day from 38.2° C. to normal, but went up again to 40° C. The next day the inner wall of the mastoid was partly removed and the sigmoid sinus exposed. Beneath the sigmoid fossa and the sinus a little pus was found. Further interference in this region was stopped, and the jugular vein—which before the anesthesia had been found a little