

Vapours of turpentine, carbolic acid, and eucalyptus should be used more or less constantly in the room.

Dr. MULHALL referred to the value of "house-posting." Personal prophylaxis is of the greatest importance in this as in other contagious diseases. The general condition of children should be looked after; enlarged tonsils and other morbid conditions should be rectified. Dr. Mulhall has found the best method of treatment to consist in sterilizing the upper air-passages and keeping up the nutrition of the patient. The sterilization of the nose and throat can be done with very little discomfort to the patient by means of the common household syringe. It is important to disinfect the posterior nares, as the absorption of toxic matters in that region is very rapid. This can be done by means of a little glass syringe.

The further discussion of this question was postponed until the next meeting of the Association.

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The following officers were elected for the ensuing year :—

*President*—Dr. D. Bryson Delavan (New York).

*Vice-Presidents*—Dr. J. C. Mulhall (St. Louis); Dr. W. E. Casselberry (Chicago).

*Secretary and Treasurer*—Dr. Charles H. Knight (New York).

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### FIRST PAN-AMERICAN MEDICAL CONGRESS.

*Held in Washington, D. C., September 5th, 6th, 7th, and 8th, 1893.*

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#### SECTION ON OTOLOGY.

C. M. HOBBY, M.D., Iowa City, Iowa, *President*.

MAX THORNER, M.D., Cincinnati, Ohio., *Secretary*.

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The PRESIDENT, in his address of welcome, laid stress upon the fact that this meeting of the First Pan-American Medical Congress would afford to the otologists of America opportunity of interchange of opinions between the north and south, the more than one hundred degrees that separates the *confrères*, and expressed a hope that hereafter we may frequently share in similar opportunities for comparison of experience. Continuing he said: Meanwhile we have assurance of the kindly help of our fellows from the denser populations of Europe; and I congratulate you upon the presence with us of one whom we all reverence as a master; for whether we have been pupils at Vienna, or have through literature gleaned the steps by which otology has advanced since the days of Toynbee, there is not one of us but who acknowledges a debt of gratitude for the landmarks established by Prof. Adam Politzer, and I think I voice the universal sentiment of felicitation that this genius is still active, and that he is here to speak for himself. I assure you that you will hereafter rejoice to have been present.

*The Prevention of Deaf-Mutism*, by Dr. C. M. HOBBS, Iowa City, Iowa.

The proportion of deaf-mutism remains nearly constant as judged by census returns, and taking the defective classes as a whole—viz., insane, idiotic, blind, and deaf-mute—constitutes fourteen per cent. of those to be considered, a total of more than 50,000. In considering how large a number may come to be considered as preventible, we are met with the assumption by teachers and authors of text-books, that fifty per cent. of the mutes are congenitally so. But this is not in accordance with facts, at least for the United States, as it is readily shown that not more than fourteen per cent. and probably only ten per cent. are born deaf. Again, middle-ear disease plays only a small part in the production of mutism. Severe middle-ear lesions of both ears are only found in about fourteen per cent. of these cases, and doubtless labyrinthine disease exists in the majority of these. Even in cases attributed to scarlet fever less than one-half exhibit distinctive lesions of both middle ears.

The principal cause of deafness resulting in deaf-mutism is to be sought in the various forms of meningitis occurring in the early months of life, and the resulting labyrinthine disease, cerebro-spinal fever, being a prominent factor in the United States.

Prevention must come then principally from associated study of clinical history and pathology, and especially pathology of little understood inflammations of the pia mater. Great difficulties arise from the difficulty of recognizing disturbance of hearing in infants, and in the fact that the ear lesion frequently follows the acute disease without external manifestations, and after a considerable interval of time. Especially should the general practitioners of the country be warned of the frequency with which deafness follows apparently slight ailments of children, and they should be impressed with the fact that destruction of hearing most frequently takes place without symptoms referable to the ear.

*Otacoustic Treatment: Its History and Results upon the Deaf and Deaf-Mutes.* By J. A. MALONEY, M.D., Washington, D.C.

Experimentation in physics, and principally acoustics, prior to 1886, resulted in the development of the instrument since known as the otophone, which differed in construction from anything used for that purpose. It had two chief characteristics:—

1. It did not enter the meatus auditorius externus ;
2. It was a tube closed at one end by a flexible membrane, and thereby confined a column of air.

The instrument was demonstrated before the College of Physicians of Philadelphia in 1887, and subsequently tests were made upon deaf-mutes at the Pennsylvania Institution for the Deaf and Dumb, and at the National Deaf-Mute College, Washington, D.C.

It then occurred to the author that a new field of treatment in chronic deafness might be opened. A great deal then was dependent upon tentative deduction. In the use of Politzer's inflation slight benefit was conferred by equalizing the pressure upon each side of the membrana tympani. In the use of the otoscope success was rare, because it pro-

duced noise, and the ear in the higher and lower animals shrinks from the same.

Then he directed his attention to a system of aural massage, which had for its chief feature sound arbitrarily applied, as a therapeutic agent in chronic deafness, and designated by him as "otacoustic treatment," and has since been known by that title. Much time was required in formulating the method of treatment during the first two years, the work being empirical, because he had no rule of procedure based upon experience of others for his guidance. That partial ankylosis could be relaxed by this form of passive motion was accepted by some of the most eminent otologists of our day, and he was encouraged by them to persevere.

A number of cases were then reported, showing the good results of otacoustic treatment upon deaf and deaf-mutes.

Prof. ADAM POLITZER demonstrated a large collection of magnificent anatomical and pathological specimens. He also exhibited a number of new or improved ear instruments.

*Pathological Conditions following Piercing of the Lobules of the Ear.*

By Dr. MAX THORNER, Cincinnati, Ohio.

The custom of piercing the lobules of the ear for the purpose of wearing ear-rings is considered a relic of barbarism and superstition. Not rarely, serious and even fatal consequences have been observed after this procedure. Scattered through medical literature we find reports of trismus, erysipelas, severe inflammations, disfigurements, formation of tumours, etc., as possible sequelæ of this reprehensive custom. The following cases have come under the observation of the author:—

*Erysipelas of the Auricle.*—Three cases. The first was a child two years old, the two others adults, in whom a severe attack of erysipelas, spreading over neck, scalp, and face developed soon after the placing of the ear-rings.

*Deformities.*—Two cases of cleft lobule were seen, caused by the ear-rings cutting through the lobe. In one case the ring had been replaced close to the slit left by the first ring, and there resulted a lobule consisting of three narrow strips. An operation after the method of Knapp gave good cosmetic results. In another case the opening made for ear-rings had become enlarged to the size of a lead pencil. The opening was closed by one suture, after paring the edges.

*Eczema of Auricle,* acute as well as chronic, was observed in a number of cases. The acute form yielded readily to treatment with ointments (*e.g.*, ung. diachylon), after the ear-ring had been removed. The chronic form is more obstinate.

*Tumours of Auricle.*—Three cases. One case of fibro-chondroma of auricle in a white lady, aged thirty-two. Began to make its appearance ten years ago. Was twice removed, but soon reappeared. About three years ago had reached the size of a small chestnut, involving the whole lobus. Was then removed by a V-shaped excision, and had not returned two years after the operation.

The second case was a typical fibroma of the auricle. The patient

was white, thirty-five years old. When fifteen years old her ear-rings were caught on a pillow, and both forcibly torn out. A lump began to grow in both lobules, which were partially amputated two years later. The left tumour has never returned. The tumour in the right ear returned six times. Two years ago the tumour had reached the size of a large English walnut, involving the larger part of the auricle. The whole auricle was then amputated. The tumour has not returned.

The third case was that of a keloid of the auricle and face. The patient was an unmarried lady, white, thirty-five years old. When eighteen years old a small, very painful tumour developed in the edge of the puncture made for ear-rings. Within the following seventeen years this tumour was the cause of untold misery for the patient. She had been operated upon with the knife six times, and caustics in untold quantities, electrolysis, hypodermic medication, etc., had been tried again and again. She was hardly ever free from pain, which increased at the time of menstruation. There was a solid, sessile tumour about one inch by three-quarters of an inch in diameter, extending from the cicatricial edge of the auricle, of which the lobule was gone, into the cheek. Removal was effected by an elliptical incision in healthy tissue, and the tumour lifted with a portion of the subcutaneous adipose tissue from its location. No signs of recurrence one year after the operation. On former occasions the tumour commenced to reappear within six months. The microscopical examination showed the removed tumour to be a true keloid.

The author concludes that these cases are more frequent than we usually think. "And while in most cases no serious consequences result "from the folly of piercing the lobes, yet there occur from time to time "cases where a life is at stake, or where the enjoyment of life is seriously "interfered with. It is time that this relic of barbarism ought to be "relegated where it belongs, to the bygone follies of superstition and "fashion. And the day is, I hope, not far distant, when it will be con- "sidered an evidence of brutality to have a tender and unprotected child "subjected to such an unnecessary and mutilating procedure."

Discussion by Prof. POLITZER and Dr. HOLMES.

*On a Peculiar Affection of the Labyrinthine Capsule as a frequent cause of Deafness.* By Prof. ADAM POLITZER, Vienna.

The subject of the writer's paper was a particular form of deafness, occurring usually in an older person, and due to a pathological alteration of the labyrinth capsule. During the examination of a number of temporal bones of people who had suffered from progressive deafness, the author remarked circumscribed bony protuberances in the neighbourhood of the niche of the fenestra ovalis. These protuberances were of the size of a lentil, rather flattened towards the edges, and contrasted with the surrounding parts by their yellowish colour. The mucous membrane of the tympanic cavity was generally normal, occasionally somewhat thickened. The fenestra ovalis was, in some specimens, of normal appearance, in others narrowed by protuberances. The stapes usually immovable; in very few specimens, however, slightly movable.

In the second edition of "Diseases of the Ear," published in 1887, may be found a drawing of a case of bony ankylosis of the stapes. Besides changes in the stapedio-vestibular articulation, the capsule of the labyrinth shows considerable enlargement of the lacunar medullary spaces. These changes were interpreted by the author, as well as by others who had observed similar conditions, as being due to chronic interstitial middle-ear catarrh.

The study of the specimens which the author demonstrated to the Section showed that this view is not correct, and that these cases, which have usually been grouped under dry, sclerotic middle-ear catarrh, are in reality due to a primary lesion in the capsule of the labyrinth.

The following are the histological changes observed in the microscopical section made from the specimens: The parts surrounding the oval window are transformed into a uniform mass of newly-formed osseous tissue. The normal articulations between the stapes and oval window have entirely disappeared. The plate of the stapes is frequently thickened, even to five or six times the normal size. The ossificatory changes begin in the bony labyrinth capsule, and extend towards the oval window and the plate of the stapes, sometimes even towards the cochlea and the vestibulum.

Sometimes the ossificatory changes only produce partial ossification of the stapedio-vestibular articulation, so that in the same section we find one portion of the articulation completely ossified and another still membranous. This partial ankylosis explains why the hearing power for a loud voice is still retained in some cases.

The newly-formed osseous tissue stains more deeply with carmine, and this difference in colour enables us to distinguish the pathological tissue from the normal, even with the naked eye. The number of bone corpuscles is usually increased, the lacunar and medullary spaces are generally larger, and contain fibrillar tissue, cells, blood-vessels, osteoblasts and osteoclasts.

It may be well to assume that the changes are due to a primary inflammatory process in the labyrinth capsule, producing a formation of new and young osseous tissue, which successively replaces the normal bone, and by extension towards the stapes and other contiguous parts finally causes the important functional changes due to ankylosis of the stapes. These conditions represent one form of progressive deafness. That other pathological conditions, entirely different in character, caused by chronic middle-ear catarrh, such as calcifications and ossifications of the stapedio-vestibular ligament, or adhesions between the branches of the stapes and the lower wall of the niche of the oval window, may often produce similar clinical symptoms is a well-established fact.

Very little could be ascertained in regard to the etiology of this form of progressive deafness, as the disease was observed in old people from whom it was impossible to obtain an accurate history. In two cases gout may be assumed as a possible cause. That syphilis undoubtedly may cause such conditions may be assumed from the investigations made by Moos, who found hyperostotic changes on the labyrinthine wall of the tympanic cavity.

Specimens and drawings were exhibited and explained by the author, illustrating the conditions described.

In conclusion, the writer refers also to the practical bearing of his investigations, inasmuch as these conditions demonstrate to us why our therapeutic efforts are not always crowned with success. An operation can only afford possibilities of success provided the affection in question has not yet caused ankylosis, and that even should an operation in some cases bring immediate relief a permanent result can hardly be expected if the anatomical changes, which were exhibited in the specimens, are only considered, inasmuch as the affection is progressive, and even the extraction of the stapes would not prevent an obliteration of the oval window.

*On the Application of Stacke's Method in Chronic Aural Catarrh.*  
By Dr. FELIX COHN, of New York.

The results obtained by the method usually employed in excision of the ossicles have not been very encouraging, so that the author attempted the application of Stacke's method of operation, which he calls "extra-auricular," in contradistinction to the ordinary method, the intra-auricular, in these cases. Although no cases of its application in chronic aural catarrh have been as yet reported, *à priori*, this method appeared to have considerable advantages over the usual method, chiefly in that the regeneration of drum-membrane might be prevented if the entire tympanum and the limbus be removed; that the external wall of the attic being removed, a larger area for the impact of sound-waves on the stapes and oval window is provided; that the intra-auricular method does not permit of thorough asepsis; and that, finally, the field of operation being larger the successful removal of the ossicles is, in all cases, certain. As the operation was experimental in both cases, only one ear was operated.

Two cases are reported.

Case I.: Man, aged twenty-one, operated November 21st, 1892, on left ear; suffered from severe tinnitus and progressive deafness. In left ear conversation in low voice not at all audible; loud whisper, one inch. Six weeks after operation tinnitus entirely disappeared in operated ear; ordinary conversation, three feet, low voice, eight feet.

Case II.: Girl, aged sixteen, suffering from sclerosis and stapes ankylosis, operated December 15th, on left ear. On examination, hears loud voice at one foot; immediately after operation hears ordinary conversation at one and a half feet; loud voice, eight feet. Six weeks later, hearing is reduced to condition before operation.

The author does not claim any wide applicability of this operation, or the extra-auricular method, in the present state of our knowledge of chronic aural catarrh. Though the success of the experiment has not been brilliant, it has, however, demonstrated the perfect safety of this method, and its availability in cases in which the intra-auricular method is not practicable. With improvement in diagnosis and careful selection of cases, the author believes that better results will be attainable by Stacke's method than by the intra-auricular method.

*Opening the Mastoid Cells in Acute Inflammatory Middle-Ear Diseases.* By Dr. L. D. BROSE, Evansville, Indiana.

Although the indications, as laid down in the text-books, for opening the mastoid cells in acute middle-ear diseases seem well defined, it has nevertheless been my experience to have met with cases where, notwithstanding the symptoms present indicated mastotomy, and because of failure to get the patient's consent, or because the operation through other causes was delayed, the patients eventually recovered solely through local treatment.

Otorrhœa accompanied by pain, œdema over mastoid, and fever, resisting antiplogistic treatment for eight days (Schwartz) is an indication for mastotomy, especially if the posterior wall or external hearing canal is swollen and bulging, and deep-seated furunculosis is excluded. In acute suppurative middle-ear inflammation, without mastoid involvement or pus retention, resisting usual treatment two or three weeks, mastotomy is indicated (Dr. Heymann, of Warsaw). Also as a prophylactic measure when the ear drainage is insufficient, because of swelling of the middle ear lining membrane, or size or location of drum perforation or stenosis of auditory canal. Cerebral abscess, suppurative phlebitis with sinus thrombosis, extra-dural suppuration and meningitis, even with the presence of pyæmic or septic symptoms, indicate mastotomy. Otherwise incurable and recurrent mastoid neuralgias indicate opening the mastoid.

In operating, the author follows on the whole the directions laid down by Hartmann. The operation is terminated when pus is reached. For more extensive suppuration, and where the attic is largely the seat of the disease, the posterior wall of the inner end of the auditory canal may likewise be removed and a drainage tube at times carried through the new-formed opening and out of the external meatus. Good results can be obtained equally well with the chisel or trephine, more depending upon the operator than upon the instruments with which the operation is performed.

*Chronic Disease of the Middle Ear, its Prognosis and Surgical Treatment.* By Dr. ALBERT H. TUTTLE, of Cambridge, Mass.

In a brief history of the operation for removal of the membrana tympani and ossicles, it was shown that in the beginning the operation was performed for the relief of deafness; later, when the operation was applied for the relief of chronic suppuration, the earlier indication was lost sight of, and only at a recent date have operators removed the membrana tympani and ossicles to obtain an improvement in hearing. In the dry form of aural catarrh the writer claimed a great improvement in hearing, which occurs when the footplate of the stapes is removed, especially in those cases where the deafness is marked and the stapes firmly fixed in the oval window. The operation under these circumstances is a very difficult one owing to ossific deposits in the attachments of the ossicles and an atrophy of the crura. When the stapes is firmly fixed the removal of the incus alone is a useless operation. In some cases, owing to the shape of the external meatus, the removal of the stapes may

be impossible. The patients recover rapidly, and suffer only for a few hours from vertigo, which is sometimes absent.

In suppurating otitis media the removal of the larger ossicles was recommended, but the writer promoted the reformation of the membrana tympani by leaving as much as possible of its marginal attachments, on account of the belief that continual suppuration after the removal of the ossicles and treatment of the middle ear is due to mastoid disease, and requires a special operation, and the greater tendency to recurrent suppuration where the cavities of the temporal bone are not protected from atmospheric influences by the presence of a protecting membrane.

The indiscriminate removal of the ossicles in cases of vertigo and tinnitus was cautioned against, and the operation only recommended where such cases as adhesions of the membrana tympani or ankylosis of the ossicles can be predetermined.

In complete occlusion of the Eustachian tube the removal of the membrana tympani and ossicles is a questionable procedure, and in ossification of the membrana tympani the piecemeal removal of the deposit is recommended.

*The Indications and Preferable Methods for Mastoid Operations.*  
By Dr. S. S. BISHOP, of Chicago, Ill.

The author believes that the majority of surgeons are too conservative, both as to the time selected for surgical interference and the extent of the operation. He has seen fatal results follow (1st) refusal to allow the operation, (2nd) after operations too long deferred, and (3rd) after operations that were performed too timidly to remove all the diseased tissue; but he has never known a death to occur as the direct result of the operation itself.

The disease demanding the operation is far more dangerous than the right surgical measures for its relief. Greater freedom of action and boldness of methods will add lustre to the records of our work.

Dr. BISHOP has formulated the following six rules by which he has been guided in deciding when to operate. The mastoid should be opened:

1. When there is acute inflammation of the bone that resists palliative treatment.
2. When repeated swellings and abscesses occur.
3. When there is bulging of the posterior and superior wall of the meatus, with middle-ear suppuration.
4. When there is a fistula.
5. When there are severe pains in the same side of the head as the diseased ear, resisting all other treatment.

6. When a foul otorrhœa cannot be cured by any other means.

His choice of an operation is generally Schwartz's, modified according to the exigencies of each case. Stacke's method leaves too extensive a wound surface, and it takes too long to heal. There is a tendency to resulting stenosis of the external meatus that demands the use of supporting tubes.

Light reflected from a forehead mirror is preferred, and the wound is kept partly open with iodoform gauze until it heals from the bottom.



Aristol is the best cicatrizant, and has soothing or anæsthetic properties.

## DISCUSSION ON THE PRECEDING FOUR PAPERS.

Dr. C. H. HOLMES, in opening the discussion, could not agree with Dr. Cohn that the operation by the Stacke method was more aseptic than when the operation was performed through the external canal. The results from the operation in chronic catarrh of the middle ear have been anything but satisfactory, and therefore there is little to justify us in making such an extensive operation as proposed. He did not think that drills and trephines, as mentioned in Dr. Brose's paper, should even be considered as a part of the armamentarium of the modern aural surgeon. They are instruments that had their day and defenders, but are—and justly so—relegated to the past. He was not in favour of using the drainage tube, as described by Dr. Brose, passing through the opening in the mastoid into the middle ear and out of the external canal, because, if the disease warranted such an extensive interference with the middle ear, the method of operation was not radical enough; and if only for the purpose of giving vent to the mastoid cells, it is not good surgery to meddle so much with the middle ear and endanger the position of the ossicles.

He had examined cases where the stapes had been removed; Schwartze's and Lucae's experience had been very unsatisfactory. He read a letter recently received from Prof. Schwartze and another from Dr. Stacke, wherein both spoke unfavourably of the operation, and Prof. Schwartze, referring to the reports by Dr. Jack, declared that the time for judgment upon these cases is entirely too short, and at present he does not believe the results will be what has been claimed.

He agreed with Dr. Bishop that aural surgeons had been too conservative in operating, and it was especially true that many did operate, but were too timid. If we have once determined that it is necessary to operate, we should use the utmost care to guard against opening into dangerous parts, but we should be bold enough to remove all the diseased tissue. He also begged to call the attention of the gentlemen to the fact that Wilde's incision should not be practised. Schwartze has omitted it in his last work because it is painful, and, if the disease has advanced far enough to warrant the operation, the cells in nearly every case are also involved, and the patient can only be benefited by opening the bony cortex.

If the flap is formed from the lining of the external canal, according to Stacke there can be no collapse after the operation, and, with proper packing, stenosis should never occur. In the experience of the speaker, the canal will admit of the largest-sized speculum being used, and every part of the cavity can be freely inspected. We do not expect the cavity formed by the removal of diseased tissue to be refilled with cicatricial tissue—in fact, this is the most undesirable thing that can happen. What we do want is a cavity covered with healthy epithelial cells; and this can never be accomplished unless firm and persistent packing is practised until all of the cavity is covered with epithelium.

Prof. POLITZER remarked that he never opens the antrum in acute cases. The mastoid trouble is in acute cases rarely in communication with the antrum, and it is better to open simply the mastoid cells. We have thus a clean wound which heals rapidly. Of late he has tamponed the wound for one or two days with iodoform gauze—in fact, has sometimes closed the wound immediately after the operation, after having scraped away all diseased bone. The patients were able to leave the hospital after one week.

In cases of chronic sclerotic middle-ear catarrh he does not, on the whole, expect to get good results from the extraction of the ossicles. In some cases the operation is liable to impair the condition of the ear. In chronic purulent cases he thinks we must expect little from the extraction of the ossicles alone. Küster's method of opening the attic and antrum has been by him employed with good results.

Dr. FELIX COHN wished to state distinctly that he is not an advocate of the excision of the ossicles in aural catarrh, but he has reported the two cases after having satisfied himself of the applicability of the method. He believes that there are only a few chronic conditions in the tympanic cavity in which excision of the ossicles will produce permanent results; and the operation ought to be limited to the prevention of a progression of the disease, or for cases of insufferable tinnitus, so that even an otologist commanding a very large material will not find occasion to operate many cases. As to the *technique*, he thought that the extra-auricular (Stacke's) method was just as advisable, if not preferable, to the intra-auricular procedure. However, wholesale excision of the ossicles should be condemned.

Dr. BISHOP, closing the discussion, said that he did not often insert a drainage tube into the wound of the mastoid operation. The superficial opening is maintained by a pledget of iodoform gauze until the wound heals from the bottom to the opening of the bone. After Stacke's operation he has been in the habit of using a hard rubber tube in the auditory canal for one day, followed by a soft rubber tube for a few days. In regard to the removal of the drumhead and ossicles for dry catarrh of the middle ear, he had become exceedingly cautious. Four cases had come to his knowledge, in all of which the results were so disastrous as to deter him from operating for this disease. In one instance the operation was followed by total deafness in the operated ear, suppuration and vertigo. In another, the tinnitus aurium increased greatly after the operation. In suppuration and necrotic processes he did not hesitate to remove the ossicles.

*The Phonograph in the Treatment of Deafness.* By Dr. JOHNSON ELIOT, Washington, D.C.

The Edison phonograph is capable of reproducing the vibrations composing sound; these, falling upon the membrana tympani, are considered as feeble blows (*tapatement*), causing passive motion of the ossicles. Could the action be confined to the middle ear the treatment would be productive of good results, but this is impossible, as any vibration is carried through the ossicular chain to the endo-lymph. When the

ordinary voice sounds as recorded by the phonograph were used the tympanic muscles would soon become fatigued. The labyrinth is protected from sounds of large volume by the yielding of the membranous walls, and a special valve, the *membrana tympani secundaria*.

In chronic catarrhal otitis media the lining membrane is in a sclerosed condition, and the valve action is greatly interfered with. Where these conditions are present the vibrations are thrown back on Corti's organs, which are over-stimulated. In eighteen cases reported the treatment was given about every third day for periods varying from one to seven months. In but one case did the tinnitus abate, and this for a day, when it returned. None of the cases improved in condition; in one case "nervous prostration" occurred in the course of treatment, in some a slight giving way of the adhesion was noticed.

*Clinical Contribution to the Study of Aural Syphilis.* By Dr. MAX TOEPLITZ, of New York.

Report of a case in which the labyrinth was affected primarily in the course of a freshly acquired syphilis, and in which the aural affection began simultaneously with the appearance of roseola. The special features of this case are: (1) The affection of the labyrinth occurred after the appearance of the pharyngeal mucous patches; (2) the aural lesion took place during the secondary stage and without attacking the middle ear; (3) the diagnosis of syphilis was made from the ear. The case improved under antisiphilitic treatment.

*The Present Condition of Otology in Europe.* By Dr. LAWRENCE TURNBULL, of Philadelphia.

In the first part of this paper the author relates his observations in the otological clinics of Europe during a visit in 1892 and 1893. He compared the present position of otology with that of twenty years ago, and found everywhere a more perfect knowledge of the normal pathological and microscopic anatomy of the ear both in men and animals. With this precise knowledge of anatomy there followed a more rational use of therapeutics both in their local and general application. Definite operative and mechanical methods of treatment, with perfect illumination by gas or electricity, are the general rule nowadays. The old empirical use of the syringe with hot alkaline solutions, without looking into the ear has, among general practitioners, entirely disappeared. An important union has taken place between the laryngologist, rhinologist, and the otologist, which happy combination was well illustrated at the meeting of the British Laryngological and Rhinological Association, and at the Section of Otology and Laryngology at the meeting of the British Medical Association, at Nottingham, 1892. The author then continues to describe the methods as practised at present by the representative otologists of Great Britain, Germany, Austria, Belgium, and France.

The second part of his paper has the separate title:—

*The Operation of Excision of the Ossicles in Chronic Suppurative or Non-Suppurative (Progressive Sclerosis or Proliferous) Diseases of the Middle Ear—with Cases.*

In chronic suppurative disease of the middle ear, after all ordinary

measures have failed, the excision of the membrana tympani and ossicles is resorted to for relief or cure of carious necrosed bone, or diseased tissues, causing mechanical obstruction to the entrance of sound, and is now a well-established rule of practice, as well as a decided advance in aural surgery.

The operation of "otosclerectomy," or the surgical removal of all or part of the sclerosed and anchylosed conductors of sound in non-suppurative or chronic middle-ear inflammation, has received the sanction of the majority of the aurists of the United States, and of many in Germany, for properly selected cases. Failures may and do occur, as well in the hands of the tyro as in those of experts. In properly selected cases the author has had good success, when he found a patient with the obstruction anywhere between the thickening and adhesions of the membrana tympani, ankylosis of the malleus with the incus. It is almost always necessary to perform a preliminary operation by a removal of an oval piece of the drum with the malleus. When we find that this opening improves the hearing, or relieves the tinnitus and vertigo, the operation has to be completed by removing the incus.

In dry progressive sclerosis an incision in the membrana tympani posteriorly to the malleus, followed by traction on the incudo-stapedial joint, has been advised. If this fails in removing the annoying symptoms, it will be safe to excise the membrana tympani and the ossicles. By this operation the author succeeded in stopping sclerosis. Some illustrative cases are reported. The following is the most interesting: A lady, aged forty-six, was profoundly deaf from otitis media, catarrh (chronic) of many years' duration. There was in the right ear thickening of the membrana tympani, the handle attached to the promontory, and the whole malleus twisted on its axis. Eustachian tubes patulous. Hearing, pressed contact. Tuning fork full C, auditory nerve normal, bone conduction good. Excessive tinnitus. The left ear was in similar condition. The operation was performed, chloroform and ether being used, Feb. 5, 1892. The malleo-incudal joint was firmly anchylosed. The membrana tympani and part of the malleus were removed, though the operation was attended with some difficulty on account of the ensuing hæmorrhage. The hearing was greatly improved after the operation, and continued so that she could hear an ordinary voice; the tinnitus had decreased. June, 1893, hearing continued perfect in the ear operated upon; a new membrane had formed.

In these operations it has not always been found necessary to remove the incus and stapes. Also in cases of severe pain in the ear of an obscure nature, with a dreadful feeling of pressure, much relief, of a permanent character, has been afforded the patients by opening the drum and disarticulating the malleus. Cases accompanied with atrophy or paralysis of the auditory nerve should not be operated upon. Great care must be taken not to injure the Fallopian canal with the incus hook. Children can be operated upon, and even old men have had their hearing restored for ordinary conversation, also experiencing great relief from tinnitus and vertigo. Accidents are liable to occur, but much can be done to prevent them. No death is known to the author to have followed the

operation, but cases have been reported where the hearing power has been made worse.

Discussion by Drs. THORNER, HOBBY, MALONEY, and the author.

*Description and Demonstration of Focussing Ear Trumpet.* By Dr. EDMUND D. SPEAR, of Boston, Massachusetts.

As the cone-shaped tubes are best suited for collecting sound-waves for transmission into the ear, one of this form has been chosen to illustrate his design for a focussing ear trumpet. A tube of moderate length for convenience in handling has been taken. At the apex of the cone is attached a short tube of a diameter larger than that of the average sized auditory canal. Within this tube, which is made simply as a support, another tube, one end of which is curved, is fitted so as to move in and out. At the other extremity of this tube is fitted a short cone. As the capacity of the longer tube is limited by the various lengths of the columns of air within it, which act as resonators, the power of any given cone is practically fixed. In Williams' ear trumpet the capacity of a given cone is increased by cutting away a portion of one of its sides. In any instrument of this description the capacity is likewise limited. It is possible, however, to vary within definite limits, though this has not been decided upon, the capacity of both forms of cone by means of the sliding tube with its funnel-shaped extremity. (Two instruments—a portable and a stationary one—were exhibited.)

Dr. E. DEAN, of Scranton, Pennsylvania, exhibited a set of *Instruments for the Application of the Galvanic Current to the Orifice of the Eustachian Tube.*

Dr. R. D. BARRET, of St. Louis, Michigan, had on exhibition an *Improved Middle-Ear Powder Blower*, the essential feature of which is that it requires but one hand to introduce the mouth-piece (a Hartmann intra-tympanic canula) and to work the bulb, the capsule containing the powder being immovably fixed between it and the canula. The instrument is steadied by the thumb of the same hand introduced into a ring which is attached to the lower surface of the powder capsule.

*Adenoids, a contributive factor in Aural Affections.* By Dr. M. D. LEDERMAN, of New York.

The recurrence of the suppurative process in middle-ear disease observed in children is so evidently due to the presence of these growths that their thorough removal should be our first effort. If the patient is suffering from acute symptoms, we must delay such surgical interference until the same have subsided. It matters not if this obstructing mass produces the inflammatory state by direct continuity or by inhibiting the action of the levator palati muscles, thus interfering with the proper aeration of the Eustachian tube and middle ear, or whether the circulatory apparatus is influenced by the pressure exerted upon the pharyngeal veins. The knowledge that these growths are an exciting factor is sufficient evidence to urge their prompt removal.

The usual method of treating the incessant discharge by irrigation and insufflations of boracic acid, thus allowing the possible absorption of the tympanic membrane and ossicles, is, to say the least, a most faulty practice. If we would introduce our finger into the pharyngeal vault of young patients suffering from these frequent purulent attacks, in the large majority of cases it would not be necessary to seek further for their origin. When a child suffering from ear disease, be it of the catarrhal or purulent variety, is a subject of adenoids, we may safely offer a favourable prognosis, providing the removal of the hypertrophied tissue can be thoroughly performed. Unless all the lymphatic tissue is ablated (and this can be readily ascertained by the introduction of the finger into the pharyngeal space), the desired results are not forthcoming. By ridding the patient of this overgrown tonsil, we not only benefit the aural complication, but materially influence the general system as well. The symptoms of mouth-breathing, restlessness at night, dull expression of face, nocturnal enuresis, are all relieved by extracting the exciting lesion. We must not anticipate an immediate cessation of the offensive aural discharge, as it takes a few days, and sometimes weeks, for its final disappearance. However, some cases respond so quickly to the treatment that we are at times agreeably surprised. The instrument which has given the most satisfaction in their removal is the modified heart-shaped Gottstein curette, together with Lowenberg's post-nasal forceps, improved by Dr. Gleitsmann.

Discussion by Dr. T. V. FITZPATRICK.

*Craniometric Measurement of Five Hundred Skulls in relation to Aural Topographic Anatomy.* By Dr. B. ALEX. RANDALL, of Philadelphia, Pennsylvania.

The author has examined five hundred skulls, with the aid of specially constructed calipers, in order to ascertain whether a certain relation of aural topography to the form of the skull could be established, especially in reference to the method of opening the mastoid. The result of his elaborate studies in this direction, elucidated by the detailed account of his measurements, is that, while not sufficiently extensive to be conclusive, they certainly show that the cranial index gives little pointing as to the anatomical relations likely to be met by the operator, and they prove that maximal or minimal dimensions may be encountered in any type of skull.

In the course of this meeting Prof. A. POLITZER was unanimously elected Honorary President of the Section on Otology of the First Pan-American Medical Congress.

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