comprising group 3, in one case ten days and in the other two about nine months elapsed between their complete clinical cure and the last positive culture. The cases, however, are too few to allow any definite conclusions to be drawn.

In drawing conclusions as to the value of the vaccine treatment in the twenty-one chronic carriers, the possibility must not be lost sight of that many, if not all, might have cleared up without the use of vaccines. In view of the fact, however, that practically all the cases showed a marked diminution in the number of bacilli present shortly after the treatment was begun, and that all of them eventually did clear up with large doses, the belief would seem to be justified that the vaccines are of some value. At any rate it has been shown that large doses of diphtheria vaccines can be used without the slightest inconvenience to the patient. From the author's experience, large doses give better results than smaller ones. Whether autogenous or stock vaccines are the more useful is a matter of opinion.

THE OTO-LARYNGOLOGICAL ASSOCIATION OF NORWAY.

Christiania, October 17, 1912, *and April* 28, 1913.

Report by Prof. UCHERMANN.

Actinomycosis.—Wetterstad demonstrated two cases of actinomycosis. In the first, a boy, aged nine, on his admission into hospital pus was found in the right auditory meatus with, on the anterior wall, a granulation protuberance of the size of a pea. On the right cheek there were two abscesses of the size of a Spanish nut. When pressed, yellow matter flowed out of the auditory passage through the said granulation. Actinomycotic granules were found in the matter. Healing followed scraping and treatment with potassium iodide.

The other patient, a countryman, aged fifty-four, noticed pain, when swallowing, in his throat—on the right side—and some dyspnœa. After three weeks the abscess in the throat broke, and the trouble ceased. At the same time the patient observed a lump on the outside of his throat under the right angle of the jaw. This lump steadily increased in size. On admission, there was a red thickening of the skin between the right angle of the maxilla and the sternum, as hard as wood, on some points rather prominent, and here there was soft infiltration. In the pharynx, near the root of the tongue on the right side, a red infiltration was seen, turning the epiglottis towards the left. The soft parts were incised and scraped. Here also actinomycosis was demonstrated. Upon treatment with potassium iodide in increasing doses, only a small infiltration, of the size of a walnut, remained, in which no actinomycotic grains were traceable. Continuous treatment with potassium iodide.

A third case, a grown-up girl, was treated in the hospital for the same disease. The illness began with a swelling in the right cheek, and the patient was admitted with a diagnosis of possible malignant tumour.

All the patients were from the country; all had carious teeth. Upon microscopical examination of one patient's teeth, however, nothing abnormal was found.

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Suppurating Thyro-Glossal Cyst.—Uchermann demonstrated the case of a woman, aged thirty-five, who was admitted to hospital with an abscess in the middle line of the neck. The abscess extended from hyoid bone to the sternum, and communicated, in the middle line of the tongue, with the cavity of the mouth, from which pus was expectorated. The abscess was said to have begun ten days previously, just above pomum Adami, with rigors and fever. From there it expanded upwards and downwards. At the same time, difficulty in swallowing, but not in breathing, supervened. Eight days later the abscess broke. When the patient was admitted, the portion near the root of the tongue was considerably reddened and swollen; matter appeared in the middle line from a certain spot (foramen cæcum ?). Upon incision above the thyroid cartilage, ¼ litre of pus was discharged. The patient left cured. The extraordinary course of the abscess seemed to indicate a starting-point near the pyramidal process of the thyroid gland, with further breaking through to the cavity of the mouth along or through a thyro-glossal duct, which was, perhaps, partly open. Attempts to introduce a probe did not succeed. By laryngoscopy, no opening could be seen.

Labyrinthitis.—Uchermann demonstrated the cases of two boys, aged ten, presenting on admission more or less distinct symptoms of "labyrinthismus," combined in the one case with an acute otitis media suppurativa, in the other case with a chronic one. The acute case had begun three weeks previously as an otitis media purulenta (after angina), which disappeared a week after paracentesis. Ten days later—four days before admission—the patient grew so giddy that he had to go to bed; subsequently he had been confined to his bed, and vomited once or twice daily. A repetition of paracentesis gave no pus. No fever. When admitted, the patient could hear with the right ear the whisper at 3 metres; the left ear was normal. Rinne − 10, Schwabach + 10. The posterior half of the drum-membrane was somewhat injected; no perforation. Pulse, 88; temperature, 37·6° C. There was rotatory and horizontal nystagmus to the right. The patient was giddy; could not walk or stand alone; fell in the direction of the quick eye movement. The caloric test gave normal reaction. Otherwise nothing abnormal. By treatment with pilocarpine and rest in bed the nystagmus and the giddiness disappeared in eight days, and the patient was discharged after further pilocarpine treatment for eight days. The patient could then hear the whisper at 5 metres. Rinne + 25, Schwabach + 5.

In the second case, on admission, there was in the left ear an otitis media purulenta of two years' duration. The patient could hear the whisper at ½ metre. Rinne ÷ 20, Schwabach ÷ 20. A perforation of the size of a pea in the postero-superior quadrant. On the right side also the hearing was reduced (5 metres). No perforation. Rinne + 25, Schwabach + 7. The patient had been brought to hospital because of some tenderness above the left mastoid process. There was brisk, horizontal nystagmus to the left, less pronounced to the right. No giddiness. By caloric test (27° C.) in the right ear nystagmus was seen to the opposite side, not to the same side. Upon test on the left (the affected) side, nystagmus. A week later the ear was dry. The nystagmus was somewhat less; strongest to the right, possibly somewhat less pronounced than before. Otherwise the patient was well. The hearing had improved, so that he could hear the whisper at 6 metres on both sides. The case is interesting because of the total absence of giddiness and dis-

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turbances of movement, in spite of the marked nystagmus. The latter was most likely of old date.

General Tuberculosis simulating Otogenic Intracranial Complication.—Uchermann.—Subacute otitis media purulenta of two months' duration in a workman, apparently strong, who had been admitted because of giddiness and vomiting during the previous six days. Violent headache with remissions. Normal temperature. The hearing was reduced to 20 cm. in the ear mentioned. Rinne — 20, Schwabach — 10. In the auditory meatus some greyish-yellow matter. A perforation of the size of a pin's head in the drum-membrane in front. Mastoid process normal. Pulse, 112; temperature, 37·20° C. There was nystagmus to the right looking. Romberg —. The following day the patient was better. He had feelings of giddiness only when moving in bed. Nystagmus slight to both sides. No vomiting. Pilocarpine, 0·01 grm. daily. Six days later vomiting. No evacuations for a week. Four days later the hearing was found to be unchanged; but Schwabach + 15 instead of — as before. Violent headaches that impeded the examination. Giddiness and nystagmus had decreased. The middle ear was nearly dry. No vomiting. Eight days later the patient complained of seeing badly. Temperature and pulse normal all the time. Vomiting in the evening of the last few days. On ophthalmoscopic examination, considerable papillœdema on both sides was demonstrated. Pilocarpine, potassium iodide. On partial mastoid resection, some pus was found in the antrum; elsewhere nothing. Dura and sinus were normal. Five days later the wound cavity was clean. The patient now could see hardly anything. No nystagmus. Not particularly giddy. Pains in the crown and back of head. Abducens paresis on the right (the healthy) side. Four days later temperature 38–37·5° C. Total resection was now undertaken, and granulations in the epitympanic recess. Upon opening the dura above the tegmen tympani, clear serum ran out. On further opening, cerebral matter emerged. On puncture of the same, nothing was obtained. Wassermann, —. After the operation the patient was fairly well. No vomiting; no headache; normal temperature; but totally blind. The prolapsus increased somewhat. A few days later the posterior brain cavity was examined on the left side for possible tumour. Nothing was found. The wound was sewn up. On September 13 paresis of the left levator palpebræ superioris supervened, and later the left eye was found to be ophthalmoplegic. Otherwise the condition was unchanged. Still later, involuntary urination and evacuation with increasing stupor. September 27, death.

At the *post-mortem*, recent miliary tuberculosis was found in the lungs, the spleen, and the kidneys. In the cerebrum some blood, with scattered miliary tubercles in the cerebral membranes. No jelly-like coating; no tuberculous meningitis. In the cerebral matter itself numerous scattered solitary tubercles, both in the great and the small brain, of the size of a pea up to a bean; some in the vermis of a greater size. One single example, of the size of a pea, in the pons just under the aquæ ductus. Several, of the size of a pea, in the central ganglia, especially in front in thalamus opticus. In the ear itself no tuberculosis could be discovered.

Naso-Pharyngeal Fibroma.—Uchermann demonstrated the case of a workman, aged nineteen, who, April 3, had been operated upon for a retro-nasal fibroma issuing from the anterior aspect of the body

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of the sphenoid. It filled the posterior part of the right nasal cavity and the right sphenoidal sinus, the external bony lateral wall of which was missing, so that the sinus cavernosus on this side lay bare. The convex inferior border of the tumour projected, as an excrescence the size of an almond, into the fornix. In the adjacent ethmoidal cells there was polypoid tissue and œdematous mucous membrane. The tumour was very hyperæmic (microscopical diagnosis: angio-fibroma). Operation *à la* Denker. This is the seventh case of fibroma sphenoidale that has occurred in the hospital during the last two years, all having been operated by the naso-maxillary route, and with successful results. The patient had been admitted for epistaxsis, the obstruction of the right half of the nose having been observed five months before.

Foreign Body in Bronchus referred to Œsophagus.—Uchermann demonstrated the case of a common iron carpet-tack that had been removed from the left bronchus of a girl aged six. According to the anamnesis, her brother, aged five, had put "a stone of a dried plum" in her mouth. A physician had treated her with emetics without success. Upon Röntgen examination "the stone" turned out to be a carpet-tack, the point turning upwards and the head to the left on a level with the fifth dorsal vertebra and localised in the œsophagus. As by œsophagoscopy no foreign body could be found in the gullet, the patient was subjected to renewed skiagraphy, and the tack was then localised in the right bronchus. After upper bronchoscopy proved ineffectual (the larynx being extraordinarily narrow and the tube too large), a high tracheotomy was undertaken, and two days later inferior bronchoscopy under local anæsthesia. The foreign body was seen in the right bronchus, and caught by means of Patterson's small forceps. But when about to be conducted through the tracheal opening, the hold slipped. The foreign body disappeared, and could not be found again. The same thing happened, strange to say, at the next examination two days later. The same instrument was used. The foreign body lay again in the right bronchus; but after the subsequent Röntgen examination, it was found in the left bronchus. It was removed therefrom with a broader forceps (Guisez). In the meantime the mucous membrane had been injured by the larger Patterson forceps, and emphysema had supervened over neck and arms. It caused a rise in temperature, which, however, went down after a few days. The child was discharged cured. The report shows that by Röntgen examination for foreign bodies in the chest it is always necessary to undertake the examination in two planes, with a view to avoiding an erroneous projection.

Prevention of Hæmorrhage after Posterior Turbinotomy.—Heidenreich mentioned a method for preventing after-bleeding in removing hypertropic posterior ends of the inferior turbinals. A galvano-caustic furrow is made upwards and downwards laterally in the part that is to be removed. This is followed by slow strangling with a cold snare, and finally the galvano-cautery on the whole surface of the wound.

Professor Uchermann, when the posterior ends have been removed by the snare (after strangling for some minutes), generally cauterizes at once with chromic acid, sometimes also with the galvano-cautery.

Anomalies of Voice.—Heidenreich described the anomalies of voice resulting from abnormal voice-breaking. These anomalies are functional without demonstrable morbid changes in the larynx and

https://doi.org/10.1017/S1755146300015687 Published online by Cambridge University Press

trachea, and are found especially in men of all ages after the age of puberty ("persistent fistula-voice"). If the voice is too high (eunuch-, fistula-, or falsetto-voice), or if it is "uebersehnappend"—that is, springing momentarily and involuntarily from the normal chest-register to the falsetto-voice—Bresgen let the patient recite loudly, slowly, and distinctly, pressing at the same time with his thumb on the patient's larynx on a level with pomum Adami in a direction straight backwards. Schech, with the point of his index in the incisura thyreoideæ superior, pressed the patient's larynx downwards, the chin being lowered towards sternum. By this pressure the crico-thyreoidei muscles and the vocal cords are relaxed, the voice grows deep, and the forming of the fistula-voice (which is due to too strong contraction of crico-thyreoidei and the vocal cords) is rendered impossible.

As a rule, one succeeds in the first sitting in five to ten minutes by this simple manipulation in procuring a permanently normal voice to the patient with the often unhappy and depressing fistula-voice (patients at the age of eighteen to fifty).

If the voice is too deep—which occurs very rarely—Bresgen pressed together with his thumb and his index finger both the thyroid plates. Schech pressed with his thumb from the inferior border of the thyroid cartilage the larynx upwards, the patient stretching his neck and raising his chin. The voice then grows higher, the crico-thyreoidei and the vocal cords being strongly extended.

Professor Uchermann had occasionally used this grasp, but only as an introduction to methodical exercises in singing and speaking in deep tones. He could hardly conceive of a lasting effect without such exercises following, especially in old cases.

Abstracts.

PHARYNX.

Closier, L.—Ulceration of Pharynx in Diphtheria. "Proceeds. Paris Soc. of Laryngol., Otol., and Rhinol.," December 9, 1911.

The patient, aged twenty, who, after a severe attack of diphtheria, which commenced in the nasal fossæ and extended to the bronchi, presented a perforation of the septum and loss of substance of the left border of the epiglottis; the latter was bound down by cicatricial adhesions to the lateral wall of the pharynx. Wassermann's reaction was negative. *H. Clayton Fox.*

Cornet, P.—Large Adenoma of the Superior Surface of the Soft Palate undergoing Epitheliomatous Degeneration. Extirpation. "Proceeds. Paris Soc. of Laryngol., Otol., and Rhinol.," December 9, 1911.

The growth was removed from a woman, aged twenty-seven, in June, 1910. The history of this tumour presents some interesting features from clinical, anatomical, and operative points of view.

On May 31, 1910, the patient related the following history: During a violent fit of coughing, accompanied by nausea, a large fleshy mass suddenly appeared in the mouth. The coughing subsided, and the mass returned into the throat; but since then the patient was continually

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