AMERICAN LARYNGOLOGICAL ASSOCIATION.

Thirty-first Annual Congress, held at the Harvard Medical School, Boston, Mass., May 31, June 1 and 2, 1909.

(By courtesy of the *Medical Record*.)

(*Continued from p.* 155.)

Tuesday, June 1—Second Day.

A New Method of Packing the Naris Designed to Prevent Post-operative Hæmorrhage.

By W. E. Casselberry (Chicago).

This method consisted in placing a rubber tent with a slightly bulbous end in the naris, pushing it far enough back to permit the bulbous end to project into the naso-pharynx, and packing the tent with gauze with any of the usual packing instruments. He also presented a new model of the "quad" self-retaining speculum.

An Embryological Study of the Metaplasia of the Epithelium of the Tonsillar Crypts: A Contribution to the Origin of Lymphocytes.

By Dr. George B. Wood (Philadelphia).

He noted, first, that in the adult tonsil there were certain phenomena suggestive of the idea that the epithelioid cells of the crypts underwent a metamorphosis, the result of which was the formation of cells morphologically similar to lymphoid cells. Second, that in the embryo the very earliest stages showed a peculiar activity of the epithelium, characterised by the separation of basal epithelial cells, rupture of the basement membrane, and the presence in the epithelium and in the neighbourhood around this epithelial centre of cells morphologically similar to lymphocytes. Third, that the increased growth of this epithelial tissue was attended by the deposition in its immediate neighbourhood of more lymphoid cells. Fourth, that transition cells between the typical epithelial cells and the lymphoid cell might be found not only in the epithelium but in its immediate neighbourhood. These transition cells were more easily studied, and were in greater number in the later stages that in the very beginning. Fifth, that the polymorphonuclear cells were comparatively more abundant

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in the early stages than in the later. The appearance of polymorphonuclear cells in the early stages of the tonsil was difficult to explain. Their presence in the neighbourhood and the tissues immediately surrounding them indicated that they were derived from the circulation. On the other hand, the transition types in very early stages in the epithelium would seem to show a common origin with the lymphocytes. They gradually disappeared as the tonsil developed, and this fact would lead one to think that they were not an essential part of the adult tonsil. It might be that the early change in the epithelium acted as a chemiotactic power, attracting the polymorphonuclear cells. It might be argued that these latter, coming from the blood, gave rise to the lymphoid element, were it not for the peculiar metamorphosis of the crypt epithelium. The origin and function of the polyleucocytes in the embryonic tonsillar tissue needed further study, but their mere presence did not, to Dr. Wood's mind, interfere with the epithelial origin of lymphocytes.

The Tonsil of the Infant, the Child, and the Adult.

By Dr. Harry A. Barnes (Boston).

He spoke of the commencement of tonsillar growth in the embryo and at birth. At the latter time we found the tonsil had very little lymphoid tissue. The epithelium of the crypts was essentially like that of the surface, except that at this period many of the crypts were still in the formative stage, and showed either as solid epithelial buds or as buds in which the central cells had formed a core which was ready to be expelled. Between the fourth and sixth month of life the follicles, with their germinal centres, began to show distinctly, and with their appearance the lymphoid tissue became very active. Large numbers of lymphocytes invaded the crypt epithelium and disintegrated its lower layers, so that they appeared as ragged strands of tissue extending from the surface of the crypt into the lymphoid tissue below. This disintegration was apparently by the pressure of numbers. At the same time the crypt walls were pressed tightly together, so that their drainage became obstructed and the large numbers of lymphocytes passing through the epithelium into the crypt cavity were there retained, and formed the cheesy masses so commonly found in the tonsils of childhood. After eighteen months of life we had conditions very favourable for infection, viz. poorly draining crypts containing these masses of cellular *débris*, and a crypt

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epithelium which could make but a poor defence if the other resisting powers of the patient were lower. At about puberty retrogressive changes commenced, drainage was more free, and the lymphoid tissue receded from the epithelium. This retrogression occurred only here and there. From the point of infection the conditions resembled those of the infant tonsil.

Dr. Leonard W. Williams (Harvard University) opened a discussion, and spoke of the origin of the lymph-cells and channels in various lower animals. He believed that the lymphocytes of the tonsil arose, like those of the lymph-glands, in the mesenchyma.

Dr. H. L. Swain (New Haven) referred to the early observations of Stoehr in Germany, when it was supposed that the destruction of epithelium of the tonsils was a real one, and that there was an absolute erosion of the cells, as shown in Dr. Barnes' pictures. Now, Dr. Wood would have us believe that the thinning out of this epithelium was more or less due to the active processes which the epithelia are undergoing in producing leucocytes. Dr. Swain believed that the tonsil was an active part of the lymphoid structure of the body, a lymph-node with just as much importance, and no more, in the economy than any other lymph-node, except that it was the absorbent recipient of all matters coming into our lungs.

Dr. D. Braden Kyle (Philadelphia) said that an epithelial cell in its transition stage was very much like a plant; one could not tell just whether it would turn out a beautiful flower or not. When the embryonic cell became fully grown we had no difficulty in classifying it. We could not have epithelium without connective tissue to support it. The former was, therefore, the dependent structure, and gets its nourishment from the latter. No one had yet proved that an epithelial cell grows from connective tissue.

A Case of Laryngeal Carcinoma Under Observation for Thirteen Years; Ultimate Laryngectomy.

By Dr. Harmon Smith (New York).

This case had originally come under the care of Dr. Gleitsmann, who had then reported it to the Association. The patient had originally a distinctly whitish tumour of the larynx, the indications pointing to malignancy, although the earlier microscopic findings were "papilloma durum, probably malignant, perhaps cancerous." The patient was unwilling to have anything done, and disappeared from observation until 1907, when he came to Dr. Smith's clinic. A second specimen was reported as being pachydermia laryngis. After removal of each piece for examination the patient felt very much relieved. Some few months later the microscopist reported on another specimen to the effect that the growth was now assuming a malignant histological appearance. Finally

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the patient was prevailed upon to enter Roosevelt Hospital, and was operated on by Dr. George F. Brewer, the entire larynx being removed. A low tracheotomy was done ten days previously. Before the patient left the table a good-sized rubber tube was inserted into the stomach through the nose and the patient was fed in this way. Recovery was uneventful. The larynx was filled with a sessile growth springing from nearly the entire right side of the internal structure, and apparently well limited posteriorly and anteriorly by the middle line. It had a white papillary and irregular surface. Sections showed under the microscope the appearance of flat-celled epithelioma, but other sections were very different. The microscopist observed that structure was not always a satisfactory guide for prognosis. The three points of interest in the case were, according to Dr. Smith, the following: (1) The long-standing, slowly advancing malignancy of the tumour; (2) the almost positive belief in malignancy, and yet the presence of sufficient doubt to make one refrain from radical operative measures (the reporter believed that in the early stages the tumour might have been removed by thyrotomy with a reasonable hope of non-recurrence); and (3) the extremely small systematic manifestations for a malignant growth of such long standing.

Dr. D. Bryson Delavan (New York) commented on the unreliability of the older statistics on the results of surgery in laryngeal cancer. He advised most strongly the setting apart of special surgeons for this class of patients.

Dr. Chevalier Jackson (Pittsburg) heartily supported the position of the previous speaker as to statistics. Men said, "This patient is going to die of cancer of the larynx, and we might as well remove it for experience," and these operators rushed into print with their fatal case as a contribution to statistics. It was a crime to touch a case. We had mixed up our operable with our inoperable cases.

Dr. J. W. Gleitsmann (New York) said that Sir Felix Semon had had a case similar to the one seen by Dr. Smith and himself, and had advised him at the time of the probably malignant character of the growth in the case now reported. This had now been actually confirmed.

Recent Cases of Sarcoma.

By Dr. J. Price-Brown (Toronto).

He offered the following conclusions: In sarcoma of the nose the usual site of origin was in the soft tissues, and not in the bony framework which supported them. The origin was usually in the form of a pedicle, which rapidly became sessile. As this sarcomatous mass enlarged and pressed upon the surrounding mucosa abrasions took place, and they quickly became transformed into adhesions.

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These adhesions never attained the vitality and virility possessed by the pedicle. When once destroyed they were not likely to re-form again. Recrudescence might, however, take place in the region of the pedicle, and in view of this contingency the regions should be kept under regular observation and control. Owing to the fact that in many cases of nasal sarcoma the affected cavity became entirely filled by the hæmorrhagic growth, that its adhesions were extensive, and that it was impossible to locate them at time of examination, attempts at removal intra-nasally by the ordinary knife were inadvisable, but gradual and systematic dissection out by the cautery knife in suitable cases was a method which was always available and should be encouraged.

Dr. J. E. Logan (Kansas City) related his experience with nasal sarcoma, citing cases he had already reported to the Association. He agreed in the value of the cautery treatment in these conditions.

Dr. H. L. Swain (New Haven) said he had developed a way in which it was possible to take out the lateral side of the nose and the whole sarcoma with it, with excellent results. He was not prepared to report any case now, but believed that it was possible to lift the nose and lay it back on the cheek and make a clean and complete removal.

Dr. W. L. Ballenger (Chicago) reported one successful case of removal by the knife and forceps, and his patient was still living, six years after the operation. He would be somewhat doubtful as to the true sarcomatous nature of any pedicled growth. Nasal sarcoma was not as malignant as the same disease in other regions. This point should be remembered in comparing results with those in other areas. In the naso-pharynx, however, sarcoma was a very malignant process.

Dr. F. C. Cobb (Boston) called attention to the difficulty in distinguishing small, round-cell collections caused by any degree of traumatism from a sarcomatous mass. With the spindle-celled or the melano-forms there was no difficulty.

Dr. O. T. Freer (Chicago) said there was a great difference in the rate of growth of round-celled growths undoubtedly sarcomatous.

Primary Cancer of the Trachea.

By Dr. T. Passmore Berens (New York).

He said that he had been able to find records of but thirty authentic cases. His patient was a man, aged fifty-five, whose first symptom was a persistent cough, followed by dyspnœa. Both vocal bands were reddened and thickened; beginning at the second tracheal ring was a greyish-pink, velvety mass running way round the trachea and diminishing its calibre to about one third of its normal size. The patient was placed in the hospital and the trachea opened from the larynx to the sternal notch. The growth extended one inch below the latter point, was not adherent to the

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rings, and did not extend beyond the limits of the tube. The larynx was free from all malignant deposit. Owing to the extension of the process so deep down the trachea exsection of the latter was out of the question, and the mass was curetted away apparently successfully, for the result of the curettage left apparently normal appearing tissue. The shock of the operation was considerable though the amount of blood lost was trifling. The temperature was 101° F.; the patient did badly, and died of pulmonary œdema and heart failure three weeks after the operation. Microscopical diagnosis: Columnar epithelioma.

Dr. E. L. SHURLY had seen a similar case diagnosed by the pathologist as angioma. The man died from hæmorrhage following curettage through a tracheotomy wound.

NASAL TUBERCULOSIS, TWO CASES; ONE INVOLVING RIGHT ETHMOID BONE, WITH RECOVERY AFTER OPERATION.

BY DR. OTTO T. FREER (Chicago).

He gave a general description of tuberculous processes in the nose and of their relation to lupus. We may have the ulcer, tumour, diffuse infiltration, and formation of granulation areas. The author's first case was that of a girl, aged twenty, on whom three operations were done. In the first the entire middle turbinate was removed, and also the tissue from the posterior border of the septum, where it assumed the form of an ulcerated tumour. The microscope showed it to contain abundant giant-cells embedded in fields of epithelioid cells, but no tubercles nor bacilli. Some weeks after there were evidences of recurrence, and further eradication was done, with but temporary relief. A third operation was done under half chloroform narcosis, and the right ethmoid region was thoroughly exenterated. Examination of the tissue removed showed typical miliary tubercle and some bacilli. The patient was nervous for some months after the last operation, being markedly asthenopic, but this symptom has disappeared and she is now in blooming health, nearly two years after operation. The second patient was a woman, aged fifty, presenting a grave variety of the infiltrative form. There was a bulging swelling on either side of the nasal bridge and a marked thickening of the septum, with ulcerations and irregular surface. The extent of infiltration rendered complete removal impossible, and the nostrils were simply freed. Microscopical examination showed epithelioid cells, lymphoid cells, polynuclear leucocytes, and giant-cells.

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Tuberculin injections were given, but without perceptible benefit, and the patient passed out from under observation, so that the ultimate condition could not be learned.

Case of Nasal Tuberculosis.

By Dr. W. Scott Renner (Buffalo, N. Y.).

His patient was a healthy woman, aged twenty-eight, whose nose was completely obstructed by a pyriform tumour occupying the position of the septum. A provisional diagnosis was made of sarcoma, and a bit of the mass removed for examination, which showed it to be tuberculous, containing giant-cells and bacilli. The lungs were normal, the heart not very strong, and there was a history of old glandular abscesses in the neck. The growth was removed piecemeal down to the cartilage, and later the anterior portion of the inferior turbinate, which was found to be infiltrated. The wound surfaces were treated with lactic acid, and the edges cauterised with the electro-cautery. Iodoform gauze was used as packing until healing occurred. The reporter said that he was not sure that this was a primary infection in the nose, in view of the old scar in the neck. The septum probably became involved first, and later the turbinate.

Dr. Emil Mayer (New York) called attention to the difficulty in diagnosis in the early stages of these lesions. He did not believe that the term "lupus" should be dropped from our nomenclature. The size of the growth in the nose was no clue to its nature. This disease might advance to a late stage in the larynx with only trifling symptoms, or none at all.

Cavernous Sinus Thrombosis.

By Dr. Lewis A. Coffin.

The case was a woman, aged fifty-nine, who presented typical evidences of acute frontal sinus disease, and was operated on, the complete Killian being done. No polypi or granulation tissue were found in the sinus, although the lining membrane was very thick from congestion, as was also that of the adjacent sinuses. The eye symptoms were relieved, but there developed a marked chemosis of the lower lid. A consultation was held, and it was finally decided that there had been a thrombosis of the cavernous sinus, but it was also decided that the operation had been of the greatest benefit, as by reducing the œdema about the tissues of the eye the sight of the

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patient had been saved, if not her life. To reduce the coagulability of the blood as well as to break up any existing thrombus or clot lemonade was given freely. Recovery was without incident.

Dr. W. L. Ballenger did not think that the history given by Dr Coffin presented the features of a cavernous sinus thrombosis. He was unable to tell in a case of his own whether the appearance of the skiagraph indicated suppuration in the sinuses or only a catarrhal condition A mere clouding of the X-ray picture did not justify operation.

Teratoma of the Soft Palate.

By Dr. Lewis A. Coffin.

A woman, aged sixty-six, complaining of cough, at first ascribed to enlarged lingual veins. A small tumour was discovered behind and above the uvula, and of the shape of the latter, hanging free in the pharynx. It was thought to be papillomatous, but proved to be a teratoma. Dr. Coffin quoted Sarapin as saying that the mixed tumours of the palate formed a group by themselves pathologically, anatomically, and chemically; that they had a common origin with teratomata and teratoid growths, and that from a clinical point of view they were benign in character, easy to enucleate, and not inclined to recur.

Bacteriology of the Normal Nose.

By Dr. Frederic C. Cobb (Boston).

His conclusions were as follows: (1) The principal source of bacteria in the normal nose was the vestibule. (2) Disinfection with peroxide and bichloride sterilised the vestibule for all organisms except the staphylococcus. (3) Disinfection by Harrington's solution would sterilise the vestibule of all germs (formula: corrosive sublimate, 2 grm.; hydrochloric acid, 150 c.c.; alcohol 70 per cent., 2500 c.c.). (4) The remaining cases showing bacteria might be due to some as yet undiscovered error in technique. (5) Cultures in pathological cases should be regarded as reliable only when the cot in the vestibule was sterile, and any form of staphylococcus should be treated with suspicion as the positive factor in any disease of the nose owing to the difficulty of eliminating its presence from the normal naris.

Dr. George B. Wood said that he would like to make Dr. Cobb believe that the interior of the nose, especially the posterior portion, was sterile in the normal individual. He believed that the normal sinuses were also sterile.

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The Nose and Naso-pharynx in Infants and Young Children.

By Dr. J. M. Ingersoll (Cleveland).

A demonstration of this subject by means of charts. Concerning the development of adenoid tissue in the naso-pharynx he said that, on account of the small oral cavity and shape of the naso-pharynx in infants, a curette with a straight handle and its blade set at an angle of 55° to the handle would follow the posterior wall of the naso-pharynx better and remove the hypertrophied tissue more completely than it would if the blade were more nearly perpendicular to the handle, as it was in many curettes. The bayonet blade of Fein was devised to permit greater latitude in the movement of the curette and thus allow its blade to follow the conformation of the naso-pharynx. The width of the blade should be determined by the width of the naso-pharynx. A curette 1·3 cm. wide, with a blade 1 cm. wide, is probably small enough for all infants. The shape of the naso-pharynx in infants makes it practically impossible to do a complete adenectomy with forceps.

The Action of the Respiratory Muscles in the Production of Voice.

By Dr. G. Hudson Makuen.

The author said that "the action of the respiratory muscles in voice production differed in some important respects from their action in passive breathing; while the function of the diaphragm was inspiratory in passive breathing, it must be expiratory in active or artistic breathing. Although this muscular diaphragm was generally classed among the involuntary muscles, its action, like that of so many other so-called voluntary muscles, might be brought entirely within the domain of the will. The proper use of the respiratory muscles for singing and speaking might be acquired by practice, and should be taught by the teachers of voice culture.

Dr. J. H. Lowman (Cleveland) said he would like to ask Dr. Makuen if he had observed the Litten phenomenon during the breathing act. In many people this was not observable while the diaphragm moved distinctly.

Dr. J. Payson Clarke asked if Dr. Makuen had used the fluoroscope during his observations.

Dr. Makuen said that experiments in this direction with the fluoros-

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cope had thus far been very usatisfactory, but he hoped that the moving apparatus would be so perfected that it would become possible to make accurate demonstrations for teaching purposes.

The Choice of an Operation for the Correction of Obstructive Deviations of the Nasal Septum: a Personal Point of View.

By Dr. W. L. Ballenger.

He said that, although he was an ardent partisan of the submucous resection, the technique was often difficult, the time for the operation long, and the difficulties many. The operation should be reserved for those cases which could not be corrected by other and simpler measures. In the choice of an operation certain fundamental facts should be remembered. Cartilage had a tendency to return to its former position. Bone, when fractured and placed in a new position, had but slight tendency to return to its former position. Roe's crushing operation might therefore be chosen in these cases in which the obstructive lesion was limited to the perpendicular plate of the ethmoid bone, and the author's operation might be practised when the obstructive lesion was limited to the vomer. Non-bevelled flaps which were not self-retaining, as in Asch's operation, required the prolonged use of some form of nasal splint for a period of from four to six weeks. So also did the Kyle operation. Any procedure which required the prolonged use of splints or tubes was not, in his (Ballenger's) opinion, justifiable. Non-bevelled flaps, which were partially self-retaining, as in Sluder's operation, were utilisable in extreme angular deviations of childhood. Bevelled flaps, which were self-retaining, were rational procedures for the correction of obstructive deviations limited to the cartilaginous septum (Watson, Gleason, Price-Brown operations). The submucous operation found its special field in compound deviations involving the cartilaginous and bony portions of the septum.

Dr. O. T. Freer said, in discussing this paper, that fracturing operations were always uncertain, and he regarded the return to them as a retrogression.

Dr. J. O. Roe (Rochester) was a believer in fracturing operations. The submucous operation was advantageous in cases with a marked septal thickening where we could thin out the cartilage and make a more ample breathing space instead of cutting away the turbinate. When we had a thin, bony septum, simply bent out of line, it was absurd to go in and take out the bony framework. In all operations on the septum, no matter what one, for correcting cartilaginous deviations, the fracturing forceps as a supplement was indispensable.

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Dr. BALLENGER said, in closing, that it often required two hours for him to do a Freer operation, whereas in the method advocated by him the operation could be completed in twenty minutes. He would admit that the Freer operation would get the most perfect results if one took time enough and the patient had the endurance. Blindness and even death have followed the submucous operation, so also sinking in of the nose. He usually did a fracturing operation in young children or else the bevelling procedures, but saw no use in doing a submucous resection, as it took too much time.

REPORT OF FATAL CASE OF STATUS LYMPHATICUS OCCURRING IN A PATIENT OPERATED ON FOR TONSILLAR HYPERTROPHY UNDER COCAINE ADRENALIN INFILTRATION.

BY DR. THOMAS J. HARRIS (New York).

The patient was a Russian Jew, aged thirty, apparently in good health. One sixtieth of strychnine sulphate was given by mouth after a fluid lunch. Half an hour later the tonsils were injected with about $\frac{1}{12}$ gr. cocaine in salt solution, with 8 to 10 minims of adrenalin 1:1000. Immediately following a second injection (a first having been rejected), and the above figures representing the drug amount actually retained from both injections, the patient grew pale and vomited. Deep cyanosis followed. The operation was quickly concluded, when it was discovered that he was pulseless, while respiration was continued for some time. The symptoms were those of thymic death. Autopsy showed a markedly dilated right auricle and swollen right ventricle, enlarged axillary and groin glands, and a thymus weighing 18 grm. The cause of death was in all probability an over-dilated right ventricle due to an enlarged thymus gland, with the cocaine-adrenalin acting as an exciting cause.

Dr. THOMAS HUBBARD added the history of one fatal case from adrenalin in his own practice. This drug had been used with great recklessness, and it was time to call a halt. He thought that 2 or 3 minims retained in the circulation was the maximum dose. His own patient was a healthy young man about to be operated on for septal trouble, and he was under chloroform and ether anæsthesia. Every reflex appeared normal and respiration was perfect. He was given an injection of adrenalin for hæmostasis, but part of it escaped into the stomach, and he received another, so that he probably got from 15 to 20 minims. During the second injection his heart fluttered, he gave twelve or thirteen respirations, and was dead. The adrenalin doubtless escaped into the circulation and caused the death.

Dr. H. L. SWAIN said that he had one case of enlarged thymus, and the external application of the adrenalin caused enough shrinkage to restore comfortable breathing. There was no incompatibility between the thymus and the drug. He thought that Dr. Hubbard was correct in

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assuming in these cases that the drug got into the circulation and caused immediate contraction of all the blood-vessels, sending the blood directly and forcibly back upon the heart.

Dr. J. O. Roe would hesitate to ascribe all the effect in this case of Dr. Harris's to the adrenalin. Many patients had, however, a peculiar sensitiveness to cocaine.

Dr. Harris could not believe that the cocaine had had any deleterious effect in his case.

(*To be continued.*)

Abstracts.

NOSE.

Price-Brown (Toronto).—*Case of Septal Abscess.* "Canadian Journ. of Med. and Surg.," October, 1909.

This was the history of a boy, aged ten, who while playing was struck on the nose by the head of another boy. At first there was external swelling and pain. These both subsided, while internal stenosis increased. Nearly four weeks after the accident the patient was referred for treatment. The septum was found to be very much distended. On pressure both sides of the bridge fluctuated. Still, there was neither pain nor fever, the physical condition being one of anæmia.

On opening the right side freely there was a copious discharge of pus, the cavity extending as far back as the vomeric union. On the following day, as the operation was not attended by any relief of the left side, this also was opened, followed by discharge of dark blood without pus, indicating that no perforation had taken place. The recovery was uneventful.

P. B.

De Champeaux (Lorient).—*A Study of Sneezing.* "Rev. Hebd. de Laryngol., d'Otol., et de Rhinol.," February 27, 1909.

The author recalls the statement of Katzenstein that irritation of a certain spot in the frontal lobe of the brain will provoke sneezing. In paroxysmal sneezing due to spasmodic rhinitis, he finds that light massage of the frontal region by drawing the fingers from the temples towards the middle line of the forehead several times in succession will relieve the sensation of irritation leading to the impulse to sneeze.

Chichele Nourse.

Scheppegrell, W. (New Orleans).—*The Immunisation Treatment of Hay-fever.* "Rev. Hebd. de Laryngol., d'Otol., et de Rhinol.," February 19, 1910.

The result of observations in a suburb of New Orleans showed that 80 per cent. of cases of hay-fever in that neighbourhood were caused by the irritating effects of the pollen of a kind of rag-weed (*Ambrosia artemisiefolia*), which grows on the waste land and fallows in very large quantities. Towards the end of August the air becomes heavily charged with the pollen, and it is possible to predict within a day or two the date at which susceptible people will begin to suffer from their usual attack.

The author finds that an artificial tolerance to the pollen may be established, and the object of his mode of treatment is to establish this

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