also the screen has been found useful during the operative procedure for the removal of foreign bodies in the region of the larynx. As far as X-ray therapeutics in diseases of the larynx go, we are still in the region of experiment.

While, therefore, the results of last year's work is upon the whole very satisfactory, much remains yet to be accomplished. The great need of experimental research in all departments of laryngology to increase our knowledge of aetiology and pathology cannot be too often impressed upon all workers in medicine. Much is being done at the bedside; but clinical studies, while of the greatest value, cannot by themselves place our special branch upon a satisfactory basis.

RETROSPECT OF RHINOLOGY, 1904.

By WILLIAM MILLIGAN, M.D.

THE numerous papers published during the past year upon the surgery of nasal accessory sinus suppuration is indicative of the interest taken by rhinologists in this absorbing subject. The gradual evolution of methods of treatment for such suppurative lesions, and a more accurate scheme of diagnostic symptoms, founded upon extensive pathological work, is rapidly placing the clinical recognition of such lesions upon a scientific basis. The baneful influence exerted by chronic suppurative lesions of the nasal accessory sinuses upon the general health, upon the organs of respiration, and upon the tympanic and orbital cavities is sufficient justification for the greater and more widespread interest which has been aroused in this particular domain of surgery.

The causal or the casual relationship between suppurative disease of the accessory sinuses and ozæna has been the subject of many conflicting reports by recognised and competent rhinologists. A very important expression of opinion is contained in the second edition of Hajek's "Pathology and Therapeutics of Inflammatory Diseases of the Accessory Cavities of the Nose," and has already been referred to in the pages of this JOURNAL (page 64, 1904). In a series of 12 cases the following facts were noted. In 4 cases the ozæna depended upon suppuration within the anterior ethmoidal cells; in 3 cases upon simultaneous involvement of the maxillary antrum and anterior ethmoidal labyrinth; in 2 cases upon suppuration within the interstices of naso-pharyngeal adenoid

vegetations; in 2 cases upon diffuse suppurative catarrh of the nasal mucosa; and in 1 each on posterior ethmoidal and sphenoidal suppuration respectively. Treatment based upon the recognition of focal suppuration as the primary factor in the ætiology of ozæna appears to have met with such success as to make it incumbent upon all rhinologists to pursue this question of possible cause and effect still farther. The intractability of cases of ozæna to all methods of treatment commonly in vogue is such that any course — surgical or otherwise—which appears beneficial is to be warmly welcomed. It is interesting to note in this connection the record of a fatal case of ozæna by Jürgens (*St. Petersburger Med. Wochenschr.*, February, 1904), in which purulent leptomeningitis was found associated with acute empyema of the frontal sinuses. The author regards the fatal attack of meningitis as secondary to ethmoidal suppuration, which in turn he regards as due to infection from the ulcerated nasal mucosa. The operative treatment of frontal sinus suppuration has received a very fair share of attention, and in those severe cases demanding external operation the procedure as adopted by Killian commends itself to many operators as both scientific and satisfactory. Whatever operation may have to be adopted in any given case the consensus of opinion is in favour of a faithful and prolonged trial of intra-nasal procedures before resort is had to external operation. Possibly the cosmetic results obtained after the performance of Killian's operation may not be so good as from certain other operations, but the fact that a cure of the disease is more probable is of itself sufficient to commend this operation, and it is surprising in some cases how slight the deformity is even after extensive removal of bone.

The surgery of sphenoidal sinus suppuration does not appear to receive, in this country at least, the attention which it undoubtedly demands. Possibly the difficulties of diagnosis and of treatment are to some extent responsible for this. With due care its recognition does not present any insuperable barriers, and its treatment, especially after a preliminary removal of the middle turbinated body, is comparatively simple. On the Continent and in America cases of sphenoidal suppuration appear to be much more common than in this country. What is the reason of this? Is it that English rhinologists fail to appreciate its frequency or are not familiar with the most modern methods of diagnosing its existence? The paper read by Prof. A. Onodi at the Oxford meeting of the British Medical Association is a valuable contribution

to the question of visual disturbances arising from disease of the posterior accessory sinuses, and deserves to be widely read.

The nasal origin of certain cases of asthma and the general question of the relation of intra-nasal conditions to paroxysmal asthma has been again the subject of many papers. The results obtained by Alexander Francis by cauterising the septal mucosa are truly remarkable, and impress upon one more than ever the vagaries of this extraordinary disease. Certainly no such results have been obtained in this country, and before any final decision is arrived at as to the value of his *modus operandi*, the permanency of the results would need to be investigated. In the treatment of hay fever Professor Dunbar's serum is taking a prominent place, and many instances of its utility are on record both from the prophylactic and curative point of view.

Despite the frequency of nasal polypi and the enormous amount of work which has been done in trying to unravel the mystery of their exact aetiology it cannot yet be said that their genesis has been definitely and conclusively explained. E. YONGE (JOURNAL OF LARYNGOLOGY, September, 1904) regards the primary mechanical process in their formation to be a localised œdema of the inflamed mucosa and the determining cause of the œdema a degeneration and cystic dilatation of the mucous glands of the part.

The great enthusiasm formerly displayed in the correction of certain nasal deformities by the subcutaneous injection of paraffin appears to be somewhat on the wane. This may be due possibly to the practical difficulties encountered in technique and possibly to the records of certain unfortunate accidents which have occurred following its injection. That the method has a place in prosthetic surgery is undoubted, but that it has very distinct limitations should be carefully borne in mind.

The correction of septal deformities by one or other of the many operations now being practised marks a distinct advance over the former rough-and-ready and thoroughly unsatisfactory and crude method of forcibly straightening the septum by means of a pair of forceps. The "window-resection" operation, as recommended and practised by Bonninghaus and others, is unquestionably a thoroughly good operative procedure, perhaps difficult and somewhat tedious to perform, but attended by perfect results in well-selected cases.

During the year distinct advances have been made, more especially in operative technique, and the importance of healthy, pus-free, and patent nasal passages is forcing itself more than ever upon the notice of the profession.