mann's curette in performing the operation. In describing the method of operating he drew attention to the following points:

1. Adenoid growths occasionally have their origin in Rosenmüller's fossæ. In removing them it is important (*a*) to avoid injury to the pharyngeal orifice of the Eustachian tube; (*b*) to bear in mind that the tissue surrounding the carotid artery extends into the lateral wall of the fossa, and that danger of injury to this artery is to be guarded against. How necessary this warning is is proved by the case recorded by Schmiegelow.

2. Adenoid growths must be thoroughly removed (*a*) in order to avert as far as possible the danger of recurrence; (*b*) because a certain percentage of the cases which occur are tuberculous.

3. If the tonsils are enlarged it is advisable to remove them some time previously.

Dr. Rudloff illustrated his method by means of a specimen (sagittal section through the head), and exhibited the instruments he employed. He further showed casts illustrating the varying dimensions of Rosenmüller's fossa, and the relation existing between this fossa and the orifice of the Eustachian tube, and referred to a specimen showing the relation between the carotid artery and the lateral wall of Rosenmüller's fossa, which was exhibited in the Congress Museum. His statistics recorded a recurrence of 3½ per cent. In concluding, he remarked that he did not necessarily confine himself to the method he had described, but adapted it to the individual requirements of the cases which came under his care.

BRITISH MEDICAL ASSOCIATION.

ANNUAL MEETING, HELD AT PORTSMOUTH, AUGUST 1 TO 4. SECTION OF LARYNGOLOGY AND OTOLOGY.

(*Continued from p.* 486.)

Dr. ADOLPH BRONNER (Bradford) read a paper on *The Local Use of Formalin in the Treatment of Atrophic Rhinitis (often called Ozæna).*

Dr. BRONNER said, in late years much had been written on the pathology and treatment of atrophic rhinitis. He did not intend to enter into any controversy on these points, and only wished to report on a new remedy which in his hands had proved most useful in these cases. He referred to the so-called atrophic (or dry) non-fœtid and to atrophic (or dry) fœtid rhinitis, often called ozæna.

The first indication in the treatment of atrophic rhinitis was to thoroughly cleanse the cavities and remove the inspissated mucus

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and crusts. The second indication was to alter the nature of the secretion of the mucous membrane, and thus prevent the formation of the crusts.

He generally ordered an alkaline lotion for removing the crusts, to be used with a Higgenson's enema syringe, and with as much force as possible without causing serious discomfort. If there were any patches of hypertrophy of the mucous membrane, he removed them with the galvano-cautery or trichloracetic acid.

Innumerable sprays and insufflations had been recommended in the treatment of atrophic rhinitis. He had for some time used formol or formalin. In bad cases he prescribed a 1 in 1,000 to 1 in 2,000 solution of the liquid formalin with water, to be used with a small nasal syringe; or a 1 in 500 to 1 in 1,000 solution, with a little glycerine added, to be used with a coarse spray three or four times a day for a few days, and then two or three days in the week for a few weeks or months. If the application was painful, the solution should be diluted with water. Formalin had a most powerful effect on the glandular tissues—how, he did not know, but he believed that it acted directly on the cells of the glands. It was therefore very important that the solution should not be too strong, or used for a very lengthy period of time.

Formalin had also a powerful deodorizing action. In cases of fœtid atrophic rhinitis—or, as some call it, ozæna—it was most useful in removing the most disagreeable and penetrating smell. If it only did this, and nothing else, it would be a boon to many a poor wretch.

In many cases of atrophic rhinitis the accessory nasal cavities were affected, particularly the maxillary antrum. Until these had been treated and cured, any local treatment of the nares must necessarily be futile. In his small experience the maxillary antrum or antra were affected in about 25 or 30 per cent. of all cases of ozæna.

In the after-treatment of atrophic rhinitis he had recently tried insufflations of tannoform (a combination of tannin and formalin) with boric acid, and found it most useful.

In conclusion, he wished once more to state that atrophic rhinitis, fœtid or non-fœtid, has nothing whatever to do with syphilis; also to protest against the so-called surgical treatment of ozæna. The exact nature of this treatment was a mystery. The patient is admitted into a private hospital, put under an anæsthetic, and then anything and everything in the nose which can be removed is pulled out with large forceps.

He had during the last few months seen no less than four

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patients who had at various times been subjected to this so-called surgical treatment, and not only once, but three times, and one poor wretch four times.

Dr. Jobson Horne (London) spoke in favour of formalin as an antiseptic in diseases of the throat, nose, and ear. He more particularly referred to its value during the convalescent stage of infectious diseases of the nose and throat, such as diphtheria, when it is important to prevent the patient from being a source of infection to others, and in this respect he thought that formalin would be found to be a more efficient and suitable antiseptic than perchloride of mercury.

Dr. T. Bobone (San Remo) said his patients had objected to formalin on account of the pain it occasioned, and advocated the use of nitrate of silver and iodide of potassium in the form of a paste.

Dr. Watson Williams (Bristol) remarked that he had used weak formalin solution, but that his experience with it had not altogether fulfilled his expectations. It certainly removed the fœtor, and often rendered the mucous membrane less dry for a time; but its use had caused pain in his cases, and he thought that unless the irritation produced amounted to considerable discomfort, the effects were very transitory. He had come to the conclusion that equally beneficial results were obtainable by freely washing out the cavities with alkaline solutions containing some carbolic acid or non-irritating antiseptic. He had not observed any frequent association of true ozæna with antral disease.

Dr. Herbert Tilley (London) emphasized the importance of thorough and efficient douching with an antiseptic alkaline wash, and said that most failures in cases where this was prescribed was due to the patients not knowing *how* to use their douche.

Dr. Jackson (Pittsburg), Dr. Pegler (London), and Dr. W. Lamb (Birmingham) also joined in the discussion.

Dr. Bronner, in reply, stated that small quantities of formalin used in a spray, gradually increased in strength, for a few weeks at a time, would not occasion pain. Douching he considered unnecessary, and best avoided.

Dr. Dundas Grant (London) read a paper on *Laryngitis Secondary to Nasal Disease*.

Without for a moment refusing to the larynx the right of being primarily affected on its own account, there is little doubt that in a very large number of cases—in my experience a considerable majority—the laryngeal trouble is associated with, or even caused

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by, some form of nasal disease. There are several ways in which nasal disease may induce inflammatory changes in the larynx.

Nasal obstruction as such may oblige the patient to breathe through his mouth, and consequently to inhale air unwarmed, unmoistened, and unfiltered. In this way the production of the slighter forms of laryngitis is readily intelligible, and it is sufficient to induce hoarseness and vocal disability, especially if the voice be subjected to an amount of use or wrong use, which under other circumstances would be innocuous.

In ozæna—or, to be more exact, chronic fœtid atrophic rhinitis—the larynx is notoriously apt to be affected, so that a condition described as ozæna laryngis is produced. Whether from an extension downwards *per continuitatem*, or from the inhalation of crusts and discharges, the surface of the laryngeal mucous membrane becomes altered, and as a rule thickened. It looks sticky rather than moist, and it is here and there beset with adherent flakes of dirty yellowish muco-pus in varying stages of dryness. These occasionally become suddenly impacted between the vocal cords, and the voice, habitually hoarse, becomes for the moment extinct. The pharynx is dry and glazed, the breath offensive.

In chronic suppurative inflammation of the nasal sinuses, more particularly the sphenoidal and posterior ethmoidal, the most usual complaint is of a dryness in the throat, with hoarseness or loss of voice. This is due to the laryngitis produced by the inhalation of infective muco-pus. The laryngeal appearance is that of a somewhat macerated mucous membrane; the epiglottis is comparatively unaffected; the ary-epiglottic folds lose their smoothness, and are bathed in a sticky muco-pus, which extends over the ventricular bands and particularly the interarytenoid mucous membrane. The latter swells up into the form of a beefy cushion; the vocal cords lose their polish, and acquire a red, swollen appearance, like raw beef.

These well-marked forms can scarcely escape recognition, but in simple chronic rhinitis of the moist variety the larynx becomes affected in a very characteristic manner. As the result of maceration by non-infective nasal secretion, the mucous membrane in the most exposed parts acquire a swollen and pale, as if "sodden," appearance, suggestive of the skin of a washerwoman's hand. This is particularly the case in the interarytenoid fold. The cords also lose their lustre and the fineness of their edges, acquiring a sort of cloudy, swollen character, as if, as I believe there is, there were a proliferation of the superficial epithelium.

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Many users of the laryngoscope must have been perplexed by these bizarre appearances, as of laryngitis "gone wrong," until they traced them to their origin as results of various forms of rhinitis. Very often from the mere appearance of the larynx one is able to state with confidence that there is present some form of rhinitis, and even its nature, before extending one's investigation to the nasal cavities.

As I have already stated, I believe there is in the cases I am describing a proliferation of the superficial epithelium, although for the present I can produce no microscopic evidence to confirm a view which will, I believe, be readily accepted. The source of irritation being from the outside of the mucous membrane, the surface would be naturally the part first affected. In this respect. then, it differs from those diathetic forms of laryngitis and from those occasioned by misuse of the voice, in which vascular and inflammatory changes take place primarily in the submucous tissues.

The *diagnosis* is not, as a rule, difficult, if the nature of the cause be kept before the mind, and the appearance of the changes induced by maceration be realized.

In some cases rhinitic laryngitis may simulate *tuberculosis of the larynx*, especially when the irritation set up by a purulent discharge has led to swelling of the ary-epiglottic folds. There is, however, absence of involvement of the epiglottis; there is less translucency than is seen in the earlier steps of tubercular infiltration; there is little or no pain in swallowing, but there may be cough, disturbance of digestion, and even considerable deterioration of the general condition. The case is usually cleared up by the discovery of the rhinitic cause and by the remarkable improvement which takes place under treatment, if this includes the cleansing of the nasal passages.

The forms arising from chronic atrophic rhinitis may be taken for *syphilis*, especially when the swelling in the arytenoid space is considerable, and is covered by an adherent greenish crust. The fore-shortened view then obtained is very much that of a gumma. It is distinguished therefrom by the easy clearance of the crust by coughing, after the use of a soda spray or by brushing, as also by the effect of nasal medication. It is to be remembered that tertiary syphilitic disease in the nose may produce, as the result of inhalation of pus, a non-specific laryngitis.

From the description above given it may seem that the condition may greatly resemble some of the forms of *pachydermia laryngis*. In my opinion they *are* forms of pachydermia, or, in other words,

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many cases of the less typical pachydermia of the arynx are really the superficial laryngitis which results from nasal suppuration.

Scleroma of the larynx is another condition which it may simulate, but this is usually accompanied by characteristic changes in the nose.

The *treatment* follows from the diagnosis, and takes two directions. I need hardly say that first and foremost the source of irritation must be removed by treatment of the nose. Thus, in congestion from simple nasal obstruction we may have to use an alkaline spray or wash, pin down the turgescent inferior turbinated body by the galvano-cautery or some equivalent, remove occluding septal outgrowths or portions of the turbinated bodies. In cases of ozæna free irrigation and the application of some stimulating and antiseptic spray, as a 5 to 10 per cent. solution of chloride of zinc, give the best results I have yet seen. Empyema of the various sinuses calls for the appropriate treatment, which cannot here receive detailed description.

As regards local laryngeal treatment, much depends on the nature of the condition.

In the chronic congestive conditions the local application of astringents (preferably the 10 per cent. solution of chloride of zinc in rose-water) by means of a brush or spray is desirable. A temporary anæmia is produced by means of a spray of cocaine (10 per cent.), which may be prolonged by the subsequent use of antipyrin; or the antipyrin may be preceded by eucaine, instead of cocaine, to avoid toxic effects. Errors in voice-production and respiration should be corrected. The voice should as a rule be kept at rest, but I believe that the decongestionizing is favoured by the cautious use of the "pmawing" exercises devised by Curtis.

Where the mucous membrane is simply sodden, rapid subsidence takes place when the nasal condition is removed, and such an astringent as chloride of zinc is applied. If, however, the white swelling of the mucous surface indicates proliferation of the epithelium, there is a local remedy of the greatest value, namely, salicylic acid. This may be used in strengths increasing from 1 to 5 per cent. in such a form as the following:

Salicylic acid, 5 to 25 grains.
Rectified spirits, 5 drachms.
Glycerine, 3 drachms.

The throat should be anæsthetized by means of cocaine or eucaine—at all events, for the first few times—and the application should be made by means of a very small pledget of wool securely twisted on a Smyly's laryngeal wool-holder. It should be confined

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as much as possible to the affected part, which it rapidly blanches, leaving the normal mucous membrane very slightly whitened—at all events, when the weaker solutions are employed. This remedy is to be used with precaution, as it is necessarily irritating. It may be taken, as a rule, that the greater amount of epithelial proliferation, the greater is the indication for the use of salicylic acid, the better is it borne, the greater should be the strength and frequency of the application. When the epithelial thickening is removed, the acid is apt to produce a rawness, or even an erosion, of the surface, which, however, soon subsides when its use is discontinued. In cases in which there is no epithelial hyperplasia, this same untoward result is apt to ensue, and the remedy is contra-indicated.

In cases of epithelial hyperplasia in the interarytenoid space, the remedy is peculiarly indicated, and most easy to apply.

For those who have employed salicylic acid or the so-called "cannabine" in the treatment of corns, this use of the remedy will seem most natural, and they will be only surprised that it should be so little in vogue. I have tried this salicylic acid treatment in the case of recurrent papillomata of the larynx with definitely good results, such as have been recorded of its use on warts on the surface of the body.

Case of Rhinitic Laryngitis treated by Means of Salicylic Acid.

Miss B—— came under my care in October, 1896, complaining of pain in the throat after the slightest use of the voice, and also during swallowing. Her trouble was of two months' duration, and she had been practising singing for operatic purposes. Both vocal cords were thickened and rough, there was considerable hypertrophy of the inferior turbinates, and a small crop of adenoids in the naso-pharynx.

The turbinated bodies were reduced by operation, the adenoids were removed, and a slight improvement took place, but off and on the patient has been troubled with regard to her voice, so that she has been unable to use it for vocal purposes. The irrigation of the nose was freely carried out, and various astringents have from time to time been applied to the larynx. About two months ago a solution of salicylic acid was applied for the first time. The application, it must be admitted, was followed for several hours by some discomfort in the throat, and in the evening of the same day there was rather increased difficulty in the use of the voice.

The next day the voice was clearer than it had been before while under my treatment, and it has steadily improved ever since. I believe that at times I applied the acid too frequently, but on the whole the result has been exceptionally striking.

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Case of Rhinitic Pachydermoid Laryngitis treated with Salicylic Acid.

Mr. G——, aged fifty-nine, music-hall attendant, came under my care, on the advice of Dr. Barragry, on account of a stuffy feeling in the throat and extreme hoarseness, which had lasted for about four months, and was getting worse rather than better. The cords were partially concealed by very swollen ventricular bands: they were obviously less tense than normal, and on their edges there was what looked like a layer of desquamating epithelium. The rest of the cords was red and succulent, and in the inter-arytenoid space the mucous membrane was swollen and sodden-looking. The nasal mucous membrane was in general hypertrophied, and there was considerable excess of mucous secretion.

The patient was advised to give up all alcoholic drinks (in which he usually indulged somewhat freely), and once a week, in gradually increasing strength, an alcoholic solution of salicylic acid (15 grains to the ounce) was applied to the thickening in the larynx. After two applications at intervals of a week, the voice was practically clear. At the same time he was ordered an alkaline lotion to wash out his nose, and though the swelling has not altogether disappeared, the whitish thickening on the edges of the cords is no longer perceptible.

Mr. Richard Lake and Mr. J. Pollard reported *A Case of Exophthalmic Goitre in which Operation had resulted in a Cure.*

The authors briefly stated the conditions that influence the choice of operation in the various cases of this disease.

Their case was that of a lady of thirty-two years of age who had suffered with Graves' disease for six years. The prominent symptoms were exophthalmos, tachycardia, fainting fits, intense nervousness, and great thyroid enlargement. The onset of the illness was traceable to recurrent attacks of influenza. Practically all acknowledged forms of treatment, both internal and external, including the so-called Indian treatment, were tried. None of them, however, produced any amelioration in the symptoms.

The operation was performed on May 18, 1898. The incision was about 5 inches long, extending from the angle of the jaw on the right side to the sterno-clavicular joint on the same side. The dissection was long and difficult, partly owing to the extreme vascularity of the parts, and partly to the fact that the enlarged lobe extended beneath the sterno-mastoid muscle, the trachea, and the sternum. The inferior thyroid artery was twice its usual size, and the lobe after removal measured $4\frac{1}{2}$ by $3\frac{1}{2}$ inches.

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The patient showed no bad symptoms from the anæsthetic. During the first four days she had several attacks of cyanosis, pain on swallowing. On the second day the temperature rose to 100°, but this was the sole occasion that it was so high.

The results were, and at the present time are, most satisfactory. The intense cephalalgia present before was never noticed after the operation. The pulse, 160 before, fell in a week to 98, and is now little quicker than normal. The exophthalmos is also gone, likewise the tachycardia and faintness. Finally, the scar is only visible for about an inch at the upper part of the wound.

In the discussion which followed, Dr. Watson Williams (Bristol) remarked he had observed in a similar case of exophthalmic goitre, that while removal of one lobe of the thyroid gland had been followed by marked amelioration of the symptoms, they had not been wholly removed, some exophthalmos, tremor, and tachycardia persisting. It was well to remember that Graves' disease is essentially a disease of the nervous system, and not of the thyroid gland, although excessive gland activity (when present) aggravates the symptoms which it does not originate, just as starch or sugar in the diet of a diabetic usually aggravates the disease which these common articles of food do not cause. The occurrence of unilateral cases of Graves' disease affords proof of these views, consequently we cannot hope that mere removal of one or both lobes of the thyroid gland will completely cure the patient. While congratulating the authors on the results in this case, he desired to emphasize the desirability of treatment by rest and drugs first, reserving operative interference for those very grave cases which did not improve under other modes of treatment: firstly, because a large number of cases were amenable to treatment by drugs, and eventually recovered; secondly, operative treatment was attended with a very high mortality; and, thirdly, it did not afford a cure.

Dr. Herbert Tilley agreed with Dr. Watson Williams in the importance of trying medical treatment before resorting to surgical interference, which was fraught with peculiar danger in these cases. He cited a case under his care, where the patient herself had desired to have the goitre removed, but medical treatment had produced so great an amelioration of symptoms that the patient had returned to her work as a servant. Dr. Tilley asked if any present had noticed any improvement in these cases when diseased conditions of the nose or throat had been treated. He had seen one marked case of improvement after nasal treatment, but also knew of one where all the symptoms of Graves' disease appeared on removal of nasal polypi. When one remembered that the common exciting

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cause of the disease was most often of nervous origin, such sequences were perhaps not surprising.

Dr. Posthumus Meyjes, Amsterdam, reported *A Case of Accessory Thyroid Gland at the Base of the Tongue.*

The following is a brief history of the case: Miss R——, twenty-four years of age, had felt since her infancy, and especially since the age of puberty, a lump like a potato sticking in her throat.

She came from healthy parents, and had never been ill herself. Her only complaint was that every now and then she brought up small quantities of bloodstained phlegm, which she thought the result of clearing her throat too hard when the swelling was more than usually irritating. Her health appeared to be good, and intellectually she gave the impression of being normally developed.

On examining the throat, Dr. Meyjes actually found the "potato" in the form of a semi-globular tumour occupying the right half of the base of the tongue, beginning behind the papillæ circumvallatæ, and extending about 3 centimetres downward. The surface was a little darker than the surrounding parts, and some swollen blood-vessels ran over the tumour.

On palpation the tumour appeared fixed and painless, the surface smooth and firm, without any indication of fluctuation, he estimated the horizontal diameter at 3 centimetres, the vertical at $2\frac{1}{2}$ centimetres.

As regards the nature of the tumour; the absence of fluctuation precluded a cyst, the long duration of the development a malignant neoplasm. He could, therefore, but suppose that he had to deal with an accessory thyroid gland, accessory because the gland itself was not to be found in its normal place, although this, of course, may not be considered as an absolutely certain proof that the gland did not exist in an early phase of embryonic development.

The patient, who had a great aversion to operations, would not listen to an exploratory incision, still less to an operation, at least for the time being.

The reason why he did not strongly insist upon an exploratory incision was that the gland was contained in a rather thick capsule, and in order to reach the tissue proper a rather considerable wedge would have to be removed, giving rise to, from his experience, copious bleeding and secondary hæmorrhage, besides the whole of the tumour might be removed with the same amount of trouble. At all events, he decided to leave a small portion behind in order to prevent eventually myxœdema, which would be sure to set in if, after all, the tumour should turn out to be really accessory.

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In view of the development of the thyroid gland, it is very well possible that a thyroid gland grows from the tractus intestinalis on the back of the tongue.

In the *Archiv. für Laryng.*, vol. viii., there is a paper by Baurowiez of Cracow on the presence of a thyroid gland in the trachea. He discusses, and at the same time controverts, the theory mooted by von Bruns, that the gland may have grown from a germ which got astray in the embryonic period, and developed during the age of puberty.

Basing his arguments on five analogous cases, in some of which a section was made (one of the patients dying of erysipelas *post operationem*), he arrived at the conclusion that the theory of von Ziemssen, who says that the thyroid glands found in the larynx must be considered as offshoots of the thyroid gland found in the normal place, is true, as the glands in the larynx have never been found isolated, but always connected with the mother-gland.

In a paper published on a subsequent occasion, von Bruns admits the truth of this theory, which further confirmed the opinion that the so-called accessory thyroid glands—in the larynx, at least—do not really deserve this name, but must be considered as offshoots of the mother-gland.

However, the thyroid gland having developed *in casu* on the base of the tongue, may be accessory because, in view of the anatomical relations, it would not do to assume that there is any connection whatever between this gland and the thyroid gland found under normal circumstances in the throat.

SOCIETIES' MEETINGS.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.

General Meeting, July 28, 1899.

J. Dundas Grant, M.D., *in the chair.*

The following officers were elected for the ensuing year, 1899-1900:

President: Dr. Barclay Baron (Bristol). Vice-Presidents: Dr. Percy Jakins, Mr. John Bark (Liverpool), Mr. Wyatt Wingrave. Council—Metropolitan: Dr. Middlemass Hunt (*ex. off.*), Dr. Furniss Potter, Mr. Dennis Vinrace, Dr. Greville Macdonald,

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