of bougie in the Eustachian tube can be gauged. There are bougies with various sized bulbs, and for them may be substituted cotton-wool holders by which medicated applications may be made inside the lumen of the Eustachian tube. *Dundas Grant.*

ASSOCIATION MEETINGS.

BRITISH MEDICAL ASSOCIATION.

Sixtieth Annual Meeting, Nottingham, 26th, 27th, 28th, and 29th July, 1892.

Section J.—LARYNGOLOGY.

President—R. A. HAYES, M.D., Dublin.

Vice-Presidents { DONALD STEWART, M.D., Nottingham. T. MARK HOVELL, F.R.C.S.Ed., London.

Hon. Secretaries { JOHN MACINTYRE, M.B., Glasgow. D. R. PATERSON, M.D., Cardiff.

THERE were two discussions, one demonstration, and fourteen papers; instruments were shown, and a large number of microscopic specimens and drawings exhibited. The following gentlemen, amongst others, took part in the work :—Messrs. Thomas Barr, Adolph Bronner, Lennox Browne, Mayo Collier, Richard Ellis, J. Dundas Grant, Prof. Gruber (Vienna), Wm. Hill, T. Mark Hovell, John M. Hunt, John Macintyre, H. A. Reeves, Wm. Robertson, Arthur Sandford, Prof. von Schrötter (Vienna), Scanes Spicer, Donald Stewart, Charles Warden, and Watson P. Williams.

Wednesday, July 27th.

The President thanked the members for the honour which had been conferred upon him, and said he looked upon his appointment as a recognition of the work done by his countrymen more than of any merit of his own. There was one point, however, to which he would like to call attention, viz., the present aspect of specialism in this department. With regard to the tendencies to local and particularly to surgical interference he was quite sure that a great deal of good work was being done, but it occurred to him that a word of warning from the presidential chair might be useful if not misunderstood, and he had a feeling that constitutional treatment might be overlooked were we not to guard against error. Further, it was possible that too severe local treatment might be injudicious in some cases, and was probably appealed to unnecessarily. He was quite sure the section would fully understand that he by no means wished to say anything against surgical procedure where it was necessary.

The Etiology, Pathology and Treatment of Nasal Neuroses, introduced by DONALD STEWART, M.D., and ADOLPH BRONNER, M.D.

Dr. STEWART said :—

First let me compare nasal neuroses to general neuroses. General neuroses are accepted on all hands. The neuroses treated by the

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specialist are regarded frequently as the extreme views of men who devote their time to particular regions of the body. When the gynæcologist speaks of uterine or ovarian neuroses he is thought by the general physician to regard the malady from quite a different point of view to his. The physician speaks of *pelvic* neuroses and considers the symptoms arise from a perverted condition of the general nervous system ; whilst the gynæcologist seeks for the cause in organic change in the tissues of the uteral, or its appendages. Which is right?

The same ideas hold ground in reference to visceral, thoracic, laryngeal, nasal and ophthalmic neuroses. The general physician looks with much doubt and suspicion on the views of the specialist ; and it is not too much to say that the symptoms described by rhinologists and attributed to nasal conditions are accepted by many as the dreams of men whose views are cramped by devotion to the study of special organs. In the following list of authors, which I append, one or two are introduced to show the extreme variance of opinion between the general physician and surgeon, and men who, like ourselves, give minute attention to special regions, *e.g.*, Dr. Goodhart, in his lectures on "Common neuroses" before the Harveian Society, attributes clergyman's sore throat, sneezing, catching cold, and tinnitus, more to a general neurotic condition than to organic local changes ; and he says that all one has to do in order to cure the clergyman's throat is to reassure the sufferer there is nothing wrong, and give him a good tonic !

Of course it is difficult, if not impossible, to separate the nervous conditions of any malady from the organic changes that may be visible in other tissues than nerves ; for in local inflammations, and even tumours, one cannot say there is absence of nerve disturbance. Indeed, a pure functional neurosis probably does not exist without an organic change somewhere as its cause. I take it that the maladies designated neuroses are generated in the same way, no matter in what region of the body the causes take effect ; and I apprehend also that a nerve symptom has as its cause a particular region or regions, in which exists an organic change. I shall best illustrate my meaning by proceeding to the etiology of nasal neuroses.

In the early years of life we may say there are scarcely any neuroses. There can be no doubt that certain constitutions inherit a delicacy of organization that is easily influenced by external causes ; but it may be said that in the children of the most refined, and the most highly strung, there is at birth a wonderful freedom from neuroses. Whence then come the causes of these distressing maladies? They arise from our inability to understand the laws of health, or how to perfectly adapt ourselves to our environment. In the child, colds soon make their appearance, and one of the first regions to suffer in babyhood is the beginning of the respiratory tract—the nose. For years this region is the seat of catarrhs and *apparently* the general health does not suffer. Colds are not alone in their influence on this organ ; it is now well accepted that injuries in early life are potent factors in producing distortion and organic changes in the nose. By and by injurious influences are observed in the little sufferers--the child begins to suffer from nasal obstruction—he

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snores at night, he is a mouth-breather, his chest develops badly, he frequently coughs, he talks "through his nose," and one night he awakes in "night terror"—in a word his nervous system is at last invaded.

Etiology.—My contention is that organic changes are absent in early life. Such changes are caused by external influences for the most part; and these influences take effect first of all at the periphery. True it is, that blood and zymotic diseases claim their share, but even these are conveyed, first of all, from without. In these ways are caused the diseases of the nasal passages. What are they? I will only mention the most important. I first and foremost place nasal obstruction; it is far and away the most serious condition we have to remedy, and yet it is only a symptom. We have also coryza, inflammations, hypertrophies, tumours, polypi, caries, necrosis, suppurations, atrophies, but not yet neuroses. In disease generally, nerve fibres can long withstand the ravages of organic change around them. Likewise nasal diseases are noted for their obstinate resistance to remedies; so far it is an axiom among the laity, and even among many in the profession, that nasal polypi are incurable. At length the sentient nerve twigs in the nose begin to convey the baneful impressions at the surface towards the more highly organized nerve centres, and soon neurotic symptoms are manifest in different regions of the body.

You have only to cast your eye over this long list of maladies described by men of distinction all over the world. Is it possible that all these symptoms are caused by nasal conditions? That they can be caused by nasal disease I have no doubt, but it is not for a moment implied that the causes are limited to changes in this region. I believe that all the symptoms can be generated by organic changes in other organs, however remote. How are these symptoms produced? I answer, through the nervous system by reflex action. Here let me pay a tribute of honour to the memory of the discoverer of reflex action, a native of Nottingham, Marshall Hall; his spirit may well rejoice over the great achievements that his mind initiated. The subject of reflex action is such a large one and so complex that I hesitate to refer to it. I adhere to the principles promulgated by Dr. Edward Woakes in his work on nasal polypus and ethmoiditis. It is there argued at length how a focus of organic change in a sensitive organ like the nose acts as permanent incitor to reflex irritations. Now one would expect that the neurotic symptoms originating in the nose would be first noticed near the seat of the original disease. This, though not necessarily a constant result, is frequently the case; and when we remember the close proximity of the brain and organs of special sense, it is an additional reason to attribute cephalic neuroses at least to nasal conditions. I do not overlook the fact that a local irritation may have its reflex manifestation at a distant part of the body; but on the other hand the reflex phenomena are more abundantly displayed near the seat of irritation. Coming to particular symptoms, I believe they can all be intelligently explained by reference to the action of nerves that physiologically differ. The trigeminus being the sentient nerve of the nose is frequently under a constant irritation; the impressions are conveyed to ganglia and reflected by motor nerves (spasms and paresis), vaso-dilator

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nerves (congestions), vaso-constrictor nerves (atrophies), trophic nerves (wasting, paresis), or it may be a combination of all these in one case. The practically unlimited number of intricate combinations that may take place in the paths of reflex action makes it, in the present state of our knowledge, impossible to prove to demonstration that this or that symptom is due to this or that reflex path. From experimental research and from clinical observation, it is accepted as beyond doubt that it is in this direction we must seek for the causes of nasal neuroses.

The pathology of nasal neuroses is the pathology of the varied symptoms in the table I append. Can we in one pathology explain such different affections as aprosexia and asthma? That the two symptoms are allied there cannot be much doubt. Are they both due to a vaso-motor influence? Are hay fever and asthma generated in the same pathological manner? Are they both a vaso-motor hyperæmia of the mucous membranes? I myself am inclined to accept this pathology before all other theories. As to the minute pathology of the nerve endings in mucous membrane, of the nerve conducting fibres, or of the cells of the central ganglia, I believe little certain is known. Why a certain organic change in the nose should in one person produce such disturbances and in another make no departure from health, is another condition difficult of explanation; we say it is due to metabolic, chemical, or mechanical changes in the nervous tissue. To me such an explanation carries little intelligence. I submit the ideas to the section for enlightenment.

TREATMENT. This includes the treatment of all departures from health in the nasal cavities. I shall only say a word or two to indicate my own views, and will leave it to my friend Dr. Bronner to enlarge on the subject.

The nares are to be restored to healthy conditions. The result to be sought above all others is to secure adequate nasal respiration.

(*a*) The first and most important step is to remove offending tissue, and before all means I think is excision by some method. The snare, the saw, the cutting forceps are each in turn found the most suitable according to the case.

(*b*) The next object is to restore the mucous membrane to a healthy condition, and it should be remembered that a degree of normal nasal respiration is a great aid towards securing our second point—streams of fresh air through the nostrils. Chromic acid and the actual cautery serve very good purposes. I do not know which to put first. The cautery does more work, but the effects of the acid are excellent.

(*c*) Washes. These are indispensable in many cases, but they should never be used beyond actual necessity. I hardly ever use any but an alkaline wash, combining it with a deodorant or antiseptic.

(*d*) What about general medical treatment? This is a means we can rarely do without. Why so, if the causes of the symptoms are local? Yes, the causes are local, but a long-continued local cause induces a general disturbance, far-reaching and deep (Dr. Solomon C. Smith), and "a neurosis remains after its cause is removed" (Clifford Allbutt). Time is thus an important factor in neuroses. Many a case withstands for years a constant drag on the system; at length an explosion takes place,

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it may be in the shape of the "nerve storm" of asthma. The general system is invaded and must be treated. Time also is an important influence in treatment; the older the case the more inveterate is the hold on the general condition, and the less likely is the result of treatment brilliant. Are the results ever brilliant? Only those who are accustomed to nasal work can appreciate the expression of repose, the peaceful sleep, the general well-being and better development of those who have their nasal functions restored by surgical art.

Dr. BRONNER said:—The subject of nasal neurosis is a very old one. As far back as 1565 we find that Botallus records cases in which the scent of flowers brought on pain in the head and difficulty in breathing. Van Helmont, 1577, describes cases of hay fever. Bostock ["Transactions of Med. and Chir. Society," x. 1819] was himself subject to hay fever and asthma. No great importance, however, was attached to the subject until 1871, when Voltolini ["Anwendung der Galvanocaustik bei Erkrankungen der Nase," etc.] published several cases of asthma in which nasal polypi were found, and in which the removal of the polypi cured the asthma. Weber, Schaeffer, Hartmann, Fraenkel and others soon followed suit, and proved that the cases recorded by Voltolini were fairly common. In 1882 Hack published his famous book "Uber die Radical-behandlung gewissen Formen im Migraene, Asthma, &c.," in which he attempts to prove that not only asthma but many other reflex symptoms can be caused by intra-nasal irritation. Hack's theory was that these reflex symptoms were due to irritation of the terminal fibres of the fifth nerve; which irritation was caused by the swelling of the cavernous tissue of the mucous membrane of the lower turbinated bones, especially the anterior part. His idea was to remove this cavernous tissue by the galvano-cautery, and then any irritation of the nerves would be impossible. Experience, however, soon proved that this theory could not be correct. Thus, in the first place, the destruction of the cavernous tissue did not always prevent a recurrence of the reflexes. Secondly, in many cases, any artificial irritation of these parts brought on the reflexes, without causing any swelling of the cavernous tissue. And Hack himself in 1885 ["Berliner Klin. Wochenschrift," 21 and 22] practically abandons this theory. In 1881 and 1882 B. Fraenkel, J. Mackenzie, Schaeffer and others strongly opposed Hack's theory. They are of opinion that the reflexes are caused by some irritation of the terminal fibres of the fifth nerve, due to pathological changes in the mucous membrane of the turbinated bones or septum. Boecker repudiates the reflex theory altogether, and states that the nasal changes are mostly incidental complications, or that they themselves form part of the symptoms of a central neurosis. Woakes ["Nasal Polypi"] says that the reflexes are (1) symptoms due to excitation of the sensory-motor nerve elements of the region implicated, and (2) those which involve vaso-motor nerves of the sympathetic system in relationship with the affected structures. As regards asthma, he says that it is due to irritation of, or pressure on, the nerve of Cotunnius, where it crosses the osseous portion of the septum. I myself am of opinion that we ought to divide nasal reflexes into two classes. Firstly, those in which there is some local irritation of the terminal fibres of the fifth nerve due

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to polypus ; pressure of the turbinated bone on the septum ; adhesions of the turbinated bones to one another, or to the septum ; local hypertrophy or atrophy of the mucous membrane ; formation of crusts ; foreign body, etc. Secondly, those cases in which the nasal changes are not primary, but are themselves the outcome of some central neurosis, just as we have similar changes in the mucous membrane of the stomach, intestines, bronchi, etc. In this latter class of cases, local treatment of the nose, such as the application of the galvano-cautery, stops the reflexes, not because it removes the irritation, but because it acts as a powerful counter-irritation. MacBride ["Brit. Med. Journ.," Jan. 22nd, 1887] advocates this theory.

As regards treatment, this should be both local and general. In the former class of cases the local treatment is naturally the more important. Any polypus should be removed with the cold or hot snare—not with the forceps ; any hypertrophy of the mucous membrane treated with the galvano-cautery, chromic acid, or trichloracetic acid—I myself prefer the cautery. If we apply two or three cocaine plugs for ten minutes each, the operation is practically painless. If we introduce an antiseptic plug after the operation (I use creoline and iodol) there is no danger of infection. Any deviation or spur of the septum can be operated on by the knife, saw, or trephine—I use a trephine with cutting edge ["Lancet," July 24th, 1890]. In the treatment of atrophic rhinitis I use trichloracetic acid and alkaline douches.

General treatment is of more importance in the second class of cases. I prefer change of air, often combined with cold water treatment, to "tonics," which, in my experience, are of very little use. A long sea voyage, a lengthened stay in Switzerland, Ems, or Mont Dore seem to be the most beneficial—very much more so than a trip to Egypt, which, although fashionable, is not always of much use. Regular bodily exercise, especially rowing and riding, is often of very great benefit.

Remarks were made by Drs. ROBERTSON, BARR, DUNDAS GRANT, SEMON, Mr. LENNOX BROWNE, and others.

Dr. STEWART, in view of important papers to follow, and especially Professor Schrötter's, briefly thanked the section for the favourable views expressed on his paper. The list of authors submitted by him, though a long one, did not by any means exhaust the number who traced various neurotic symptoms to nasal conditions.

Professor Von SCHRÖTTER read a short but interesting paper on the *Nervous Diseases of the Throat*, for the most part consisting of illustrative cases, with remarks thereon. This paper will be published later.

In the discussion which followed, Dr. FELIX SEMON, of London, drew attention to the explanation which Professor Schrötter gave of paralysis of the lateral arytenoideus muscle from pressure on the recurrent nerve, and spoke of the difficulty experienced in finding paralysis of one adductor of organic origin.

Professor Von SCHRÖTTER, in reply, vouched for the accuracy of the observations which he had made on the patients, and said that, while he

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was quite willing to give attention to the objection raised, he could only say that we cannot explain everything in this world.

It is needless to add that both Profs. Schrötter and Gruber received a hearty welcome in the laryngological section, and the honour of their presence was fully acknowledged by the section in a complimentary motion made by Dr. BARR, of Glasgow, and unanimously approved of by the members.

Dr. WILLIAM HILL read a paper on *Rhinalgia*, with reports of interesting cases of the same.

Thursday, July 28th.

The proceedings began with a demonstration by Dr. JOHN MACINTYRE, of Glasgow, on the *Etiology, Pathology, and Treatment of Catarrh of the Nose and Throat.* The author began by pointing out the difficulty of classification of diseases, and drew attention to the different designations of catarrh in the upper respiratory tract. He first pointed out that catarrh was for the most part really a manifestation of some other condition or conditions which had produced a deviation from the normal function. He next drew a series of pictures, illustrating cases which might fairly be called catarrh in the nose and throat, in the acute, sub-acute, and chronic conditions. Proceeding, he said :—

That all our ideas may be modified by a study of etiology most will admit, and this branch of our work is now being carefully and enthusiastically investigated. In the ordinary text-books on affections of the upper respiratory tract a considerable prominence is given, and very properly so, to the consideration of certain factors which have an influence upon the production of catarrh ; hence we have such conditions referred to as impure air, water, food, atmospheric conditions, climatic variations, and clothing. The taking of cold, often erroneously attributed to draughts of cold, also the various diatheses, such as the neurotic, rheumatic, syphilitic, and strumous, amongst others, are, by a universal consensus of opinion, placed amongst the important factors in the production of catarrh ; in the same way we find due reference to the inhalation or imbibition of detrimental materials. All these are quoted as modifying the susceptibility of the individual to the attack or the perpetuation of it within him. There is no reason why any of these factors should be excluded from consideration in such a paper as this. It may be more useful, however, in the limited time at our disposal to suggest other points for consideration, bearing more particularly on branches of work which are engaging the attention of every student of etiology in this and other departments of medicine and surgery. To make this clearer, let us refer to certain conditions which are intimately associated with the production of catarrh in the mucous membrane. A child places a foreign body in either nostril, and the irritation produced leads to a series of symptoms indicating a catarrh in the passage. Again, cultivations of an irritating organic substance, such as some of the pathogenic microbes seen under the microscopes, nay, even the chemical extract without the living organism, will produce evidence of inflammation in its vicinity when applied under favourable circumstances to the same tissue. An inoculation of certain

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poisons in the pharynx, such as diphtheria, will not only give evidence of a local necrosis of tissue at the seat of inoculation, but also of a catarrhal inflammation in its vicinity. An extract of the products of tubercle bacilli injected into the subcutaneous tissues at a considerable distance will produce indication of a catarrh in the throat. Lastly, an affection, such as measles, produced by the inoculation of blood from another patient suffering from this affection, and introduced at a different part of the system, will produce evidence of catarrh in the same mucous membrane. Now, in the case of the foreign body, and also the second and third example given, the cause of the catarrh is applied to the external surface of the mucous membrane, whereas in the case of tuberculin or measles the irritation must reach it from the deeper or internal structures of the same tissue. Hence we are driven to the conclusion that certain agents applied from without, and other agents brought from within, may result in the production of phenomena which, when grouped together, are named catarrh.

In a given healthy case, under ordinary conditions, the removal of the cause results in resolution, and with this disappears the evidence of catarrh. For example, if the foreign body be removed from the nostril, or the microbes effectually destroyed by antiseptic precautions, the catarrh from external sources ceases, and so by the natural secretions and excretions tuberculin and the poison of measles, under favourable circumstances, will gradually be eliminated, and in healthy individuals resolution take place. It as naturally follows, however, that if the cause be tardily removed, certain changes are bound to take place as the result of the foreign substance, which may perpetuate and increase the conditions referred to. Four things in the above must be taken into consideration. Firstly, what causes may act in the production of catarrh ; secondly, the structure and function of the membrane ; thirdly, the pathological changes ; fourthly, the methods of resolution or perpetuation of the affections.

In the external causes, undoubtedly a place must be given to temperature, but in saying this I am not committing myself to any peculiar theory to explain the popular term of "taking cold." Certainly the air exercises an influence according to pressure and moisture, but there can be little doubt many particles are carried in with the air (and this remark will apply to food), which are of an irritating nature. Inorganic materials may exert an influence, but undoubtedly the most marked are those of organic origin. On the table I have placed a number of microscopic specimens and drawings to illustrate the paper, and they are arranged in the following order :—(1) Bodies which are apparently harmless in the upper respiratory tract, but while considered parasitic or saprophytic, may, under certain conditions, owing to absorption of the chemical products which they produce, become pathogenic. (2) All the pathogenic forms which are of interest to us, from the higher fungi, *e.g.*, thrush, to the less developed, as in tubercle, pneumonia, diphtheria, suppurative processes, erysipelas, etc. Many of these are of extreme interest—probably none more so than the saprophytic.

Elsewhere I have given full descriptions of the experiments which have been performed with a view to determining what micro-organisms

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are found in these cavities. Briefly, let me say that a large number of patients were examined, microscopic specimens prepared and stained after the approved methods, while cultivations were made from the contents of the secretions. Any investigator soon finds the examination of the upper respiratory tract very fertile, and it may be anticipated that, in a comparatively short time, nearly every known micro-organism will have been found in the mouth, a fact easily understood when we consider the multitude of organisms taken in with the food and air. We are forced, however, to fall back upon other methods of investigation in bacteriological research, that is, to discover what organisms are present in a particular affection ; secondly, by repeated observations, to notice if the same organisms are to be found in different individuals suffering from this ; thirdly, to cultivate and isolate ; fourthly, to inject the different pure cultivations into the tissues of animals, in order that a similar disease may be reproduced ; fifthly, to try to discover the same organisms in the animal so affected ; and lastly, to cultivate them again outside of the tissues of that animal, and to compare them with those found in the tissues of the person first affected. In another paper I have demonstrated the association between the germs of the suppurative processes and erysipelas and abscess in the nose, naso-pharynx and larynx, some of which might have been considered idiopathic but for the light recently thrown upon such conditions. Further, I was able to show an association between the micro-organisms of erysipelas and recurring mischief in the antrum of Highmore, erysipelas of the upper respiratory tract, and even post-pharyngeal abscess. Microscopic specimens of the organisms found in these cases will be seen under the microscopes, and drawings of the same are also exhibited. It is extremely interesting to note this association, because in many cases of slight catarrh we are probably dealing with specific organisms, although the signs are not sufficiently pronounced to enable us to diagnose them. An example of this will be found in diphtheria, where, in slight cases, it is utterly impossible, from the catarrh present, to diagnose any particular affection, and yet the person so affected may transmit it in a more serious form to others. Viewed in this sense, therefore, it may be useful to note that catarrh may result from many causes, and so tubercle, pneumonia, diphtheria, syphilis, the suppurative processes, erysipelas, and many of the higher parasitic fungi all have their attending catarrh, and it is not at all improbable that further examination of the parasitic or saprophytic organisms will show that they also are, under certain conditions, capable of producing catarrh. It has long been known that human saliva, under certain conditions, may produce serious results when introduced into the tissue of another, say in the case of a bite, and nothing apparently wrong with the individual who inflicted the injury. There can be little doubt that the so-called condition of insanitary sore throat will, sooner or later, be referred to the action of specific organisms, some of them probably already known, but not traced in their casual connection, and others yet to be discovered.

For a long time it was granted that foreign material, even inorganic, entering the tissues could set up inflammation, and of a sufficient degree to become purulent. This idea has been questioned, but I think the

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bulk of evidence is in favour of the view that the earlier opinion was the correct one. Indeed, inflammatory results may be caused by injecting the products of the organisms. It is evident, if we admit that such sterilized chemical substances can set up suppuration without the organisms, we have admitted the fact that some inorganic substances can do so, but microbic invasion differs from the inorganic in the sense that it not only produces irritation where the poison is applied, but it may be reproduced in different foci. These poisons may be derived from the surface, but they may also, as we have seen, be brought from within. A point now comes of intense importance, viz. :—Local inoculation of the products of those organisms causes irritation or death at the part ; but there is also a considerable amount of inflammation set up in the vicinity, and so in diphtheria we have necrosis at the point of inoculation, but we have also an intense inflammation surrounding it. In a case of actino-mycosis, once the parasite has been introduced into the animal tissue, an inflammation is set up in the vicinity ; and to take a simpler example, when the foreign body is placed in the nostril, irritation is also very soon set up.

This catarrh or irritation may be looked upon in two senses. First, it may be considered a direct result of a destructive agent applied to the tissues ; but again the inflammation in the vicinity and consequent upon the application of the irritable substances has also to be considered a process of repair. For example, if we apply the point of a galvano-cautery to the tissues within the nostril, a local necrosis takes place, and shortly afterwards the line of demarcation between the dead and living tissue gives evidence that a process is taking place, by means of which the dead part will ultimately be cast out ; and when the necrosed part has been thrown out, it will be observed that the red zone which surrounded it was but the superficial indication of a somewhat concave surface covered with minute granulations, indicating the deeper limit between the dead and living tissues. Thus the inflammation was but a method of getting rid of a difficulty. The action of chromic acid on the tissues is much the same, but it differs essentially from the cautery in one respect, namely, being soluble, its application is less defined, and it is more difficult to trace the processes, owing to diffusion. The same remark holds good about the inoculation of the products of micro-organisms, where by the solubility of the products it is very difficult to trace the exact point of application. The local action depends largely upon the solubility of an agent. Microbic influences are the worst of all, in the sense that the living organisms carry with them the power of reproducing themselves, whereas inorganic substances only produce the effect at the place, or according to the quantity administered, and its solubility. In all these cases, however, it is fair to assume that the action is much the same. While there is destruction of tissue where the poisons are applied, yet by their very presence a catarrh is set up in the vicinity, and more particularly in the parts where the irritation is less active ; by this means what is objectionable is cast out, and afterwards the process may be regarded as a means of repair.

The older surgeons treated the grosser lesions rationally enough, and the cause was removed, which was speedily followed by the resolution of

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the surrounding inflammation. Catarrhs, however, which were due to less defined causes, such as microbic influences, of which they could know nothing, led to less attention being paid to their removal, and so the treatment was too often directed *against the inflammation itself.* If our reasoning be correct, catarrh is to a great extent a method of Nature for getting rid of a difficulty, and our whole efforts ought rather to be the removal of the cause of which catarrh is but an evidence.

Anyone can see the importance of this distinction by way of treatment. What is the object of using stimulants, irritants, or so-called astringents in the form of sprays, gargles, or pigments, if inflammation is largely to be considered in itself non-detrimental? It is but a manifestation of something else producing it, and all treatment intended to combat it or to hamper it, instead of aiding, is not unlikely to add to the difficulties of Nature in removing the causes. Where we can remove a cause, by all means let it be done: where it cannot be done, our aim should be to aid Nature in her attempts to do it.

It may be said by some here that inflammation ought rather to be encouraged, and, in a sense, but a strictly limited sense, this is true. Our argument is not this, but rather that it ought to be prevented if possible. Such a view could only be suggested where the cause could not be removed, but if this be so, surely it would be wise to follow up Nature's way of acting. Certainly her attempts at cure may require our help and control—for example, by its violence œdema may set in and threaten the patient's life; again, by repetition of the cause and attempts at cure, a constant and prolonged struggle may result, and thus quite new conditions set in, which in themselves may secondarily be the cause of new and more serious affections. This is, in fact, what we are constantly witnessing in the nasal cavities, where, by repeated attacks and attempts at cure, hypertrophy results, say in the covering of the turbinated bones, which is in itself the cause of changes in vision, hearing, and voice, if not of a still more serious nature.

Reference to the etiology would be incomplete without mention of the diatheses, which form an important factor, and therefore must be an important consideration in treatment, and these were carefully considered. The physiology of the region in question, and the pathology were gone into as far as it was thought necessary, and in conclusion the author pointed out the changes which catarrh ultimately produced in the soft and hard structures of the nostril. Small beginnings lead to changes, slowly and insidiously, which perpetuate the original conditions, although somewhat masked by the slowness, and these in turn give rise to ailments of vision, hearing, and voice, through changes in the soft and hard structures. What we have to deal with is not so often the catarrh in the first stage, but the supervention of acute upon chronic conditions, and these themselves. When we come to consider the treatment it must be evident that the aim of every surgeon should be the complete restoration to function, and further, the nearer we are able to imitate the natural process by which Nature tries to get rid of the cause the more successful we are likely to be. We should, therefore, prevent the entrance of matters which produce catarrh; secondly, once they have been produced,

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try to remove them, or arrest their development; and thirdly, if this be impossible, we must encourage Nature's means for casting them out. Reference was further made to the ordinary methods of treatment, particularly of the time-honoured inhalations, sprays, gargles, and insufflations, and it was held that the time had now come when a demand must be made for a reason being given in the application of all such agents. Any scientific treatment must rest upon a surer basis than empiricism. Practitioners who are usually entrusted with the earlier stages of these cases should be warned of the consequences which may ultimately ensue if due attention be not paid to all the conditions which ensure a complete recovery from acute inflammations and the exanthemata; and lastly, it should be our aim to encourage Nature by judicious rest, sanitary arrangements, proper dietary, and, in fact, everything which conduces to the constitutional well-being of the patient. The demonstration consisted of over a hundred microscopic specimens, cultivations, and coloured drawings.

Dr. Macintyre was thanked for the trouble taken in bringing the subject before the members in such a complete and extensive way. Mr. Lennox Browne expressed the great satisfaction which all present must feel in such an interesting and all-important subject.

The following abstracts are from papers read at the section. The four papers were taken and discussed together :—

Dr. SANDFORD read a paper on the *Importance of a Systematic Course of Physical Voice-Training at School and College, with regard to its Influence on prevalent Throat Troubles in Public Speakers and others.*

He said :—My object will be attained if the interest of the medical profession generally be awakened in the subject of systematic voice-training, with a view to secure the establishment of this important branch of education on a proper scientific basis, and within the reach of all, so that it should no longer be left to the unsupported efforts of a very few scientific teachers, and a comparatively large number of quacks or charlatans, whose only claim to pose as exponents of its principles is the possession of sufficient intelligence to impose on the credulity of their victims.

At the present time I advocate the consideration of the subject upon general principles only, quite independently of any particular system of teaching, trusting that the medical profession may, by their recognition of the importance of the subject, give the weight of their influence in demanding for it that attention which it deserves at the hands of the governing bodies of educational establishments and elsewhere.

The public at large do not recognize that articulate speech is—now-a-days at least—an absolutely artificial acquirement, and not a gift from the gods, spoken language being produced by a very subtle and complex mechanical contrivance, worked by the agency of numerous nerves and muscles. For perfect articulation, absolute co-ordination of these is required, and for each change of tone or pitch a readjustment of the whole apparatus is necessary.

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Everyone is familiar with the difficulty exhibited by a child in acquiring the first rudiments of intelligible speech (as distinct from mere *phonation,* which is perhaps one of the first accomplishments manifested by the newly born), and it is only by constant imitation and practice that even the simplest words are pronounced correctly—that is to say, that the child can obtain a mastery over the musical instrument born with him, whereby its delicate mechanisms can be worked in harmony, and various recognized combinations of sound utilized as a vehicle of thought.

In a similar manner the kindred art of writing is acquired by imitation of certain recognized symbols, at first painfully and ineffectually; and only by constant practice can facility be insured in the muscular co-ordinations necessary for the transference of thought into written language. In both cases it is extremely important that the first steps in the necessary physical exercises should be conducted on proper scientific principles, and after approved models.

Now, in primary schools, much attention is devoted to the cultivation of hand-writing; very little to that of mouth speaking. The child is instructed in correct posture and the proper position of his arms, and his fingers are guided in the formation of the first rudimentary written characters. No attention, however, is given to training the proper muscles of respiration; no guidance in the proper adjustment and management of his mouth and throat, necessary to form correctly the various intelligible words he gradually learns to utter. He imitates in a slovenly manner the nearest models, be they good or bad. Later on at the public school, if he abstains from false quantities and bad words (the former particularly), his vocal organs receive small attention.

Subsequently, at college, where the youth is presumably supplied with all the necessary weapons to fit him for the battle of life, no attempt is made to train the vocal powers of the student preparing for a career as a public speaker. Every effort is directed towards filling him to the lips with useful information, but there it stops. The cultivation of his intellectual faculties is pushed and stimulated in every way, but little is done systematically to give him that physical training of his vocal organs whereby he can employ his acquirements to the best advantage. He resembles the soldier supplied with excellent arms and ammunition but untaught in their skilful use, and deficient in that muscular strength and endurance which can be produced only by systematic physical training and drill.

Lastly, when he finally emerges into public life—be his sphere of action the pulpit, the platform, or the stage—impediments to success, often insuperable, are unexpectedly discovered in the utterly untrained condition of his vocal organs. Many a man brimful of ripe ideas and intellectual activity has found himself at least severely handicapped through the failure of his voice.

This failure is, I believe, in many cases purely physical, resulting from an unwonted strain thrown suddenly upon untrained muscles, and could, I am convinced, in the majority of instances, have been obviated by a preliminary course of physical voice-training.

The extent to which physical training is necessary for the exercise of

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such arts as fencing, boxing, or any similar accomplishment demanding both skill and endurance, is as nothing compared with its necessity in preparing the delicate muscular system of the vocal organs to meet the prolonged strain thrown upon them in public speaking. The advantage that must result from a course of skilful teaching is equally striking in both cases. More especially is this true in the case of clergymen, whose duties are often discharged in an unnatural voice, which, whatever be its object, cramps the full freedom of laryngeal muscular action.

In the exercise of the coarser physical accomplishments, to which I have referred, violent exertion without previous training has often produced disastrous effects, resulting in muscles permanently enfeebled, and severe functional derangement of various organs. The equivalents of these conditions found in the larynx are toneless, exhausted muscles, painful in use and ineffectual in action, flaccid, congested cords, and general hyperæmia of the mucous membrane and neighbouring structures, with ensuing enlargement of the glandular elements, resulting in a still further hampering of the already over-wrought muscular system.

In this enfeebled condition the throat is defenceless in the presence of any tendency to organic disease, and is a ready prey to any hostile germs or atmospheric influences to which it may be exposed. The voice itself becomes weak and husky, devoid of tone, and incapable of sustained effort, any attempt at the latter being painful and distressing.

Suppose the case to be that of a young clergyman, launched straight from the lecture room into the discharge of duties entailing, it may be, continuous speaking for several consecutive hours in a large church. Totally ignorant of the possibilities afforded by skilful management of his voice, and feeling perhaps that he is not making himself audible to his audience, he attempts to replace by violence that skill which alone can readily and effectually accomplish his object, but of which he has no knowledge. He calls to the aid of his exhausted throat every muscle of his body which can directly or indirectly assist in the discharge of his allotted task; and by extreme physical exertion, by raising his voice to the highest possible pitch, and, it may be, by the assumption of an artificial tone, he struggles through a performance disagreeable to his audience and disastrous to his own voice, finding himself at night prostrated with fatigue from head to foot. This is repeated at frequent intervals, until eventually his throat breaks down, and he seeks advice.

Similar illustrations might be taken from the history of the platform or the stage, although in the case of the latter avocation the individual is more dependent upon personal efforts to obtain a hearing from his audience, and therefore perhaps takes more pains in cultivating his vocal powers.

When we consider how very frequently cases such as these come under our notice, a vision of the vast extent of private misery and of public inconvenience, springing from the want of systematic voice training, rises before us, and prompts us to earnestly seek some remedy for this prevailing evil.

In dealing with the connection between throat troubles in public speakers and a want of proper voice training, we must first estimate the

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influence exercised by pre-existing abnormal conditions, either organic or otherwise.

Every day fresh light is being thrown upon the effect produced by abnormalities of all portions of the respiratory tract upon the quality, resonance, and power of the voice. All affections interfering with the patency of these passages, either in the form of new growths or hypertrophy of existing structures, must seriously impede vocalization. It is therefore essential that any such conditions be first removed, else all attempts at proper training in vocalization must be futile. For this purpose the early detection and treatment of such conditions in *children* is most important, before they have acquired the habit of using faulty combinations of the vocal elements in the effort to overcome mechanical obstructions to the correct formation of words. Hence the earliest symptoms of nasal or post-nasal obstructions—as evidenced by a tendency to mouth-breathing, snoring, or an imperfect pronunciation of certain words—should be subjected to active treatment by the physician before imperfect respiratory action has had time to impede natural chest-development and impair the healthy condition of the air-passages in the growing child. The nasal passages should be carefully overhauled for symptoms of stenosis, enlarged turbinals, polypi, etc.; the naso-pharynx for adenoid growths, enlarged tonsils, or other troubles; and when these have been relieved the province of the surgeon ceases, and the patient should be handed over to the skilled voice-trainer for instruction in scientific physical drill of the vocal organs.

Upon the subject of voice-training much has been said and much has been written, but no systematic attempt has been made to induce educational governing bodies to practically recognize its importance. Many valuable works have been published upon the subject from time to time—some by distinguished men who have passed away, some by living specialists of world-wide reputation—notably, an exhaustive work on "Voice, Song, and Speech" by one of the latter—but all these contributions to literature, so interesting and instructive in themselves, seem only to have reached the few, and a more general movement is necessary in order to bring the practical importance of the subject before the public at large.

It would be out of place here to enter into any discussion of the merits of the various methods or systems of instruction advocated from different quarters, the object of each being to secure the greatest amount of satisfactory work with the smallest amount of resulting fatigue. Various theories have been propounded, and each in turn finds eloquent supporters. Take, for instance, the relative claims of the methods of breathing in singing and speaking, known as the *clavicular*, the *costal*, and the *diaphragmatic*. Each in turn has received exclusive support, much scorn being heaped upon the advocates of the other methods. I cannot but think that this somewhat resembles a controversy as to which foot is the most useful in walking; each in turn seeming best to meet the requirements of the situation. In reference to breathing capacity, I have no doubt that the proper course is to cultivate the power of using *all* respiratory methods, and that they will all assist, more or less, in sup-

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porting sustained vocal effort, according to the nature of the latter, so that none need be adopted to the utter exclusion of the others.

All I would now put forward is that some such system of instruction should form the invariable foundation for any subsequent acquirement of elocutionary accomplishments. Habits of pronunciation on a wrong principle are easily formed, and the victim requires careful instruction and skilful handling to eradicate them. It must be remembered that the pronunciation of a single word is only the result of a muscular impulse passing down an intricate track, with numerous junctions and sidings, and ultimately effecting that proper arrangement of the mouth and other parts which modifies the sound emitted by the vocal cords into intelligible speech. Any slight impediment or irregularity is sufficient to check the impulse, or throw it on to "wrong points," so to speak, and a good deal of hesitation, jerking, and fumbling ensues before the right points are struck. This produces a habitual ataxia, and is, I believe, a common cause of that most serious obstacle to vocalization, viz., *stammering*, which sometimes defies the voice-trainer's art, though I have frequently met with most brilliant results from treatment—first, by the surgeon, and subsequently by the voice-trainer. I have, moreover, seen more than one case in which the stammering was fairly overcome, but returned temporarily with every throat trouble or catarrhal affection, apparently from interference with the usual track of impulses by thickened, altered tissues.

Of course there are many stammerers whose cases offer no such explanation of this difficulty in speech, and these can only be classed as of "neurotic" origin, either *primary*, where the inco-ordination is due to some central deficiency often associated with intellectual weakness; or *secondary*, where the neurosis ensues upon some disease, *e.g.*, whooping cough, upon some reflex interference, or upon mere aggravated "nervousness." In these cases the skilful voice-trainer has worked wonders.

Thus cause and effect are intimately mixed up; for while we see so many throat troubles directly springing from improper use of the vocal organs, on the other hand pre-existing morbid conditions are a fruitful source of vocal impediment. Organic diseases and functional disorders all require equally careful and intelligent treatment; for if among the former class are many cases perhaps fatal to life, among the latter much larger division we find numberless conditions which, if not directly threatening to life itself, at least deprive the sufferer of the means of living.

As regards the origin of all this trouble, I believe that it results first from neglect in failing to observe and have treated affections of the respiratory passages in infancy and early childhood, particularly of the nose and naso-pharynx; secondly, from neglect in not getting the child taught how to speak, and how to breathe while speaking, on proper principles; thirdly, from continued neglect during boyhood as regards the cultivation of the voice; and, finally, from fatal neglect of the interests of the individual and of the public at large, in allowing clergymen and other public speakers to emerge from their universities utterly ignorant of the most rudimentary principles of scientific voice production, although

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otherwise perhaps equipped in every respect in the fullest manner possible, and with every faculty and every organ cultivated to the highest pitch, except those appertaining to speech—to him perhaps the most important of all.

As to the remedy for all this, I believe it lies, first, in early attention to the health of the respiratory passages—from the nose to the diaphragm—at all times of life, but more especially in early childhood; secondly, in promoting at least an elementary acquaintance with the physiology of the vocal organs, and some knowledge of the principles of scientific voice-training among the child's first teachers; subsequently at school, that at least some attention be given to the subject; finally, at the university, that in the divinity and other schools a recognized course of physical voice-training form part of the ordinary curriculum; that no license to preach be given to any clergyman until he has attended such a course of instruction; and that, in order to render the foregoing measures effective, countenance and encouragement be given to scientific men to perfect themselves as instructors in this subject.

The medical man, even the throat specialist, has nothing to do with this. The physician is not a drill-sergeant, and although he may advocate the advantages of physical drill, vocal and otherwise, of carriage exercise or of sea-bathing, it does not follow that he should arrogate to himself the duties of the presiding genius at these several functions.

It is sufficient that the medical profession should, in its conscientious vigilance for the public weal, direct attention on scientific grounds to the necessity for systematic reform of abuses, the far-reaching ill effects of which it has so many opportunities of observing.

It is the part of those who would most directly benefit by such reform—viz., that section of the public who "do" the public speaking—as well as the public themselves, to take the matter up and not rest until this subject receives the attention it deserves, and scientific physical voice-training be established on a proper basis.

Mr. LENNOX BROWNE.—*Faults in Voice Production which lead to Throat Disease.*

The author commenced by expressing his conviction that the number of diseases which, independently of fault in production, hamper the voice user, are out of all proportion in a minority to those due to either wrong method or over-exertion. He considered this subject in relation to three distinct elements involved in the act of voice production.

First, the motor in the lung representing respiration. Secondly, the vibrating, situated in the larynx. Thirdly, the resonating, represented by the chest walls, wind-pipe, the supra-glottic, pharyngeal, and naso-pharyngeal cavities, with the antral and even frontal sinuses. The best way of inflating the lungs was shown to be by the combined action of the diaphragm and the intercostal muscles, and the avoidance of use of those muscles which were used in what is known as "collar-bone" breathing; a method of breathing never practised except in cases of disease in which there is a dire struggle for breath to support life. Beyond this best method of filling the lungs, it was extremely important to economize

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the exit of breath once inhaled, as first, to prevent the act of breath-taking being too frequent. Secondly, to be able to "attack" the tone cleanly and promptly without previous escape of breath, and with just so much vibration as to permit the adjustment of the cords for the particular note pitched. Fault in this region led to spasmodic, jerky respiration, and a want of co-ordination in the vocal cords. It was also a fruitful cause of chronic pharyngitis, a point alluded to in another paper by the same author.

In the vibrating element, beyond this spasm and the vice known as tremolo or vibrato, due to improper breathing, there were defects in what is known as the joining of the registers; the lower register being carried up too high instead of the higher being brought down to meet it. This fault leads to the formation of what is called "a hole in the voice," the bridging over of which is one of the main aims of every good teacher.

Another fatal defect leading to much throat congestion, as well as very unsatisfactory vocal results, was raising the pitch of the voice, instead of raising the voice itself. An insistance was made, that as a man naturally speaks in that part of his voice in which he can produce the best result with the smallest amount of effort, that is precisely and obviously the part which should be cultivated for public speaking. This was illustrated by a very interesting and well-authenticated anecdote of the great French actor, Talma. He made it a practice to engage in some ordinary conversation with anybody he happened to come into contact with in the wings until the time arrived for him to appear on the stage, when he was careful to continue to speak at the same pitch at which he had just been chatting familiarly behind the scenes.

Mr. Lennox Browne wished that this lesson might be taken to heart by our clergy, to many members of which profession he had often pointed out the absurdity, and injury to the throat, of giving an affected air of solemnity the moment they commence to speak in public on solemn matters. All these faults were followed by disease, which might or might not require surgical treatment, but for which elocutionary education should be adopted either as a substitute or afterwards.

The defects in resonance to be considered were chiefly those which affected the tuning of the resonating cavity to the peculiar note pitched.

One of these was a want of contractile power in the soft palate which led to nasal tone, due to escape of air through the nostrils. Another defect was a want of suppleness in the tongue, causing imperfect adaptation of that organ to the changes in its position and form, to various vocal and consonantal sounds. These could both be cured by gymnastic exercises based on knowledge of the action of the muscles involved.

In conclusion, Mr. Lennox Browne made a powerful appeal for a more general recognition of the necessity for scientific training of the voice, as the best means of retaining its health, and quoted the saying of Madam Seiler, "that if the physiology of the voice were better known and acted upon, there would be but few complaining singers and speakers." And, lastly, a quotation from Herbert Spencer, "Not only the poet, but also the artist of every type is born, not made. What we assert is that innate faculty will not suffice but must have the aid of organized

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knowledge. Instruction will do much, but it will not do all. Only when genius is married to science can the highest results be obtained."

Dr. MIDDLEMASS HUNT.—*On Loss of the Singing Voice.*

The scope of this paper was limited to loss of singing voice, due to what is usually termed "fatigue" or strain of the vocal cords, but is really caused by some paresis of the laryngeal muscles. It is most frequently met with in amateur vocalists, and especially in ladies. The larynx is free from inflammatory changes, but there is evident paresis of one or more of the vocal muscles. The loss of voice is rarely complete, but is limited to one register, or to a few tones of a register. In all voices, both in speaking and singing, we can recognize a lower, an upper, and a medium range of tones. As the result of clinical experience, we find that a loss of notes in the lower register is associated with paresis of the arytenoid muscle, loss of the medium register with a thyro-arytenoid paresis, and loss of the upper register with crico-thyroid paresis.

Hence the name "leit muskel," or controlling muscles, has been suggested by Michael, of Hamburg, as describing the relation of these muscles to the three vocal registers.

The causes of such vocal failure are :—

(1) Wrong methods of breathing ;

(2) Wrong use of the vocal registers ;

(3) Simple over-use of the voice ;

(4) Use of the voice while suffering from catarrh.

Treatment consists in rest to the voice, and a new and competent singing master. Results are, however, frequently unsatisfactory, and often the lost voice is never restored.

Mr. ELLIS (Newcastle-on-Tyne) read a note on *A Frequent Cause of Throat Irritation and Congestion in School Teachers*, showing how the misuse of the blackboard led to these effects in a very large number of cases. He showed that when the teacher was instructing a large class, and so exercising his vocal and respiratory organs in a high degree, the dust thrown off from the blackboard was highly injurious and irritating. Frequently common chalk was used, and a dry duster to efface the figures or diagrams. He pointed out, by analogous cases, the effects of chalk on the skin, even when frequently handled by workmen, such as joiners and others.

These four papers were taken together, and after a prolonged discussion, the following resolutions were adopted :—

1. "In consideration of the injurious influence exercised upon the vocal organs by improper use of their functions, and of the insufficient attention hitherto given to the subject of systematic voice training, the members of the Laryngological Section of the British Medical Association desire to urge upon educational governing bodies the importance of a more general recognition of this subject as a distinct branch of education, especially in the case of those preparing for vocations which require much speaking in public. They would suggest the cultivation of at

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least an elementary knowledge of the physiology of the vocal organs, and of the principles of scientific vocalization, by school-teachers and others associated with the education of the young."

2. "That the foregoing resolution be forwarded to the General Council for their approval, and consideration as to what steps may be desirable towards giving it practical effect."

Dr. ROBERTSON (Newcastle-on-Tyne) read a paper on *The Treatment of Ozæna and Recurrent Nasal Polypi by opening and draining Highmore's Antrum.*

As regards ozæna he finds that the antral mucosa is more or less deeply affected in all cases, leading, first, to impaired condition of osseous walls and adjoining structures, teeth and inferior turbinals; second, to stenosis of natural opening of antrum, and thus retention of exhalations and excretions from antral mucosa; third, that the contents of the cavity may be fluid pus or inspissated white masses of curdy material lining the walls and of an ozænatous odour, while bony outgrowths are sometimes found partitioning the space; fourth, that these conditions abolish the physiological function of the sinus and react viciously on intra-nasal structure and function; fifth, that opening the sinus by a large perforation in its anterior wall and clearing out contents, curetting mucosa, etc., at once stops crust formation and fœtid odour, and leads to an exhaustion of ozænatous process. In the case of recurrent nasal polypi, in the course of the disease the antral mucosa becomes affected and reacts on the intra-nasal condition, especially on the middle turbinal, thus perpetuating or propagating intra-nasal conditions. Polypoid degeneration of antral mucosa is met with along with distinct polypoid growths and partitioning septa in the space. The absence of pus does not contra-indicate an unsuccessful result from operation. In these cases of recurrent polypi coincident lacunar disease of the middle turbinal is often found. No operation short of a perforation in the anterior wall capable of affording a complete digital or ocular examination of interior of cavity is of any service, while such a perforation affords a painless sinus and one facilitating a prolonged aeration and douching of the sinus until intra-nasal conditions, which are notoriously long in resolving themselves, are restored to their normal state.

The author in operating at first, some years ago, employed dentists' drills, but now employs the mallet and chisel. Where extensive operation is not securable a little cocaine and an ordinary gimlet to perforate the anterior wall answers readily, much more so and less painful than perforating the nasal wall of the sinus. As a diagnostic step this is the most feasible and surgical of all such recommended, no injurious instrumental service, expensive or otherwise, being required. The paper further refers to the frequency of double antral implication (empyema, etc.). In a list of seven cases, there occur six double to one single case. A reference was also made to the frequent association of middle ear affections (acute otitis, recurrent otitis, media purulenta, tinnitus, etc.) with antral disease, and to the cure of these being effected when the antral condition was remedied.

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Dr. ADOLPH BRONNER.—*On Trichloracetic Acid in the Treatment of Ozæna.*

So many remedies have recently been recommended for the treatment of ozæna that it seems almost superfluous to suggest any more. But the very fact that a new remedy is brought forward so frequently proves that the present method of treatment is not altogether satisfactory.

Stanislaus von Stein recommended the use of trichloracetic acid at the International Congress of Otology and Laryngology, Paris, 1889.

I have since tried the acid in many cases of ozæna, and it seems to me to be, if not altogether infallible, certainly more efficacious than most other remedies. I use a ten to fifty per cent. solution in water, and apply it to the turbinated bones and septum two or three times a week for several weeks. A small piece of cotton-wool is twisted on to a silver or aluminum probe, dipped into the solution, and then rubbed most energetically over the whole of the diseased mucous membrane. The cocaine spray is used before and after the operation. The region most difficult to cure is often that of the upper turbinated bone, to which part special care should be given. In many cases the naso-pharynx is also affected, and we then often find remains of old post-nasal growths.

Before applying the acid to these parts I scrape the growths with Hartmann's curette. Of course, when the maxillary sinus or ethmoidal or sphenoidal cells are affected, we must first treat and cure these before we can hope to cure the nose. I published several of these cases in the "Lancet" of July 24th, 1890.

In addition to the application of the trichloracetic acid—which can, of course, only be done by the surgeon—I recommend the patient to use an alkaline douche frequently, to which in some cases aluminum-acetico-tartaratum (Schaeffer, "Deutsche Med. Woch.," No. 23, 1885) is added.

I never order Weber's douche, but a two-ounce india-rubber ball, with which greater force can be used, and the crusts thus more readily removed. I also order a snuff, consisting of aluminum-acetico-tartaratum, menthol, camphor, and boric acid, to which aristol or europhine can be added.

Dr. WATSON P. WILLIAMS read a paper on *The Dyspeptic Sore Throat.*

Dr. DUNDAS GRANT read three papers.

Practical Points in the Diagnosis and Treatment of "Fish-bones in the Throat."

In the case of a patient who had had a herring bone "in her throat" for a week, Dr. Dundas Grant, after carefully inspecting the tonsils, employed the laryngoscope mirror in his left hand—his usual way—without detecting the foreign body. On using it with his right hand he was able to see the point of a very fine bone projecting from the inner and back part of the right lingual tonsil and touching the lingual surface of the epiglottis. The bone was too fine to be felt with the finger, or with any instrument. He found that by exercising pressure with his left fingers in the patient's right submaxillary region while she uttered sounds, the point of the bone became sufficiently extruded from the lingual tonsil for him to see it in a left-handed laryngoscope. He then removed

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it by means of Mackenzie's tubular forceps, giving the patient complete relief from the severe pain and discomfort she had felt for a week.

From this experience he deduced the following practical points :—

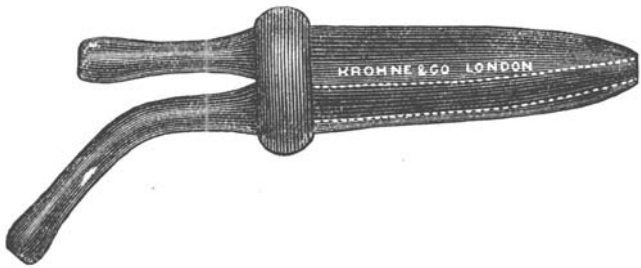
1. To examine carefully the lingual tonsil, no matter how low down the patient may think the bone is situated.

2. To use the mirror in the other hand if the foreign body is not revealed by its use in the one usually employed.

3. To exercise pressure in the submaxillary region while the patient phonates in order to cause an impacted fish-bone to extrude from the inner aspect of the lingual tonsil.

A Safe Nasal Douche.

In view of the danger of exciting middle-ear inflammation by the use of the nasal douche, especially in cases in which the opposite nasal fossa is too much obstructed to allow a ready efflux of the injected fluid, Dr. Dundas Grant devised a double-current nose-piece, the tube of exit lying in the centre of the tube of entrance.



It will be seen that should the fluid find any resistance in the nostril it can find its way back by the exit tube. Moreover, a swelling of the mucous membrane might obstruct the tube of entrance, but the other, from its central position, would escape.

As an improvised substitute Dr. Grant has used the following :—The tip is cut off a number three or four gum elastic catheter, and the cut end is pushed through a very small slit cut in the side of an india-rubber tube (of about three-eighths of an inch in diameter), and about half an inch from its extremity. The india-rubber tube may be introduced into the nostril as the influx tube of a syphon nasal douche, and, as will be readily understood, in case of excessive pressure there will be an escape through the catheter.

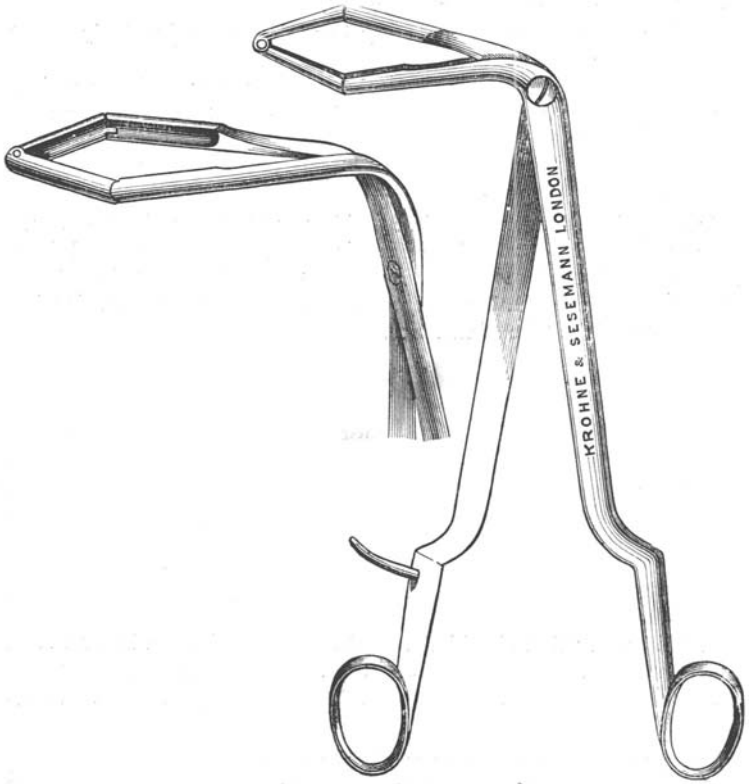
He would confine the use of the nasal douche to cases of ozæna and caries, substituting the coarse spray for it in all other forms of nasal disease.

A Safe Endo-Laryngeal Forceps.

Dr. DUNDAS GRANT showed a modification of Mackenzie's forceps, in which a prolongation was hinged to the extremity of each blade. These prolongations were further hinged to each other at their points. It will be seen that when the forceps is opened there is a lozenge-shaped space

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formed by the blades and their prolongations. The blades and the prolongations are made with cutting edges, and lateral growths in the glottis can be snipped off by their means without any anxiety as to the possibility of the framework of the larynx being gripped, as has been known to have



occurred in the use of the ordinary unguarded forceps. Movement on the part of the patient and want of skill on the part of the surgeon are made less dangerous. This forceps offers many of the advantages of the snare.

The instrument is made in two forms, one with lateral and the other with anterior and posterior blades.

Friday, July 29th.

The proceedings began by a discussion on *Granular Pharyngitis; its Etiology and Treatment*, introduced by T. MARK HOVELL, F.R C.S. Ed., and LENNOX BROWNE, F.R.C.S. Ed.

Mr. HOVELL said:

The reason why granular pharyngitis is still frequently overlooked by practitioners who are unaccustomed to the use of the laryngoscope is probably partly due to the granules which produce the discomfort being

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often situated behind the posterior pillars of the fauces, and consequently concealed from view until the pillar is pushed aside. In my experience, hypertrophied tissue, either in the form of a ridge or a string of granulations, is frequently found in this situation when there are few, or even not any, granulations elsewhere, and I disagree with those who consider that hypertrophied tissue is only found behind the posterior pillars of the fauces in cases of old standing.

To give the distinctive term of "pharyngitis lateralis hypertrophica" to the thickened tissues in this region, no matter to what extent they may be involved, is, I consider, a mistake. The disease is still granular pharyngitis, and I fail to see any benefit derived by a distinctive name being given to its occurrence in a particular part. In passing, I may mention that I have found that enlarged granules in this situation have a tendency to keep up catarrh of the Eustachian tube, and that their destruction may, therefore, become necessary before a healthy condition of this portion of the mucous lining of the middle ear can be obtained.

The most frequent exciting cause of granular pharyngitis in the cases of males is improper use of the voice, and consequently it is usually found in those whose avocation at times requires continuous or forced vocal efforts. The proximate cause, however, is not merely speaking in a loud tone, so that the voice may be heard above other sounds, but most frequently is the result of the strain put upon the pharynx by improper voice production, or speaking for a length of time when the throat is in a catarrhal condition. Although in these cases the immediate exciting cause has been undue use of the voice, it will frequently be found on enquiry that for some time past the general health of the patient has been impaired, and in many cases dyspeptic symptoms have been present for a considerable period.

The disease, however, is by no means uncommon in females, and as many cases occur amongst those who do not make excessive or improper use of the voice, other causes for this affection must be sought. As exciting causes, a damp condition of the atmosphere and east winds stand prominently forward. Patients suffering from this affection who live in a damp locality often experience immediate relief in residing in a dry atmosphere, but the discomfort in the throat comes back as soon as they return home, and it is not uncommon for the presence of rain or the prevalence of an east wind to be detected by increased discomfort in the throat before the sufferer has had an opportunity of otherwise ascertaining the state of the weather. In the majority of these cases also the general health of the patient is impaired, in fact it is unusual to find granular pharyngitis occurring in an otherwise healthy individual.

Although most authors who have written on granular pharyngitis are agreed that it is found co-existing with impairment of the general health, dyspepsia, anæmia, derangement of the bowls, etc., I think sufficient stress has not been laid on the necessity for directing treatment in the first instance to the removal of these conditions, and that too much attention has been paid to local applications, under the belief that the disorders above alluded to were secondary to the throat affection.

I am of opinion that stomach derangements or hepatic congestion

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exist, as a rule, prior to the thoat affection, and in many cases are the cause of granular pharyngitis. However this may be, the fact remains that granular pharyngitis will not be cured by local treatment whilst dyspeptic symptoms, etc., remain, and moreover treatment directed entirely to remove the dyspepsia or the engorged condition of the liver may cure the throat affection without local remedies being employed, provided the latter has not existed sufficiently long for the hypertrophied tissue to become very dense in texture.

The discomfort in the throat produced by granular pharyngitis is usually worst in the evening, at a time when the fatigue produced by the day's work is experienced, and the pain is felt not only by those who have had to use their voice during the day, but also by those who have refrained from speaking as much as possible, the increase of pain in these latter cases being clearly attributable to fatigue, irrespective of voice production.

These facts tend to confirm the view to which I wish to call attention, viz., that in many cases granular pharyngitis should be regarded rather as a local manifestation of a general disorder than as a throat affection which happens to occur in an individual not in robust health, or which produces the impairment of the general health with which it is found associated.

There is a tendency to consider that the correct treatment for all cases of granular pharyngitis is the immediate destruction of the granules with the galvano-cautery, and that a tonic merely as an adjunct to treatment is in some cases desirable, but I am of opinion that treatment in many cases should be primarily directed to the improvement of the general health, and that the use of the galvano-cautery should be reserved for the removal of granules which continue to cause irritation when other symptoms have subsided.

Some of the worst cases of granular pharyngitis which I have met with in women have occurred in individuals who were suffering from chronic uterine disease, and to cauterize the granules in such cases, with the intention of curing the throat affection, would in my opinion be as unscientific as it would be found futile.

I do not intend to imply for one moment that the cautery should not be used in the treatment of granular pharyngitis, because I am well aware that in many cases it is not only necessary to destroy the hypertrophied tissue, but that the galvano-cautery is the best method by which that end can be obtained. I merely contend that it is unnecessary in some cases, and that when used, it is best employed in many cases after general treatment has been given, and the local irritation also lessened by soothing applications.

When there is much congestion a weak alkaline solution sprayed through the nostrils into the naso-pharynx often gives relief, especially when rhinitis is also present, nasal obstruction being a frequent cause of the continuance of the pharyngeal trouble. Astringents are of use in the later stages, and, as a rule, weak applications are more beneficial than strong ones.

The object of this paper is to point out that constitutional disturbance

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often precedes the local trouble, and that treatment therefore in these cases should be directed, in the first instance, to the primary cause; also that the use of the galvano-cautery should be reserved for the destruction of the granulations which do not disappear when remote sources of irritation have been removed, and milder forms of local treatment are not efficacious.

Mr. LENNOX BROWNE followed with a paper dealing with the causes of the malady which is popularly known as "clergyman's sore throat," to the absurdity of which term he called attention; such a definition is sufficient to condemn its own existence.

After briefly noticing the various constitutional states, and the occupations which may predispose to or be direct causes of the disease, the author proceeded to discuss two main points, neither of which has received the attention which it undoubtedly deserves.

The first was the absolute importance of free nasal breathing in patients of all ages—a rational deduction, from the fact that children with blocked nostrils, causing mouth-breathing, almost always suffer from chronic pharyngitis.

The second point insisted on was that it is not *over use*, but *abuse*, of the voice, from faulty methods in respiration and voice production, which is at the root of the evil, and here comes in the reason for this malady being called "clergyman's sore throat," the affliction, however, not being peculiar to a particular profession, but rather a result of wrong use or over use of the vocal function.

Mr. Lennox Browne clearly demonstrated the folly of those who teach that rest alone, however complete or long continued, can cure a defect in the production of the voice, and he concluded with an earnest hope that those who are entrusted with the treatment of such cases will direct their efforts to curing the defect in the method of producing the voice, as the only preventive of recurrence after the local symptoms shall have been once efficiently treated.

Dr. BARR, of Glasgow, read a paper on *The importance of guarding against Injury to the Middle Ear when Treating the Nasal Passages and Naso-Pharynx.*

The paper contained a report of cases, showing the care necessary in treating such, and illustrative cases were mentioned.

The proceedings closed with a few remarks from the PRESIDENT, in which he said he thought the members had reason to be pleased with the success of the work of the section.

PARIS SOCIETY OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

May 6, 1892.

The "Otic Sign" in Cerebral Affections. Value of the Binauricular Accommodative Reflex. By Dr. GELLÉ.

In a previous clinical study carried out in Dr. Charcot's wards, Dr. Gellé made some researches as to the origin of the binauricular accommodative reflex, and was

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led by the signs present in a case of cervical pachymeningitis to locate it in the cervical medulla (*vide* "Etudes d'Otologie," vol. 2, p. 60). Since then he has had two opportunities of observing facts confirmatory of this opinion. One of his pupils is now publishing a work on this subject, *àpropos* of a case observed and followed up by him, in which the absence of the phenomena of synergy has been recognized in spite of complete integrity of the organs, and of the function of hearing.

Clinical observation shows the importance of the determination of the presence or absence of this sign, whether or not there was auditory disturbance, in affections of the middle ear, or of the internal ear, as well as in any intra-cranial diseases whatever, involving vertigo, noises in the ears, deafness, facial paralysis, &c.

Supposing there was disease of the drum of the ear, Gellé has shown, in a work on the innervation of the tympanic muscles, the inferences to be drawn from this sign in recognizing in the results of deep otitis a lesion of the tensor tympani, its consecutive inactivity or paresis, since pressure exercised in the healthy ear causes synergic contraction of the muscle of the diseased ear (*vide* "Facial Paralysis and Otitis"). Absence of this transmission of synergic excitation occurs in sclerosis as a mechanical effect, explained in the same way as the simultaneous loss of the effect of centripetal pressure on the perception of the tuning-fork on the vertex, added to the other signs of middle ear disease. When a hæmorrhage or an inflammation has seriously damaged the contents of the labyrinth the reflex is equally wanting; it is absent on both sides, its loss coincides with well-marked deafness, and the various disorders of equilibration which make up the syndroma of labyrinthine lesion. On the other hand, in hyperæsthesia and in anæsthesia nothing of the kind occurs ordinarily; the reflexes are intact in most cases of hysterical hemi-deafness. Dr. Gellé has worked out this subject in the statistics of the otological clinic at the Salpétrière for 1890-91.

The following case shows the disappearance of the reflex in unilateral traumatic deafness.

First Case. No. 430. Lutz, a man aged forty, locksmith, sent by Dr. Catuffe, fell from a ladder a height of four mètres; loss of consciousness, bleeding from the left ear and from the nose; return of consciousness in six hours; one month in bed. Immediately after the accident there was complete deafness, with intense noise in the left ear, continuous vertigo aggravated by movement, inability to stand or walk. The pain disappeared gradually, the head remained heavy and confused, but intelligence returned completely from the very first. Examination of the left ear showed: drum intact, semi-opalescent above, not congested, light-spot distinct, manubrium little inclined, mobility to Siegel's speculum normal. The tuning-fork on the vertex and on the left mastoid heard in the right ear. On closing the left meatus the fork was still heard in the right ear. There was no autophonia and no hyperacusis. Centripetal pressure on the right side gave a positive result (Gellé's experiment), and in the left ear there was equally an attenuation of the sound, with slight giddiness. Reflexes *nil;* there was no change in the aerial condition on the right side when pressure was exerted in the left ear. On inflation (Politzer) there was a tympanic crepitation and displacement without vertigo. Ophthalmoscopic examination made by Dr. Koenig showed no change in the fundus.

During two months no change took place in the condition of the ear, but the head got clearer, and the vertigo on movement less marked.

Second Case. No. 259. P., aged forty-two, strong and well developed, while exposed to great heat in a factory was seized with vertigo of such severity as to cause him to fall, without loss of consciousness, but with ringing noises in both

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ears, and shrill whistling sounds in the right one, which has remained deaf ever since. There was no objective sign of disease in the ear; pressure in the right ear was negative, as was also the reflex. The vertigo diminished under treatment, but the other symptoms remained the same. The left ear is excellent; the tuning-fork on the vertex is perceived by the left ear; on the right the perception of tuning-fork vibrations is very doubtful. The urine is loaded with uric acid.

The case is obviously one of hæmorrhage into the labyrinth, without any other cerebral or auricular complication.

It is, however, in cases of cerebral or intra-cranial lesions that the investigation of the binauricular reflex is of most interest, and it disappears in a fair number of instances whether there are otic manifestations or not. From the analysis of clinical facts it has been made out that loss of the reflex coincides with lesions of the medulla oblongata, especially of the protuberance, whereas it is rare in affections of other parts of the encephalon—at least in disease of the cerebrum this seems to be the case even in presence of extreme deafness.

The following cases illustrate this point:—

Third Case. No. 373. H., aged twenty-one, speaks with difficulty, hears by the left ear only, slow speech spoken with a loud voice. At the age of three he suffered from meningitis, according to his father's account, and he has remained deaf ever since. The conducting apparatus appeared to be perfectly natural on both sides. The tuning-fork on the vertex is heard on the left side only, and when held opposite the meatuses is heard only by the left ear. The watch tick is heard on the left side at five centimètres, and not at all on the right. Centripetal pressure is positive on both sides, and *the binauricular reflexes are perfectly preserved.* The Eustachian tubes are free, the nose and pharynx normal, vertigo is quite absent.

The lesion appears to be cerebral, and the deafness unconnected with any auricular lesion.

Fourth Case. No. 39 has had total transient deafness at the time of an attack of hemiplegia, which brought it on. It is a case of cerebral syphilis, and at present the watch is heard at the distance of one mètre on both sides. Centripetal pressure is positive, *the reflexes normal*, the organs of hearing quite natural.

Fifth Case. No. 277. H., affected with right hemiplegia with aphasia, dating from three months previous, has perfect intelligence and good hearing, and understands well, but has a difficulty in expressing himself. He hears the watch at fifty centimètres on the right and thirty on the left side. Pressure gives positive results, *the reflexes are normal.*

The following cases are of greater interest, as showing the usefulness of the sign and its value in the localization of an intra-cranial lesion and in diagnosis in general. Gellé's statistics for 1891-92 have afforded three clear cases demonstrating this opinion, out of thirty-two cases of disease of the nervous centres submitted to him for examination.

Sixth Case. No. 308. March 16th, 1891. L., aged twenty-seven, was suddenly attacked ten days ago with violent headache, vomiting, severe vertigo preventing him from rising from his bed, no tinnitus, but diplopia from paralysis of the left external rectus, and paresis of the left facial nerve. The watch heard at more than a mètre on each side. There is slight nystagmus, the pupils are normal, the patient says there was at first a slight degree of deafness. Centripetal pressure is positive on both sides, the drums are mobile, the tuning-fork on the vertex heard equally by both ears, and auricular pain is absent. *The binauricular reflexes are completely abrogated.*

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The lesion is clearly situated in the course of the left facial and sixth nerves. Hearing is not affected but the reflex is lost. The localization of the disease is therefore in the protuberance.

Seventh Case. No. 353. September 5th, 1891. A woman of thirty-five was suddenly attacked fifteen months ago with right hemiplegia and left-sided deafness and facial paralysis. At present the facial paralysis has diminished, but the patient still drags her right leg. She complains of slight buzzing in the left ear, the tuning-fork on the vertex is heard equally by both ears, though indistinctly, but on the mastoid it is quite audible. Watch and tuning-fork (aerial conduction) not heard on the left side, but the watch is heard at eight centimètres from the right ear, which hears the tuning-fork quite well. Pressure is positive on the right side, negative on the left. The *reflex is absent* when pressure is exercised on the deaf ear.

Clinical observation has taught us that the reflex persists in cases of hysterical hemi-anæsthesia, or of deafness due to cerebral disease and not to an affection of the ear, labyrinthine or otherwise. The disappearance of the reflex in this patient indicates the existence of other conditions, and the presence of cross-paralysis points to a lesion in or near the protuberance; the reflex centres have been affected, and the "otic sign," the loss of the synergic reflex coincident with deafness, seems to define the seat of the lesion (neoplasm or hæmorrhage) as at the point of origin of the facial and acoustic nerves in contact with the protuberance.

The following case has been published in Dr. Gellé's paper on "Facial Paralysis and Otitis," and is here given in *résumé.*

Eighth Case. Mademoiselle D., aged twenty-three, was suddenly seized three months ago with headache, repeated vomitings, and severe vertigo; then with slight and transient right hemiplegia, as well as persistent paralysis of the right facial and sixth nerves. There is no pain in the ears, nor loss of hearing. The effects of pressure in both ears are normal, but the *reflexes absent* on both sides.

The diagnosis is one of tumour or plastic products at the level of the emergence of the right facial and abducent nerve, close to the protuberance. The conducting strands and reflex centres have in this case been affected, and the "otic sign" confirms the localization of the disease.

Dr. PERCEPIED (Mont Dore.) *The Nasal Douche and its Indications.*

The attention of medical practitioners has long been drawn to the accidents which may follow the use of the nasal douche, accidents of which the most common is suppurative middle-ear disease. Many cases have been brought forward, and the writer has himself reported several in a communication made before the Medical Society of Rouen in 1885, while insisting on the proper precautions to take, and while giving details of the *technique*, which need not here be repeated. Since that time he has had the opportunity of seeing several accidents of the same kind. One of his friends, who had long been accustomed to use the douche, was attacked with middle-ear inflammation with prolonged suppuration extending to the mastoid cells, and calling for trepanation of the mastoid process at the hands of Dr. Lubet-Barbon. A second case was communicated by Dr. Hélot of Rouen. A little girl sent to a thermal resort was submitted to treatment by naso-pharyngeal irrigation, which led to median otitis with otorrhœa, lasting more than a year.

The writer is persuaded that many more cases would be reported if enquiries were made of specialists and of physicians practising at mineral water spas.

Fortunately this occurrence is not frequent, but it has to be feared when Weber's douche is used. There are, however, other unfortunate results which are perhaps to be classed as inconveniences rather than serious accidents. These are

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entrance of water into the frontal sinuses, causing considerable discomfort, or into the air-passages (as has happened to most *débutants* in the use of the douche) bringing on fits of coughing, or into other sinuses. Reflex disturbances may also occur in sensitive persons from irritation of the pituitary membrane. The writer has seen attacks brought on in asthmatic patients by the use of the nasal douche.

To obviate these inconveniences various means have been recommended. Weber-Liel, renouncing Th. Weber's method of continuous irrigation, makes use of injections of water containing a very small quantity of bicarbonate of soda by means of a syringe. According to him, this solution, even if introduced into the tympanum, would not set up otitis, or at least not to the extent of causing perforation of the membrane. Percepied does not consider this system superior to that of continuous irrigation, but, on the other hand, much more troublesome to the patient if any considerable quantity of water—say, three or four litres—has to be passed through the nose.

Water slightly alkalized is certainly a good liquid application, and very little irritating, but after it has passed through the nasal fossæ, whatever may be its chemical composition, it is certainly no longer aseptic, and in entering the tympanum may carry with it the micro-organisms which are so abundant in these passages, and set up serious mischief. Over and above this, the composition of the liquid is, for Weber-Liel, only a very precarious guarantee, as he considers that for the production of otitis by the nasal douche it is not necessary for the fluid to enter the tympanum, as a simple chill is sufficient. The writer has not yet seen an example of this, and until further order will continue to attribute this accident to the entrance of liquids, whether medicated fluids or nasal secretions. This, however, does not take place during the act of douching, but afterwards when the patient blows the nose.

Dr. Ball, of New York, adopting the method of Dr. Pins, of Vienna, has proposed the use of an ingeniously constructed bottle, by which fluid is driven into the nose by the patient's own blowing effort. During this forcible expiration the soft palate is raised so as to shut off the naso-pharynx. Not having experience with the instrument, Dr. Percepied hesitates to criticize it, but judges *à priori* that it must be very fatiguing for the patient to force any great quantity of fluid through the nose by its means.

These improvements have not seemed sufficiently great to take any hold in practice, and Weber's syphon is still the only form of apparatus of practical utility. The *irrigateur* can only meet with disapproval, as the pressure is too great, unless the tap is turned so far as to diminish too much the cross-section of the passage of outflow.

Whatever instrument is used, the nasal douche will never cease to be a disagreeable mode of treatment, occasioning fits of coughing, headache, and congestion, leaving the patients with suffused watery eyes, and sometimes it is so painful as to deter the patients from its use.

In the face of these objections, are there any beneficial effects to justify the further use of the method? In some cases, if safeguarded by the necessary precautions, there are, but it must be added that for some years there has been a veritable abuse of the douche, and it seems as if with many there was no other method of treatment than the irrigation of the nose with various liquids. At the mineral water spas the nasal douche forms the basis of treatment for every nasal or pharyngeal disease.

Before going further, we have to meet the objection urged against us, that patients are the better for the treatment. To this we reply that not all are so. At mineral spas the results are due to an aggregation of means and not the douche alone,

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A friend of the writer's, practising at a bathing resort, took a certain number of patients, suffering from spasmodic rhino-bronchitis, having frequent transient attacks of coryza, and sneezing fits coming on on the most trifling provocation. Of these some were treated with nasal irrigation, others without it, and the latter got exactly the same amount of relief as the former. It was notorious in the spa that great improvement as regards the tendency to coryza took place after one season spent there before any nasal douching was thought of.

In thus condemning the abuse of this remedy, we do not wish to deny the good effect of certain fluids applied to the pituitary membrane. We object to the mode of application, and ask whether sprays (*pulvérizations*) are not equally efficacious? We would use the latter mode in general, reserving the douche for those cases in which there are crusts to detach or secretions to wash out. The douche does good service in ozæna, and in it cannot be replaced by any other process. It is the washing rather than the contained fluid which is of importance, and sterilized water, injected vigorously by means of the English syringe, appears to be in these cases the principal means of treatment. In cases in which the secretions are too abundant, if there is no acute disease, and if the nasal fossæ and pharynx are free, the douche may be usefully employed, but there being no crusts to detach, Weber's syphon douche, with a medium pressure of 0·50 to 0·60 centimètres, is all that is required. It happens only too often that they are ordered improperly for persons suffering with nasal polypi, and for children the subjects of post-nasal adenoids.

En résumé, in order to act on the nasal mucous membrane by means of liquids, the writer employs sprays and limits the use of the douche to those cases where simple washing is required.

The writer brings this question before the Société de Laryngologie, though of little interest to it, devoid of novelty, and one on which the opinion of all the members is no doubt identical with his own, on account of the readiness with which many medical men in ordinary practice, and especially at the various spas, order the nasal douche, frequently without supervision or instruction. He calls upon the society to exercise its legitimate authority to warn practitioners against the abuse of a method of treatment occasionally dangerous and often quite useless.

Statistical Note on Suppurations of the Middle Ear complicated with Mastoid Inflammation. By Dr. HAMON DU FOUGERAY (Le Mans).

Suppurative median otitis is, without doubt, one of the affections of the ear which we meet with most frequently in practice, and its treatment merits all the attention of the surgeon. Whether acute or chronic, we see it fairly often followed by complications of which the most important is inflammation of the mastoid. Neglect or bad treatment of this complication may lead to death. All authors agree upon this point, but there is considerable diversity of opinion as to the best line of action in presence of inflammation of the mastoid cells.

Ought the cells to be opened by trephine or some other means, or ought we to wait and confine ourselves to antiseptic treatment? The latter is the view expressed by Dr. Loewenberg in 1885 and, far from changing his opinion, he is more and more convinced that opening the mastoid should only be practised in very rare cases. At the same period Schwartze enunciated his five indications for trepanation of the mastoid as we find them reproduced by various authors, and in 1887 Dr. St. John Roosa published in the "Archives of Otology" an important article in which he concluded by saying that opening the mastoid should enter more and more into practice, and holding that the only indication at all open to doubt is the one in which the only object of the operation is to afford better drainage to the tympanum, the mastoid being outwardly sound.

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In 1889, Cozzolino in an article with statistics ("Annales des Maladies de l'oreille, du nez et du larynx") said: "We should always commence with the most "simple form of treatment, and only have recourse to the more radical when "rendered necessary by the inefficacy of the former, and especially by the "imminence of cerebral complications." These few examples show the diversity of opinion.

The writer, during seven years of otological practice, has seen a good number of cases with mastoid complications, but has never required to open the antrum, all having recovered under antiseptic treatment solely. In the last five years he has seen the complication forty-two times. Of these, thirty-two presented the clinical features of inflammatory reaction, and in ten the skin was already perforated in one or more places, these perforations being the anterior opening of fistulæ which allowed the probe to reach the tympanum. In these ten cases pus exuded by the meatus and by the fistulæ.

It is right to say that these were all cases of chronic suppurative otitis. In the provinces, where the facts of otology have hardly taken hold of the public and of medical practitioners, most of the cases which come under the observation of the specialist are chronic. Consequently the symptoms of involvement of the mastoid have usually been the result of absence of treatment or erroneous treatment, the most dangerous method being the poultice. The writer has not had to note any cases of cerebral complication. By chance he met with two cases in 1891, one in a man aged forty, but as usual he was not called in till the patient was moribund.

En résumé, he has thirty-two times observed the mastoid become painful in the course of chronic otitis, and recurring several times in the same patient if treatment was suspended. In ten other cases Nature had operated and formed fistulous openings.

The following is the writer's plan of treatment:—

1. Irrigation with a warm sublimate solution of 1 in 2000 to cleanse the meatus and tympanum of all the products of suppuration;

2. Drying with absorbent wool;

3. Dabbing the bottom of the passage with a pledget of wool soaked with camphorated naphthol, or the injection of a few drops into the tympanum through the perforation;

4. Removal of vegetations and polypi whenever they develop.

In the ten cases in which the mastoid was already traversed by fistulous passages, the following additions were made:—

1. A drainage tube introduced as deeply as possible through the fistula;

2. Irrigation with 1 in 1000 sublimate solution was practised through it;

3. Camphorated naphthol was injected.

The fluid introduced through the fistula emerged by the meatus.

Dr. Fougeray selected camphorated naphthol in preference to other substances on account of the excellent results previously obtained from its use, confirming thus the experience of Dumont in Gouguenheim's clinic at the Lariboisière Hospital. Before 1889 he used boric acid in powder, or, better, in small crystals or dissolved in alcohol. He has not given it up, and employs it if the naphthol irritates or causes pain. For some time he has tried camphorated salol, which seems less irritating. In the cases of fistulæ he uses camphorated naphthol exclusively, and has had excellent results. Thus the duration of treatment in the ten cases has varied from one to two months, resulting in complete recovery and very little impairment of audition.

He does not bind himself down never to operate, but he holds that operative

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interference should be postponed till necessary. Thus in the case of the man of forty already cited he would, if he had been called in at the commencement of the complication, have trephined the mastoid or opened it with gouge or chisel, and if necessary, as shown by cerebral localizing indications, would have gone further; and similarly would do what was called for in the case of a sequestrum.

He would not, however, subscribe to Schwartze's five propositions. (*Chirurgische Krankheiten des Ohres.* Stuttgart 1889.)

Experience has shown him that *a genuine antiseptic treatment carried out regularly during the necessary period of time* staves off mastoid complications, and, when they commence to show themselves, arrests their further development. Camphorated naphthol has given him such excellent results in the fistulous cases that he thinks it preferable to every other form of antiseptic.

A New Process for the Catheterization of the Eustachian Tube. By Dr. LOEWENBERG.

Dr. Loewenberg justified his placing before the meeting such an elementary subject as Eustachian catheterization on the ground of the utility of making widely known any method susceptible of facilitating this operation, which presents difficulties not alone to beginners but, here and there, to veterans in otology.

As regards the hindrances which may be found *in the first stage of catheterization*, while the point of the instrument is traversing the nasal fossa, the chief cause is, as is well known, the deformities of the septum, distinguished by Loewenberg as the "horizontal inferior deviations." In a memoir on the subject ("Progrès Médical," 1883), he made known a method of avoiding them by inspection with the frontal mirror and a special form of speculum during the operation. By using this method he considers that it need never be necessary to catheterize by the opposite nostril.

In the present paper he is concerned only with *the second stage*—that is, when the point is about to leave the nasal fossa and reach *the orifice of the Eustachian tube—how to recognize that we are really opposite the pharyngeal opening of this canal.*

Formerly he recommended turning the point inwards and then drawing it back against the posterior border of the vomer, and lastly a rotation downwards turning it to the Eustachian tube.

The new method here submitted *and hitherto unpublished* is intended to guide the operator during this second stage, and has been practised by the writer for years, as he has found it more certain, more universally applicable, and at the same time less disagreeable than the method formerly recommended.

The following is the method:—The catheter is passed through the nasal fossa, the point being kept in contact with the floor of the cavity. *As soon as it seems likely to have reached the posterior extremity of its intra-nasal transit, the patient is ordered to make* THE MOVEMENT OF DEGLUTITION. One of two things then occurs: either the hand which holds the catheter feels no movement, and the instrument is thereby known not to have passed the nasal fossa, or a movement is felt, and it is clear that the tip has entered the naso-pharynx, the impulse being given by the rising soft palate. In the first case the instrument must be pushed further until a movement is felt on the performance of deglutition.

What is the mechanism of this phenomenon? We know that during swallowing the velum palati becomes tense and rises vigorously for a moment, making, as it has been called, a "broad back." It then comes forcibly in contact with the catheter, and jerks the point which is in the naso-pharynx.

This is not all, because the proceeding tells us whether the point of the instrument is opposite the mouth of the tube or has passed it, and how much, in this

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way :—The soft palate in rising rotates round its attached border. Therefore the further any point of it is from the place of attachment, the greater is the degree of movement, and the greater therefore the amount of impulse conveyed to the catheter. One may judge therefore, with a little practice, to what depth the instrument has penetrated into the pharynx, whether its point is opposite the tubal orifice, or if it should be withdrawn somewhat and, if so, how much. This movement of withdrawal is easily accomplished while the catheter glides over the upper surface of the velum, and, combined with rotation of the instrument, effects the guidance of its tip into the mouth of the tube. Sometimes the movement of deglutition alone is sufficient for this purpose.

If executed with the lightness of hand, and the rapidity indispensable in catheterization, this proceeding causes neither pain nor nausea. The contact of the instrument with the velum is of very short duration, and what one does here knowingly must not be confounded with what would occur if the point of the instrument wandered for any length of time in the naso-pharynx, especially if the patient respired by the mouth. Loewenberg orders the patient, on principle, to keep the mouth closed, and *to breathe through the nose during the whole time of catheterization.* This mode of breathing implies the lowering of the soft palate, and, following the method here described, only comes in contact with the instrument during deglutition, consequently only in a transient way ; and, further, during the performance of a cyclical physiological act, which takes place in spite of the operative intervention. Furthermore, if by chance there occurred exaggerated reflex contractions of the pharyngeal muscles, it would only be necessary, in order to check them, to renew the instructions to the patient to breathe by the nose, the mouth being closed. Instantly the soft palate would fall, and the tumultuous contractions would cease.

Loewenberg is convinced that the process just described will be serviceable not only to beginners but to experienced aurists. Although the skilled otologist generally succeeds in catheterizing at the first attempt, he is sometimes obliged to feel about before finding the tubal opening. According to the writer's observations the obstacle is usually *an anomaly in the depth of the nasal fossæ*, which, in some subjects, is much greater or much less than supposed *à priori*, judging from the conformation of the head and the dimensions of the external nose. Even the preliminary measurement, taken according to the data of Itard, Gairal, Gellé, and others, is often insufficient to demonstrate this want of accord.

On the other hand, the method here described keeps us right as regards this point, and saves the patient the disagreeable sensations that would be induced by an attempt to rotate the catheter while still engaged in the nasal fossæ, or by its introduction into the fossæ of Rosenmüller instead of into the tube.

These uncertainties may recur at each *séance*, especially if the operator has so many patients that he cannot remember the topographical peculiarities of each. Dr. Loewenberg, in order to avoid feeling about at subsequent interviews, proceeds in the following way :—When in any case presenting these difficulties he has succeeded in introducing the instrument, for the first time he makes a note of the depth to which it has entered the nasal fossæ. This can be read off on catheters graduated in centimètres and millimètres, or when using ordinary instruments can be noted by marking on them the point which touches the tip of the nose by means of pen and ink, or equally well one of those pencils of Faber's which write on glass or metal, and which are used in bacteriology for marking culture-tubes. For example :—"X., catheter No. 24, projects three-and-a-half centimètres." At subsequent visits it is only necessary to again mark the catheter at a point three-and-a-half centimètres from its outer orifice, and to push its point into the nasal

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fossæ until the mark corresponds to the tip of the nose, when the beak of the instrument will be absolutely opposite the tubal orifice.

There is no reason that this should not be done equally in cases presenting no particular difficulty. The catheterization is often much shortened by it.

An analogous process serves also in cases of aural affection in which there is on one side some difficulty in finding the place. A rallying-point is found by marking the length of instrument necessary for the side which is easy to catheterize and utilizing it for the other.

NOTES.

MESSRS. BURROUGHS, WELLCOME & Co. send us two photographic souvenirs of the recent British Medical Association Meeting at Nottingham, and desire us to state that they are willing to send one of these souvenirs to any medical man upon request.

CHARLES WARDEN, M.D., F.R.C.S., Edin., Senior Honorary Surgeon to the Royal Orthopœdic and Spinal Hospital, and the Ear and Throat Hospital, and Consulting Surgeon to the Royal Deaf and Dumb Institution, Birmingham, has been placed by the Lord Chancellor on the Commission of the Peace for the City of Birmingham.

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