The opening of the present course of lectures was on September 3, when Sir Almroth E. Wright delivered an address which was very largely attended by the medical profession.

The lectures and demonstrations on diseases of the throat and nose are given on Tuesdays and Thursdays at 10 a.m., and diseases of the ear at 12 noon on Mondays. The fee for attendance at any course is one guinea, and for any three courses of post-graduate lectures two guineas.

SOCIETIES' PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

Meeting at Exeter, 1907.

Section of Laryngology.

President: Dr. McKENZIE JOHNSTON.

Discussion on the Treatment of Chronic Suppuration of the Middle Ear.

This discussion was opened by the papers by Dr. William Milligan and Dr. William Hill published in another portion of the present issue (pp. 485 and 502).

Discussion of the Addresses.

The President of the Section (Dr. McKenzie Johnston) said the object which the Committee had in view in proposing this subject for discussion was to find, if possible, some method of crystallising the lines upon which chronic suppuration of the middle ear could be successfully treated. It was felt that we should judge the successful otologist as one who cured his patients by the fewness, not by the great number of mastoid operations which he found it necessary to perform. To do this it was not necessary to occupy the whole field. That would be too large an order for a meeting of this kind. The wording of the title had perhaps encouraged the possibility of the discussion being treated too widely. He was anxious to find some half-way measures which might make less necessary those extensive mastoid operations. Therefore, it was not so much a matter of great importance to discuss one operation and its sources of origin as to try and find some means of avoiding the necessity of more radical operations. He appealed to the section to crystallise the subject, if possible, and to avoid any detailed personal allusions.

Dr. Cresswell Baber said he had been extremely interested with both papers, particularly so with Dr. Milligan's. He was afraid from the experience he had that it would be difficult to advocate any half measures in such cases. As regards pre-operative treatment there

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seemed nothing better than the moist treatment, the use of antiseptics and the subsequent instillation of alcohol. As regards the dry treatment, powders should be carefully applied, as they tended to conceal the progress of the disease. Ossiculectomy and curetting had been very disappointing in his hands, and led to disappointing results and to the necessity for further treatment, which patients do not like. Küster's radical operation seemed a much safer and sounder method. By exposing the parts clearly there was less risk of harming the semi-circular canals, and very often good results were obtained. The hearing was as good when the ossicles were taken away and there was less risk of subsequent suppuration. Bacteriological examination was interesting, but in concluding what operation was required it should be remembered that suppuration came from the antrum and could not be got at without opening it. Artificial drums were of great benefit to the hearing, but they could not be used if there was any suppuration or the slightest discharge from the deeper parts.

Dr. Reeve, of Toronto, said that one very valuable reason why he desired to keep his seat was that he had never invented any operation, but had simply been able to utilise what had been done by others while trying to exercise a certain amount of judgment of his own. Looking back over a number of years, he had done a number of operations through the mastoid cortex, opening the deeper parts where the suppuration was going on, but he had yet to record his first ossiculectomy. He had experience of interest in a case of chronic suppuration of the middle ear which he thought was doing fairly well and had healed up. He found afterwards that an aural surgeon had removed the ossicles and had never thought it necessary to examine the naso-pharynx. Now this patient had a chronic naso-pharyngitis with extension up the Eustachian tubes, and yet the surgeon had never thought it worth while to inspect these important parts before proceeding to remove the ossicles. That, he considered, reflected very seriously upon his ability as a surgeon in the sense in which he would like to regard it. We must hope that aural surgeons would take the same advanced position as a general surgeon is expected to do. He had on more than one occasion without very prolonged treatment been able to secure the absolute healing of the suppurative processes in the middle ear in which ossiculectomy had been strongly advised. Judging from his own experience and from what he had heard to-day he should persevere for a good while with medication of the middle ear before resorting to ossiculectomy.

Mr. Stuart-Low said he had been working much on the same lines as Dr. Milligan, and also had the valuable assistance of Dr. Wyatt Wingrave. Being connected with a large hospital he had noticed one or two practical points. A great many females were more difficult to cure than males, and probably that might be due to the hygiene of the hair. He had usually asked them to have the head washed once a week with lysol soap and a solution of 30 per cent. of spirit and 20 per cent. of liquor hydrarg. perchlor. He often found patients scratching the head and immediately afterwards scratching the ear. This medicament improved them. He had for a long time back been asking Dr. Wingrave to examine the discharges from the middle ear before treatment commenced. He had recently obtained a valuable hint from the Hospital for Diseases of the Hip. There they use a lotion consisting of citrate of soda one part, sugar ten parts, and water to 100. That had the effect of increasing diapedesis and was comforting and soothing.

Dr. Syme thought Dr. Milligan had struck the right note in this

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matter, and that the question of operative treatment of middle-ear suppuration was one rather of important detailed diagnosis. Milligan's method was helpful in coming to a conclusion as to the involvement of the lining membrane or the bone. Having discovered that, the line of treatment could easily be defined. The ordinary antiseptic treatment, which may be either the wet or the dry treatment, was a matter dependent upon personal choice. Frequently better results were obtained by a change of antiseptic treatment. He was interested in Dr. Milligan's advice regarding the pathological treatment of the naso-pharynx. That was a very essential part, and he had laid stress upon it in a paper which appeared in the *British Medical Journal* about a year ago. In that he insisted upon examination and, if necessary, treatment of the naso-pharynx and the nose. With regard to the question of the radical operation details of diagnosis were very essential, and, even if experience prove that the cytological examination was of some value, attention to the ordinary aural tests should not be lost sight of; tests, for example, such as increased loss of hearing, tinnitus, and vertigo. These should be in themselves an indication for a complete radical operation.

Dr. George Jackson, of Plymouth, regretted not being present to hear Dr. Milligan's paper. He had found curetting of the tympanic cavity of service, and boracic acid and spirit was very useful in chronic suppuration of the middle ear. He had found peroxide of hydrogen better almost than anything else. Syringing was frequently not carried out properly. Dry powders caked inside the meatus, and he had practically given them up. He emphasised the necessity of attending to the naso-pharynx. He had referred to that as so often being the source of the mischief in many cases that he agreed with one speaker who had said that in every case it was absolutely necessary "to interrogate the nose." It seems to be a vulnerable part and infection often proceeds from it.

Dr. Smurthwaite said the discussion, as he took it, was on the question whether he should adopt conservative treatment or do a radical operation. That was dependent upon the extent of the diseased condition of the patient and his surroundings. If the patient was a private one, and the surroundings good, and if there was no dead bone in the middle ear—and the majority of the cases were of the nature where there was no dead bone present—most of these cases would clear up under fairly systematic treatment. If operative measures were to be undertaken upon every case of chronic suppuration of the middle ear that has been going on for two or three months, such operations would become as common as removal of adenoids. If thoroughly treated and the part carefully syringed through a large opening, it would get well. It was no good doing that if the opening was small. If the surroundings were good and the patient healthy, the discharge would dry up. The majority of these cases, in his opinion, could be cured by systematic and careful local treatment.

Dr. Bronner defended the use of the dry method. Powders should not be used in too large quantities. Operative measures should not be resorted to until after all other sensible methods had been tried. Certainly otologists ought to know something about surgery. If a man operates upon a patient and endangers his life without first trying all proper methods, he is not a fit man to practise otology. He also thought a person, before advertising new methods of operation, should have the decency to look up the literature of the subject and acquaint himself with what had been done by others. He asked Dr. Milligan if

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he had used the opsonic index or tried the effect of the serum treatment in any of his cases.

Dr. DUNDAS GRANT said it was very interesting for one who had practised in the pre-Stacke period to see the swing of the pendulum, with regard to radical operations, coming back to a more reasonable limit. Although the radical operation had saved many lives which were previously sacrificed, a good deal was then done that was far from useless, and many good results, in cases of chronic suppuration of the middle ear, were obtained without radical operation. He hoped that Professor Lucae's statement would be taken to heart, and that we should pride ourselves more on how few radical operations we are obliged to undertake instead of how many. In the earliest days of the radical operation the speaker had probably done as many, or more than others, but he was soon outstripped by the more energetic members of the profession. He drew attention to Dr. Knapp's observation that there was now a distinct tendency to diminution in the frequency with which operators on the continent did the radical mastoid operation. A good deal of the difference in the practice of operators seemed to be due to difference in opinions as to pathology. He was much struck by noticing a statement of Mr. Heath's, that attic disease could not be differentiated from that in the tympanum, and that both were dependent on mastoid disease, while Professor Politzer, on the other hand, said that in an overwhelming majority of cases of attic disease the suppuration is localised in the outer attic. Many of these cases could be perfectly well treated through the meatus without opening the antrum or mastoid cells. Dr. Grant dwelt upon the extent to which neglect might be the sole cause of the persistence of the suppurative disease, and quoted, as the most exaggerated instance which he had seen, the case of a man, aged fifty-nine, who had had suppuration in his ears for fifty years and which he had systematically neglected; under treatment the discharge practically disappeared in a couple of weeks, and the hearing was restored to such an extent as to surprise his friends. The fact was that he had a small polypoid mass of granulations in the postero-superior part of the tympanum, the membrane being nearly gone; the treatment consisted in removing these granulations, applying chromic acid to the root, and instilling alcoholic drops. In another case the discharge had lasted for twenty years and disappeared under local treatment. The length of time that a suppuration had existed was not, therefore, always an index of its intractability. He agreed with Dr. Milligan as to the value of the chromic acid treatment, and added that a small galvano-cautery point was sometimes of the greatest use. He was in accordance with those who insisted on attention being paid to the nose. While of the opinion that the radical mastoid operation was often unnecessary, there were cases in which the anatomical structure of the bone in the individual allowed of nothing short of it, as, for instance, in the case of extension of the cavities backwards, to which Mr. Ebsworth had given the name of accessory antrum. Mere removal of a portion of the postero-superior wall of the meatus would not be sufficient in such a case. With regard to ossiculectomy, while agreeing that its habitual practice was to be deprecated, he thought there was a limited scope for it, and he considered that it was justified if the ossicles were of no use and only formed an obstruction to the outlet from the attic and aditus so as to prevent the escape of diseased products that helped to keep up the suppuration. Under such circumstances good results were sometimes obtained from it without any further operation. He quoted a case in which the removal of such useless ossicles relieved a lady who had suffered from fearful

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attacks of giddiness due to the presence of a cholesteatoma extending to the aditus and antrum, and which had caused erosion of part of the wall. After this removal the alcohol treatment, which had previously been ineffective, led to a drying up of the contents of the cholesteatoma and disappearance of the vertigo and the discharge. It had to be admitted that attic disease was by no means always confined to the outer attic, and that a cholesteatoma, such as was very frequently found there often, if limited to that space at the time, had a tendency to spread and did not permit of neglect. The removal of granulations in the attic had often brought a long-standing suppuration to an end. Dr. Grant, while fully appreciating the value of peroxide of hydrogen, had observed it occasionally to cause increase of the giddiness in the subjects of cholesteatoma. He considered intra-tympanic syringing as an invaluable means of treatment, and although he had tried many other forms of syringe for the purpose he had found Dr. Milligan's to be the most generally useful. In regard to artificial drums, he found that if they were moistened with paroleine instead of water they had less tendency to cause a recurrence of discharge.

Dr. WHITEHEAD said that, speaking as a clinician, he found that, excluding those cases in which urgent or dangerous symptoms called for rational operation, a large number of cases of chronic otorrhœa still remain. Very many of these could be cured by conservative treatment and attention to nose, naso-pharynx, and accessory sinus disease. A residuum remains, which seems to him to divide itself into two classes. The first group shows granulations, extensive obstruction of the drum, and probably offensive discharge, with very defective hearing. This group requires as radical an operation as possible. He did not know of any form of treatment or any operation short of the complete removal of all granulations and all disease of the parts which would cure these cases. In a second group there was probably a simple perforation, fair hearing, and an odourless discharge. Such cases caused anxiety and mental debate as to the propriety of operation, and if so, what operation to perform. A few years ago a great wave of operative enthusiasm swept over the country, and he must confess he was rather encouraged to perform operations on these cases, following the example of Ballance and others, and although he cured his patients he often found very little disease, and frequently the hearing was lessened. The wave was now passing away. He thought they should give credit to those who had helped to repress this excessive operative enthusiasm. Now, with regard to this group mentioned they should be prepared to consider each case individually. A private patient living in healthy surrounding ran no risk, and in many cases no operation need be urged. A short time ago he had a typical case of bilateral chronic otorrhœa. After several consultations with eminent otologists all over Europe, it was decided to do a modified radical operation on one side. This was entirely successful. There was a complete cure and no loss of hearing, but the rest in bed and other things brought about a complete cure also on the side not operated upon. He thought the discussion would show that in a certain number of cases of chronic otorrhœa, a modified mastoid operation would effect as complete a cure of chronic suppuration as a complete radical operation without as much risk to the hearing.

Dr. LOGAN TURNER thought Dr. Milligan had got at the main thing in connection with so many of these cases, namely, accurate diagnosis, and if he could show that by cytological work we could arrive at that, a good step forward would have been taken. Each case had to be judged

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by itself. Dr. Whitehead had divided his cases into two groups, but many of the cases were mixed. A great amount of discussion had been levelled at the head of one or more individuals. He thought we owed to Mr. Heath a great deal at the present time for bringing out this question of modifying the radical operation. In their own minds they must admit they had neglected operations other than the complete radical. In a very fair per cent. of radical operations hearing was improved. When the ossicles and membranes were removed, better hearing was obtained.

Mr. CHICHELE NOURSE said he was very glad to hear Dr. Milligan recommend so strongly the microscopical examination of the discharges from the ear. It was a plan he had adopted for some time whenever it was possible. He found that Dr. Wyatt Wingrave's examination of the discharges from each case was not only interesting in the way of bacteriological results, but often helpful as a guide to the treatment. He recollected one case, where a man had an old suppurative ear which contained some granulations; there was nothing noteworthy about the case, except that there were some enlarged glands below the auricle. The discharge was examined by Dr. Wingrave, who showed it to be a case of tuberculosis, and Mr. Nourse was able at once to advise radical measures. Another point suggested by the systematic examination of the discharge was one pointed out by Dr. Wingrave in an article in the JOURN. OF LARYNGOL., RHINOL., AND OTOL., for the month of August, upon the presence of throat organisms in discharges from the middle ear. In many cases of chronic suppuration of the middle ear, particularly in children, the ear is continually being re-infected from the naso-pharynx; when that source of infection has been treated, the ear will heal without further trouble. No doubt instances of this have been met with in the experience of every one.

THE PRESIDENT OF THE SECTION (Dr. McKenzie Johnston) thought the discussion was one which was bound to be useful, even if it had not carried them an enormous distance. It seemed to him that there was a tendency to what he might call pessimism, and to think that the end of all things was a mastoid operation. He did not use the term "half measures" in the common acceptance of that term, he should rather have used the word "half-way house," where we could do all that was necessary. No one would advocate temporising in these most serious cases, and they clearly recognised that a radical mastoid operation was an absolute necessity in a certain number of cases. He desired to know whether something could not be found which would arrest the case and obviate the necessity for so many operations. He associated himself with the remarks against operating unless one was absolutely certain as to what could be done. The case that Dr. Dundas Grant mentioned of fifty years' standing showed that somebody had done wrong in letting that go on, but it showed also that something could be done in many cases which might be successful without extensive and serious operation. Dr. Smurthwaite had said the whole thing depended on free drainage; unfortunately we do not always succeed in getting that; if we could, it would certainly reduce, very materially, the number of mastoid operations.

Dr. MILLIGAN, in replying to the discussion, expressed his gratification at seeing Dr. McKenzie Johnston restored to health and occupying the presidential chair. He thought that the outcome of the discussion would be to cause a concentration of attention upon the most efficient means of conservative local treatment. He considered that the first essential was an increased accuracy in diagnosis, using all the aids we possessed, such

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as objective examination and the bacteriological and cytological examination of discharge. He associated himself entirely with the remarks made by Drs. Logan Turner and Syme. He thought that if all ear hospitals were as fortunate as the Central London Throat, Ear, and Nose Hospital in having pathologists as distinguished as Dr. Wyatt Wingrave that progress would much more readily be made. The diagram he had just shown indicated the different types of cells found under varying conditions, and he regarded a cytological examination as likely to be of increasing value as an aid to both diagnosis and treatment in the future. He had carefully expressed his views upon the value of ossiculectomy in the course of his paper. He would urge more attention being paid to the condition of the mouth and the state of the teeth, as mouth organisms were by no means infrequently met with in discharges from the ear. His general experience was that only about 5 per cent. of the cases of chronic suppurative middle-ear disease seen in private, and from 10 to 12 per cent. seen in hospital required post-aural operative treatment. He thanked the various speakers for their kindly criticism.

Dr. Hill (London) thought the discussion would have a very important bearing, although at the outset it has been a little wide and has not crystallised out a little more. He would study Dr. Milligan's paper very carefully, for there was much more in it than appears immediately on the surface. In reference to the remark that Mr. Baber made, it must be remembered that Küster's name is associated with three slightly different operations. Shortly after publishing his first communication in 1889 he took Bergmann's hint and removed some of the superior wall and cells, so that the perfected Küster was a mastoidectomy plus antrotomy plus removal of the posterior and superior walls of the meatus. It is a *complete antrotomy*—mastoido-meatal antrotomy. He only stopped short of the radical operation in that he did not remove the attic wall. Mr. Logan Turner has said, no doubt correctly, that *most* of us had been wedded to the complete radical operation. The speaker and some others in the country, however, had been content with less radical measures in certain cases. For ten years operations short of the radical had been practised in America or in England. Sufficient credit has not been given to Küster, Stacke, von Bergmann, and others by Mr. Heath. It is to be regretted that under catchy titles cases have been reported as cures at too early a date, and claims made as regards improvement of hearing which are not likely to be endorsed by those who practise these or any methods. Dr. Syme was right in saying that much depends upon accurate diagnosis, and to operate in every chronic case of suppuration is most unwarranted. The experience mentioned by Mr. Whitehead is of very great importance. Dr. Smurthwaite would only operate where there is dead bone. It would be important to know how many times he has actually found dead bone in the course of this operation and what his total experience of post-aural operation amounts to. Surprise can only be expressed that he only operates in cases where dead bone is present. If he means carious disease of the bone that is a different matter. *Diseased bone* undoubtedly is found, and Dr. Milligan has given aids to the various diagnoses of diseased bone, and if it is that that is referred to, I am absolutely at one with Dr. Smurthwaite. With regard to Dr. Bronner's question on the use of the vaccines, I have had Sir A. E. Wright's help in some cases where there have been relapses after operation and tubercle has been suspected; but even then we have not always been helped as much as we had hoped, though occasionally we have got valuable assistance. It is one of those directions in which we

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may expect in the future considerable help. He was in substantial agreement with Dr. Grant and the moderation of operative zeal which he advocates. Dr. Whitehead's summary was most admirable; he has put the whole thing in a nutshell. As regards Dr. Milligan's remarks and statistics in reference to the relatively few cases of radical operation which he does, it appears to the speaker that the proportion was a very correct one.

Abstracts.

PHARYNX.

Ila, de Angelis (Naples).—*Phlegmonous Tonsiltitis and its Mode of Formation.* "Archiv Ital. di Laringol.," Naples, July, 1906, p. 97.

An account of a series of experiments on dogs to ascertain the origin of this disease. The author begins his article with an account of the history of the subject, and especially of the discussion between Gongenheim and Dunbar Roy, in 1884, on the nomenclature, the former maintaining the separation between *phlegmonous tonsillitis* and *tonsillar abscess*, while the latter proposed to include both forms under *peri*-tonsillar abscess. A full account of the minute anatomy of the soft palate and tonsil follows, stress being laid on the convergence of the lymph system of the former towards the palatine recess. Before entering on his experiments the author had to ascertain in how far the canine palate and tonsil resembled the human. In the dog the palatine recess differs from the human only in being placed somewhat in front of, instead of above, the tonsil. There is a certain resemblance in the arrangement in both species of the glandular structure and invaginations of the mucous membranes. There is, however, in the human tonsil, as previously described by Arsimoles, a true diverticulum of the mucous membrane, in which the author has found tonsillar tissue more abundant than has hitherto been stated. The mucous glands are quite separate, and above the hilum of the tonsil. The passage of micro-organisms in the dog always took place from the hilum to the tonsillar tissue proper, and not to the mucous glands.

The author draws the following conclusions from his experiments: Phlegmonous tonsillitis has its seat always outside the tonsil proper as the result of the entrance of micro-organisms into crypts of the hilum, which have become united by cicatricial or inflammatory processes. From this point the organisms are directed towards the *recessus palatinus*. On this account, while the hilum feels the first effects of the infection the tonsillar tissue proper escapes. This assertion is supported by the fact that in many cases the later phases of the disease take place in the pre-styloid space (Gradenigo), whence the abscess may open into the pharynx. No organisms having been found in the mucous glands shows that these at first resist the invasion, but at length may be attacked, and are attacked in all cases in which the purulent collection escapes above the tonsillar fossa. Finally, these results tend to explain the varying course followed by the same process in different persons.

James Donelan.

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