practice is not a recent development, for we learn from Ebers that in Egypt, as long ago as the thirteenth century B.C., there was a school of specialists attached to the College of Priests in Thebes. They were physicians to the king, and were consulted in all serious cases. "It was left to the principal of the medical staff of the sanctuary to select that master of the healing art whose special knowledge appeared to him to be suited for the treatment of the case."

It is an old saying that history repeats itself, although we cannot associate the term "science" with the semi-barbaric empiricism above which the healing art has never risen whilst tacked to priestcraft. Yet in this ancient Egyptian temple we observe that inevitable development of scientific progress which in latter days first separated the practice of medicine and surgery, and has now further subdivided each into its several special departments, which are represented in the numerous sections of our own annual meetings. The training of our medical student should certainly include the investigation and treatment of the simpler affections of all special regions, so that in due time he may undertake such cases in his own practice, while rendering him competent to act as did the High Priest of Thebes when serious difficulties arose—a function too often undertaken for themselves by the suffering public.

Wednesday, July 29, 1903.

DISCUSSION ON THE OPERATIVE TREATMENT OF MALIGNANT DISEASE OF THE LARYNX.

INTRODUCTORY REMARKS MADE BY SIR FELIX SEMON, C.V.O.,
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THE history of radical operations for malignant disease of the larynx is of comparatively recent origin. The larynx was of old considered as an organ indispensable to life, a view not to be wondered at considering that its graver organic diseases, such as cancer, tuberculosis, tertiary syphilis, leprosy, external injuries, etc., if unchecked, practically always ended fatally. In accord with this state of public opinion we find that, until the demonstration by Professor Czerny, then Billroth's assistant, in 1870—viz., that dogs from whom, under proper antiseptic precautions, the

larynx had been removed *in toto* could and did survive the operation for an indefinite period—the operative treatment of malignant disease of the larynx was limited to palliative tracheotomy, when the obstruction caused by the new growth threatened to extinguish life by asphyxia.

It is true that in 1866 Sir Patrick Heron Watson, of Edinburgh, removed a syphilitic larynx *in toto*, but this solitary operation became only known to the world in 1881 through a communication made by the late Dr. Foulis, of Edinburgh, to the Laryngological Section of the International Medical Congress of London.¹ The success of Czerny's experiments induced Professor Billroth, and following him other surgeons, to remove the entire larynx, or large parts of it, in cases of malignant disease, and it will be remembered what a sensation the report of the first cases thus operated upon created at the time. Unfortunately, however, the results did not correspond to the hopes which had been entertained. Most of the patients either died from the consequences of the operation itself, or succumbed to recurrence soon afterwards. When the late Dr. Foulis presented in 1881 his tabulated account of the cases of total and partial laryngectomy performed until 1881, he had to confess that, out of twenty-five cases of total extirpation of the larynx so far performed for malignant disease, not one of the patients had been reported alive at the end of the first year after operation, whilst only two of them had lived to nine and ten months respectively. Of the six cases of partial extirpation of the larynx then on record, one patient died two days after the operation, two succumbed to recurrence within six months, two others died within the first year from affections apparently not connected with the operation, and one patient only was alive fourteen months after the left half of the larynx had been removed. In spite of those not very encouraging results, both operations continued to be practised, although not very extensively, until improvements in the technique, particularly of partial extirpation, in the hands of Dr. Eugen Hahn, of Berlin, gradually led to better results with regard to diminution of the danger of the operation itself.

Meanwhile another form of radical operation — namely, thyrotomy, with removal of the soft parts round the new growth—had not fared better than the more serious operations just mentioned. In 1878 Paul Bruns passed a most destructive criticism on the efficiency and, indeed, on the admissibility of thyrotomy in malignant disease of the larynx. It must be confessed that the

¹ "Transactions of the Subsection for Diseases of the Throat," p. 57.

statistics on which he based his judgment fully justified his condemnation. Out of nineteen cases of cancer of the larynx which had been treated by thyrotomy until 1887, two patients died shortly after the operation, in not less than sixteen local recurrences occurred either immediately after the operation or within a very few months, in one single case only was recurrence retarded for more than one year, and in one case death took place twenty-two months after the operation from cancer of the suprarenal glands, whilst there was no trace of recurrence in the larynx itself. On the strength of this result, Paul Bruns arrived at the conclusion that "attempts to extirpate the disease by means of thyrotomy have shown themselves to be altogether insufficient and useless." The reasons of this unsatisfactory state of things are not far to seek. Without denying that additional features may have played a rôle, I have no hesitation in saying that two causes above all others operated in rendering radical operations in those early days so very unsatisfactory. In the first place, our clinical knowledge of malignant disease of the larynx was so incomplete that the diagnosis was usually only made at a time when operative interference of any kind had extremely little chance, and even then but too frequently endeavours were made to limit the operation to procedures such as thyrotomy, with removal of the soft parts only, which, although excellent in early stages, are totally insufficient when the disease is more advanced. Secondly, the technique of the various forms of operations so far discussed was still in its infancy; pulmonary complications arising from the inability to sufficiently protect the lower air-passages against the entry of blood, and later on of septic matter from the wound, were of appalling frequency, and carried away by far the greater number of the patients who had been subjected to these operations.

The first of these reasons explains the failure of thyrotomy, the second one the horrible mortality after partial, and still more after total, extirpation of the larynx; and although the latter gradually decreased, still, as late as 1888, the statistics of Schwartz, Scheier, and Baratoux showed no more than 8 to 13 per cent. of real cures after total extirpation for malignant disease of the larynx.

An unusual opportunity of improving this unsatisfactory state of things was afforded by the illness of the late German Emperor, which for a time concentrated the attention of the whole medical world upon malignant disease of the larynx. It is true that already, some time previous to this, efforts had been made from various quarters and in various directions to improve both our

diagnostic and our therapeutic powers. Thus, as already stated, the late Dr. Eugen Hahn had in various respects improved the technique, particularly of partial extirpation of the larynx, and had, by the invention of his excellent sponge cannula, materially diminished the risk of septic pulmonary complications after operation, whilst I, when bringing the case of the late Mr. Montague Williams, who had been operated upon by Hahn, before the Clinical Society, 1886, had drawn attention to several so far unknown, or, at any rate, undescribed, signs which had enabled me in a number of cases to make the diagnosis of malignant disease of the larynx earlier than usual.

There can, however, be no doubt that it was the illness of the then Crown Prince of Germany, and the discussions connected with it, which led to a considerable improvement, both in the diagnosis and in the operative treatment of malignant disease of the larynx. The questions whether innocent laryngeal growths show a special tendency after intralaryngeal operations to undergo malignant degeneration; whether clinical observation or microscopic examination of intralaryngeally removed fragments of a new growth ought to decide our action; the differential diagnosis between innocent and malignant tumours of the larynx; the statistics compiled by various authors, and other points of interest, formed for a time topics of burning universal interest; and the collective investigation which, with the help of most of the leading laryngologists, I instituted into these points materially contributed, I venture to think, towards a better understanding of most of these mooted questions. Shortly afterwards, in 1889, Mr. Butlin demonstrated that, owing to our diagnostic improvements, thyrotomy ought to be reinstated in the place which, owing to defective diagnostic knowledge and imperfect execution, it had lost.

From this time onward curious national differences developed concerning the whole question of operative interference in malignant disease of the larynx. Whilst in this country operators, trusting to Butlin's and my own statements, followed in the same lines, and thereby obtained results by the early performance of thyrotomy in suitable cases which are as gratifying as the nature of the terrible disease with which we have to deal will permit, the development on the European Continent and in America was a widely different one. The old truth that it is more difficult to re-establish in public favour a discredited procedure than to introduce a brand new one held good again. Up to the present moment, with the exception of a few Continental specialists and surgeons, such as Chiari, Moure, Schmiegelow, who have

worked on parallel lines, and have obtained similarly gratifying results as British operators, thyrotomy is still looked upon abroad with more or less universal distrust and apprehension. On the other hand, in Germany intralaryngeal operations in early cases of malignant disease of the larynx have been, and still are, warmly recommended, and in America the astounding doctrine has been promulgated that as soon as the naked-eye diagnosis of malignant disease of the larynx has been made, not only the whole larynx, but also all its tributary lymphatic glands, should be at once excised.

Thus we are as far from a consensus of opinion on the principles which ought to guide us in operating upon malignant disease of the larynx as we were at any period since radical operations for this class of diseases were introduced, and the method to which we naturally look for help and guidance under such circumstances—*i.e.*, the statistical—has, in my humble opinion, done more harm than good in this particular question. Let me justify this statement. I am myself a convinced adherent of the statistical method, but I am at the same time fully conscious that it is a double-edged weapon, and that by putting the question at issue wrongly, or by employing statistical material without close scrutiny, most fallacious results might be obtained. It is not difficult to prove this with special reference to our subject. Statistics might be employed to show broadly the general results so far obtained by a particular operation by simply grouping all the cases together that have ever been operated upon by that method. There is not a word to be said against this, so long as there is only the question of satisfying the reader's curiosity as to the sum of results obtained; but when it is desired to decide the *value* of a particular form of operation, nothing could be more misleading than to simply heap together all such operations ever performed at any time, and by anybody, and to draw conclusions from the bare result of such an indiscriminate array of cases as to the real efficacy of that operation.

Some years ago I proved this contention when Dr. Sendziak grouped together all cases of malignant disease of the larynx ever treated by thyrotomy from the introduction of that operation until the date of the publication of his paper, and when he arrived, as he was bound to do, at an opinion very unfavourable to that form of operation. By critically analyzing his statistics, and by showing that the real efficiency of thyrotomy was much more truly shown by the results of single observers, who have had the opportunity of acquiring particular experience than by wholesale enumeration of all cases ever operated upon by that method, I think that I invali-

dated several of his conclusions. Unfortunately, however, my criticism—the justice of which was later on acknowledged by Sendziak himself—has shared the usual fate of such rectifications—*i.e.*, the original statements have passed into most surgical and laryngological text-books, and very little notice has been taken of my correction, the result being that thyrotomy for malignant disease of the larynx continues to be looked upon with considerable distrust abroad.

Another drawback to statistics in this question is that no general principles are agreed upon according to which they ought to be prepared. Thus the views of authors who have given us statistics on the question of radical operations for malignant disease of the larynx materially differ as to the period when the patient may be looked upon as “cured” after operation, some demanding a period of three years, others of two, whilst I, from large experience, am convinced that unless recurrence takes place within one year from the operation, the word “cure” can safely be employed. In my experience of eighteen thyrotomies for microscopically established malignant disease of the larynx I have not met with a single case in which recurrence, either local or elsewhere, has taken place after more than one year after operation.

Again, artificial subdivisions are being made by some statisticians as to whether soft parts only are removed at the operation, or whether fragments of cartilage may have to be taken away at the same time, the former class alone being included by Sendziak and others, under the heading of “thyrotomy,” whilst to all cases in which portions of cartilage had to be removed the proud name of “partial extirpation of the larynx” is granted. Now, it does not make, in my experience, the least difference in the gravity of the operation, in the course of healing, and in the ultimate result, whether you may have to remove soft parts only, or whether, additionally, small parts of the arytenoid or cricoid or of the thyroid cartilages may have to be resected; yet, by separating such cases from the rubric of thyrotomy and quoting them under the title of partial extirpation of the larynx, a number of cases which rightly belong to the province of thyrotomy are artificially removed from their natural position.

Further, in many of these statistics, carcinoma and sarcoma of the larynx are treated in different chapters. From the pathological point of view this course is correct enough, but with regard to the indications for operation itself and its results such subdivision is, according to my personal experience, quite unnecessary. The result of all this is that the material is broken up in such a curious,

and, I honestly believe, unnecessary and undesirable manner, as to ultimately lead to very erroneous conclusions as to the value of the individual forms of radical operations for malignant disease of the larynx. I have on various occasions dilated upon this very important question, and would like to do so more fully now again, but the limited time at my disposal prevents me from doing so, and I can only throw out the above suggestions with a view to emphasizing the fact that conclusions drawn from an indiscriminate employment of the statistical method in this question ought to be received with critical caution.

We possess at present five different operative methods of dealing with malignant disease of the larynx, and inasmuch as no internal medication of any kind has as yet enabled us to cope with that terrible disease, the only questions to decide in such circumstances are: When shall we operate? and what method shall we select? There is, I think, unanimity amongst those who know anything about the subject, that as a general principle operation should be at once proceeded with if the case lends itself at all to operative interference as soon as the diagnosis is made. It is unfortunately true enough that not only the public, but a not inconsiderable proportion of the medical profession, are still possessed by the idea, "once cancer, always cancer." But if anything could be calculated to rouse these sceptics from their present pessimistic attitude, surely it ought to be the brilliant results which are now obtained in cancer of the larynx when the diagnosis has been made early, the suitable operation has been selected, and no precious time has been lost. The dictum of my unforgettable teacher Virchow, "If cancer be at its onset and often for a long time a local disease, it must be possible to cure it at that stage by local treatment," ought to be our guidance in this whole question. True, we must distinguish between intrinsic and extrinsic malignant disease of the larynx, the former comprising the true interior of the larynx from the ventricular bands downwards, the latter the tumours situated on the aryteno-epiglottic folds, the arytenoid cartilages, epiglottis, and the posterior wall of the cricoid cartilage.

The distinction, from a practical point of view, is all-important. The intrinsic form remains much longer a purely local affection, and shows very little tendency until the disease is much advanced to infect the neighbouring lymphatic glands, whilst in the extrinsic form such glandular infection unfortunately makes its appearance as a rule at a very early stage. Upon this one fact depends the enormous difference between the two forms with regard to prognosis, extent, and danger of the operation, and probability or

otherwise of recurrence, and it is likely that this difference will ever continue to exist as long as we are compelled to combat the disease by operation; but whether extrinsic or intrinsic, under *all* circumstances must it be our aim to establish the diagnosis as early as possible, and when it is secured, or even in a few cases when it is somewhat doubtful, to proceed energetically.

In very, very few, disease is the question of time, so all-important; in very, very few does the loss of precious time revenge itself so cruelly as in malignant disease of the larynx. I shall have a few more words to say on this point at the conclusion of my observations, but wish now to pass in brief review the various forms of operation at our disposal.

1. There is, first of all, the *intralaryngeal* method, which was recommended for more general use in Professor B. Fraenkel's, of Berlin, well-known paper "Laryngeal Cancer: its Diagnosis and Treatment,"¹ on the strength of several successful operations performed by himself. I did not refrain, much as I disliked to oppose the views of not only an intimate personal friend, but also of one of the most prominent laryngologists, from at once expressing grave doubts as to the rationale of this form of operation in cases of malignant disease of the larynx. Since then, time, so far from effacing my objections, has deepened them, and on an occasion like this it is my duty to give again fresh expression to them. Not that I doubt that in some exceptional cases the intralaryngeal method may not achieve enticing triumphs in cases of malignant disease of the larynx, but it is not with the splendid exceptions, but with the general principle of the application of a method that I have to deal here. And from this point of view it is my duty to say that² in my humble opinion the intralaryngeal method, with some extremely rare exceptions, of which more anon, is absolutely unsuitable for the radical extirpation of malignant disease of the larynx, and that its employment in cases of this kind is diametrically opposed to, and is irreconcilable with, the principle which is universally acknowledged as the guiding one in dealing with malignant growths in other parts of the body. I fear no contradiction when I say that this principle is that not only the tumour itself, but an area of healthy tissue in all directions round the new formation, ought to be removed in order to make the operation really radical. Now, I make bold to say that intra-

¹ *Deutsche Medizinische Wochenschrift*, 1889, Nos. 1 to 6.

² See my concluding remarks in the report of the Collective Investigation on the Question of the Transition of Benign into Malignant Growths, particularly after Intralaryngeal Operations (Berlin, 1889, August Hirschwald; pp. 187 *et seq.*).

laryngeal operations do not afford the least guarantee, by however skilful hands they may be carried out, that this first and most indispensable demand has been complied with. The intralaryngeal method is excellently adapted to the removal of growths from the surface of the laryngeal tissues, and it is in connection with such growths that it celebrates legitimate triumphs. But it is characteristic of malignant neoplasms that they not merely rise from the surface, but, above all, that they infiltrate the mother soil, and I maintain that with this often enough insidious infiltration the intralaryngeal method is not competent to deal. When first I raised my objection to Fraenkel's proposals, I stated that it had made a deep and ever-renewed impression upon me that usually when I had opened the larynx in external operations for malignant disease I had found that the affection was *much more* advanced than had appeared from mere laryngoscopic inspection. Since 1889, when I penned those lines, my experience in this class of cases has greatly increased, and with increased experience the fact that the disease is almost always much more advanced than one would have thought from the laryngoscopic inspection has more and more deeply impressed itself upon me. Under these circumstances, I am convinced that it ought not to be the ambition of the intralaryngeal method to compete with really radical operations on a field in which, by the nature of things, no general successes can be obtained by it. The advantages which are claimed for it, such as that no external operation, usually so much dreaded by the patients, is required; that the patient should never be laid up; that the vocal results are better than after external operation, etc., in my opinion sink into insignificance in comparison with the dangers which loss of precious time and undue postponement of really radical operation bring about. We hear occasionally of a few cases which have been successfully treated by the intralaryngeal method and remained well, but how about those in which after intralaryngeal treatment ultimately external operation became unavoidable, and which then had to be much more extensive than it would have been had the patient at once been subjected to external operation? Not many cases of that sort will be found recorded in contemporary literature, and yet I suspect they are anything but rare. Even the advantage claimed for these cases that the patient is never laid up for a single day is, in my opinion, more than counteracted by the need, not only of usually very prolonged attendance until the growth has been apparently completely exterminated, but by the even more urgent need of the patient's keeping himself for an almost indefinite period under observation

in order to be sure that this happy consummation has been really arrived at. And, personally, I must say that after what I have seen of malignant disease of the larynx I should, even after an apparently successful intralaryngeal operation for malignant disease, never feel satisfied in my own mind that I had succeeded in actually radically extirpating the growth, and I do not think that even in successful cases the gain is commensurate to the risk. I will not deny that in some quite exceptional cases, such as when malignant disease begins at the tip of the epiglottis, and is recognised whilst it is still quite limited to the peripheral part of that structure, removal of the whole epiglottis by means of the snare or of the knife from within may not be legitimately attempted; but although I have myself reported a successful case of intralaryngeal removal of an epithelioma of a vocal cord—the removal had been intended for the purpose of a microscopic examination of the growth, and unexpectedly turned out to have been radical—and although even now the patient continues well, I should never deliberately try to remove an intrinsic cancer or sarcoma from the larynx by intralaryngeal operation.

2. *Thyrotomy*.—Speaking before an audience of British laryngologists, I need not say much in praise of this operation, the advantages of which most of us have learnt to appreciate from personal experience, and which is indicated in all cases of intrinsic malignant disease of the larynx in which the diagnosis is made at a time when the disease is not too extensive nor apparently too deeply infiltrating. I firmly believe that in such circumstances thyrotomy and thorough removal of the growth, with a sufficient circumference of healthy tissue, and accompanied, as individual cases may require, by removal of small fragments of cartilage in the neighbourhood, is a positively ideal operation. I have now performed twenty thyrotomies of this character in cases of undoubtedly malignant disease of the larynx (the microscopic examination of the growth was in all instances made by Mr. Shattock), and have had nineteen recoveries, with two, I may fairly say, quite doubtful recurrences, and one death from operation. In two of my cases the operation has been too recently performed to allow me to speak of lasting cures. All my cases having occurred in private practice, I have had the opportunity of following up to the present moment the fates of all my patients, and being convinced from my personal experiences that no recurrence need be feared if the patient has remained well for a full year after the operation.

I can now summarize my results to the effect that, out of

eighteen cases of undoubtedly malignant disease of the larynx which I have operated upon by thyrotomy between June 2, 1891, and July 29, 1902, fifteen—*i.e.*, 85 per cent.—are now alive and well; whilst the vocal results, with the exception of a few cases in which it was necessary to remove both vocal cords, are surprisingly good. This list does not include cases of doubtful malignancy of which I have operated upon, four by thyrotomy, with one recurrence; nor two cases in which the disease was found to be tuberculous; nor one case in which recurrence took place, and proved the papillomatous nature of the growth. I hope to lay a full report of all my personal experiences with regard to this matter during the coming winter before the Royal Medical and Chirurgical Society; but on the present occasion I felt that it would not be right to monopolize by a detailed account of my own experiences the time allotted to me for the introduction of the subject. Anyhow, I hope that even this bald account of my results will tend to convince the greatest sceptic that, if this operation be restricted to the cases in which it is really applicable, its results are, as I have called them in the syllabus of my remarks, “perfectly ideal.” But in order to obtain such results the following conditions are absolutely essential:

(1) The operation must be restricted to early stages of intrinsic malignant disease.

(2) For this purpose an early diagnosis is indispensable.

(3) The operation when performed must be thorough—*i.e.*, no sentimental considerations concerning the amount of vocal power to be retained by the patient must interfere with the imperative necessity of removing a sufficient area of healthy tissue round the new growth in all directions. A violation of this rule on one single part of the periphery of the new growth may frustrate the entire purpose of the operation.

(4) Should it be found after opening the larynx that the disease is more advanced than it appeared from laryngoscopic examination, it is the duty of the operator not to limit his interference to the operation originally contemplated, but to perform partial laryngectomy, or, indeed, any other operation the necessity of which may become apparent when the extent and depth of the infiltration of the new growth has been definitely ascertained. If these demands be complied with, the position of thyrotomy, as being *the* operation in early stages of intrinsic malignant disease of the larynx, will remain impregnable so long as we have to fight malignant disease by operation. Of course, I do not mean to say that, even if all these rules are adhered to, a lasting cure can be *guaranteed*; such

a statement would be ludicrous, seeing the insidious nature of malignant disease, and the impossibility of deciding for certain whether or not before the operation infectious elements may have emigrated into the neighbourhood. The practical results, however, obtained by so many British operators, and by Chiari, Moure, and Schmiegelow on the Continent, show that with proper selection of cases and sufficient energy of operation most satisfactory results are obtained. But if in any of the points named above half-hearted concessions are made, thyrotomy is as likely to become discredited again as it was when Paul Bruns passed his stringent criticisms. No better illustration of this could be given than a communication made at the recent International Medical Congress at Madrid. On that occasion the results of radical operations for malignant disease of the larynx performed in a Spanish clinic were reported, and it was stated that, out of eight thyrotomies performed, no less than six ended in recurrence from within one month to two years after operation. The reporter arrived at the conclusion that the results of thyrotomy were very uncertain.

This report appears to me simply deplorable. In the absence of details, I cannot, of course, venture to enter upon any detailed criticisms of the cases; but having just told you that, out of thyrotomies performed by myself in cases of undoubted malignant disease of the larynx, recurrence—and this very doubtful—only took place in two cases, I have no hesitation in saying that there must have been something radically wrong either with the selection of these special cases for thyrotomy or with the performance of the operation. No other explanation will hold good when such discrepancies occur in the results of one and the same operation in two different hands. One of the most regrettable incidents in connection with the unsatisfactory Spanish results will, of course, be the fact that these cases will pass into future wholesale statistics, and will again contribute towards discrediting the operation in the eyes of those who have had no opportunity of acquiring experiences of their own.

With regard to the technique of the operation, I have but little to add to the description which I gave in the *Lancet* in 1894.

Having now treated a number of cases by immediate complete closure of the entire wound, I have not seen any advantage from that procedure, whilst it prevents one from testing the patient's power of swallowing after the operation, and, in my opinion, increases the danger of septic complication. I have therefore returned to the method I described in 1894—*i.e.*, to immediately close the larger upper part of the wound, and leave the lower part

open for two or three days after the operation until all danger of septic complication has passed.

Another point I should like to mention is this—that in cases in which the growth was situated in the anterior commissure, and in which it was necessary to remove the anterior parts of one or both vocal cords, I have recently repeatedly stitched their posterior ends to the ventricular bands, with the result of obtaining much better vocal results than had resulted without this procedure.

3. *Partial Extirpation of the Larynx*.—By partial extirpation I mean an operation in which no less than one entire wing of the thyroid cartilage, and possibly additionally an arytenoid and parts of the cricoid cartilage are removed, but I do not include in this category, as I have before stated, cases in which it was only necessary to take away small fragments of these cartilages.

The operation in itself does not offer any greater technical difficulties than mere thyrotomy, but it is still, I think, a moot question whether the after-treatment may be conducted on exactly the same lines as that operation—*i.e.*, whether the wound may be at once closed in almost its entire length, or whether it should be kept open at first in order to avoid subsequent stenosis of the parts. In one case I have followed the former plan without any unpleasant amount of narrowing resulting, but I do not venture on the strength of so isolated an experience to recommend a general adoption of this plan, and I hope that the subsequent discussion may throw some light upon this question. Altogether, I am convinced that partial extirpation of the larynx will come to be more rarely performed in proportion to the diagnosis of malignant disease being arrived at more and more early, experience having shown me that even in cases of rather extensive intrinsic malignant disease thorough removal of the growth and soft parts round it, with subsequent energetic scraping of the base, is sufficient to prevent recurrence. Only if the new growth should be found to have actually invaded the cartilages will complete removal of the latter become indispensable.

4. *Total Extirpation of the Larynx*.—As the result of a very curious misunderstanding of some observations which I made as far back as 1881, in the discussion on the treatment of laryngeal cancer in the Subsection for Diseases of the Throat of the London International Medical Congress, I have been persistently reported as an avowed opponent of total laryngectomy, and in spite of repeated express disavowals of the attitude attributed to me, in which I again endeavoured to clearly define my views concerning that operation, the legend has, I regret to say, recently been again

revived in Dr. Jonathan Wright's otherwise excellent History of Laryngology and Rhinology. The author actually described Mr. Butlin and myself as "resenting total extirpation as unjustifiable," and states that we have of late years reiterated these views. I take this opportunity of re-stating that we have done nothing of the kind. Total extirpation is an operation over which, however much I may admire the skill of the surgeon who saves a patient from an otherwise unavoidable painful death, I cannot grow enthusiastic, seeing that, whatever may be done to alleviate the patient's after-existence, it cannot certainly be described as a pleasant one. But I have never denied, nor do I now deny that, in cases in which the disease begins in a situation which, *a priori*, renders it impossible to eradicate it by less heroic means, such as on the posterior wall, or on the œsophageal aspect of the larynx, or when it has not been sufficiently early recognised and allowed to grow beyond the limits of thyrotomy or partial extirpation, its performance may become unavoidable to save the patient's life. If my attitude has altered at all, it has done so in the sense of my looking more favourably upon the operation, since, by the general adoption of the American method of shutting off completely the lower part of the trachea, through stitching it to the skin, from the actual field of operation,¹ the dangers of septic complication have become materially diminished, and since, by the invention of ingenious prosthetic appliances, the after-existence of the patients and their power of making themselves intelligible has been considerably ameliorated. Still, I cannot say that I am enamoured of this operation, and I think that even the most daring surgeons, as whose representative we have the pleasure of welcoming to-day Professor Gluck of Berlin—than whom no living surgeon has obtained more brilliant results in this class of operations—will agree with me that it ought to be the aim of every practitioner to recognise the disease at so early a period that we may be able to save the patient by thyrotomy, instead of having recourse to total extirpation. That the latter operation will ever be superseded, so long as our treatment of malignant disease of the larynx is exclusively surgical, I do not believe for a moment, because in extrinsic malignant disease, and particularly when it is situated on the posterior surface of the cricoid cartilage, the smaller operations are of no avail. But seeing the—to conclude from my own experience—incontestable fact that intrinsic malignant disease is

¹ "Archiv für Laryngologie," vol. vi., Heft 3; "Encyclopædia Medica," vol. vi.; Thirteenth International Medical Congress, Paris, 1900, Section de Laryngologie.

undoubtedly far more frequent than extrinsic, it may confidently be hoped that by an earlier recognition and thorough extirpation by means of thyrotomy of the former variety, the number of cases of total extirpation may become more reduced in number as years pass on. With regard to the technique of the operation, its incidents, its general, immediate, and remote results, I cannot speak from personal experience, and gladly leave this part of our subject in the hands of its most experienced exponent, Professor Gluck.

5. *Subhyoid Pharyngotomy*.—Of this operation I have but to repeat what I have said on former occasions. It is suitable for cases in which the disease starts from the epiglottis, or from the aryteno-epiglottidean fold, and its technique is an easy one, whilst it affords a good view of the field of operation. A curious fatality has, however, reigned over this operation, the causes of which have not as yet been sufficiently elucidated. It may be hoped that with further experience these results may improve.

6. *Palliative Tracheotomy*.—This operation, according to the present state of our knowledge, ought only to come into question when either the disease has started in a locality in which nothing short of total extirpation of the larynx could come into play, and when the patient declines to submit to that operation, or when the disease, although starting in a more favourable locality for the milder forms of operation, has unfortunately not been recognised early enough to allow of the milder forms of radical operation. But I strongly hold that, in view of our present results, no member of the medical profession ought to allow a patient of his afflicted with malignant disease of the larynx to drift into that hopeless condition when palliative tracheotomy affords the only means of prolonging a deplorable existence. Should it have to be performed, it ought, needless to say, be done as low down as possible in order to avoid, before the end of life, the disease actually extending into the tracheotomy wound, when the cannula would have to lie in a fungating mass, and by the difficulties connected with its cleaning and re-introduction further increase the sufferings of the unfortunate patient.

In conclusion, gentlemen, I wish to make a few observations on some points intimately connected with the question of operative treatment in malignant disease of the larynx, although not of an exactly surgical nature.

First of these is the question of arriving at a reliable diagnosis of the disease.

Eight years ago Mr. Butlin, in a discussion on laryngeal cancer in the Section for Diseases of the Throat of the British Medical

Association at London, stated "we must admit that there are three classes of cases: the first, in which anyone and everyone can make the diagnosis; the second, in which the better instructed or more experienced make it, and others do not; and the third class, in which the conditions are so obscure that no one can make the diagnosis unless the larynx is opened, and in some of which it is even then difficult to say what the nature of the disease is."

No truer words were ever spoken, and the description then given even now fully applies. Whilst I maintain everything that I have ever taught of the value of certain early signs of malignant disease, I am as ready as I ever was to admit that practically not one of these signs taken by itself is absolutely conclusive, and that even if several of them should occur together, the possibility¹ of a diagnostic mistake is not absolutely excluded. I think here more particularly of a contingency of which I have seen two examples during the last few years—viz., of malignant disease being simulated by tuberculous tumours of the larynx. But even apart from this errors are possible between benign and malignant growths occurring in older persons. This being so, most of us hold, and, I think, quite rightly, that, whenever possible, fragments of the suspicious growth should be removed from within, and submitted to microscopic examination at the hands of an expert. Should this examination result in the establishment of the presence of a squamous-celled carcinoma, or other unmistakable form of malignant disease, the advantage thus gained is of course great. Unfortunately, however, it is not always possible to remove pieces from within, and even when it is, the evidence of the microscopist may be in some cases doubtful, whilst in others, owing to non-characteristic fragments only having been removed, the evidence may be directly misleading. There are also cases on record in which the clinical aspect and the course subsequently taken by the disease were irreconcilable with the verdict given by the microscopist. Under these circumstances, I still hold to the view that whilst the microscope may be of infinite value in deciding the thorny question of diagnosis, its role in this question is that of a helpmate, but not of an infallible arbiter, and that the clinical observer must have the courage of his own opinions, and perform an exploratory thyrotomy in suspicious cases, even when the microscope has not given an unambiguous reply as to malignancy. Even after opening the larynx, as Mr. Butlin has quite rightly said, it is sometimes not possible to definitely decide what kind of growth one has to deal with, and from an ethical point of view the rather thorny question may arise how to treat

¹ *British Medical Journal*, 1895, vol. ii., p. 1034.

the growth under such circumstances. Personally, I do not hesitate to say that if justified doubt exists, it is more in the interests of the patient to treat the suspicious growth with its surroundings as if it had been proven to be malignant. True, subsequent microscopic examination may and will show in a few such cases that the growth was innocent, and that milder measures might have sufficed; but these cases are, in my own experience, very exceptional indeed, and ought not, I think, to be allowed to outweigh general experience.

In close connection with the points just discussed is one final question, the importance of which was brought home to me rather forcibly by a recent case of my own. A patient, aged about sixty, was sent to me by a well-known laryngologist with the diagnosis of malignant disease of the larynx. On laryngoscopic examination, an irregular, snow-white, sharply-pointed papillomatous-looking growth was seen to occupy the posterior part either of the right vocal cord or of the posterior part of the ventricular band, and of the interior surface of the right arytenoid cartilage. It seemed also possible that all these three parts might be affected. There could, however, obviously be no *deep* infiltration, as the movements of the right cord were perfect. Seeing the situation, and the appearance of the growth, as well as the age of the patient, I too had no doubt that the disease was malignant, and recommended, as the original adviser had done, immediate operation. Our advice was followed. When I opened the larynx I found that the growth occupied the whole posterior part of the right vocal cord, and the inner aspect of the right arytenoid cartilage. I removed the right vocal cord, and the interior part of the right arytenoid cartilage, with an area of healthy tissue around the growth. The patient made an uninterrupted recovery, left the home exactly one week after the operation, and his voice within a short time became almost normal.

The growth was sent to Mr. Shattock, who, to my greatest surprise, reported that he did not consider it to be a carcinoma, but a papilloma with a somewhat pronounced horny covering of epithelium. On my urging the clinical reasons for strongly suspecting malignancy, Mr. Shattock replied that, although the growth could not be really classed as a carcinoma, nevertheless, it was just such a tumour as might at any time take a malignant character, not being a common papilloma, with closely pressed, rounded projections, but with projections more pointed, and covered with an excess of squamous epithelium. The histological and clinical characteristics were not really as discordant as might at first appear.

I, of course, considered it my duty to at once communicate the result of Mr. Shattock's examination to the patient's general medical attendant, and we earnestly discussed the questions whether any, and, if so, what information should be given to the patient himself. Three courses obviously were open :

(1) To tell the patient that the microscopic examination had resulted in a demonstration that the growth was non-malignant, and to say nothing further.

(2) To state the result of the microscopic examination, but to add this had not dispelled the clinical fears.

(3) To say nothing for the present, and to wait until all fears of a recurrence had disappeared.

After careful consideration it was decided to adopt the third course as the kindest to the patient, and, in our joint opinion, the wisest in view of the situation. We could not honestly tell the patient that the result of the microscopic examination had superseded the clinical diagnosis, as neither of us believed this ; and to tell him of the doubts besetting his case would have meant to produce, whilst he had been quite reconciled to his affections being malignant, a condition of mental unrest positively detrimental to his health. In accordance, therefore, with our decision, I only told the patient, on his direct questions as to what had been the result of the microscopic examination, that it had shown the growth not to be of the most malignant type.

I saw the patient six months after the operation, when the condition of his larynx was first-rate, and his voice was almost normal.

Not quite six months after this I found, to my great disappointment, that the *anterior* part of the internal scar was occupied by a white, warty, flat new growth, which much reminded one of the original tumefaction, and was very suspicious-looking. A fortnight later this growth was, if anything, a little larger, and the neighbourhood of its posterior part looked very angry and red. Endeavours were made to remove a fragment for microscopic purposes, but the neoplasm was so flat that no piece of sufficient size for that purpose could be grasped with forceps. A consultation was subsequently held with Mr. Butlin, who, being put in full possession of all the facts of the case, unhesitatingly stated that he considered the new growth to be of a malignant type, and suggested speedy repetition of thyrotomy. Before, however, following this advice, which entirely coincided with my own view, I then considered it my duty to tell the patient of Mr. Shattock's favourable opinion of the nature of the growth primarily removed, and myself

suggested that still further opinion should be taken, in order to satisfy the patient's friends that the course proposed was the correct one.

A monster consultation was then held, in which no less than six medical men took part, and in which the unanimous opinion was arrived at that the growth was most probably malignant, and should, in all the circumstances, be removed forthwith. The patient, however, who had until that moment been perfectly ready to follow my advice, suddenly upbraided me before my colleagues for having done him a great wrong by not telling him at once of the favourable verdict of the microscopist, and left in a huff. This happened about eight months ago. I have not seen him since, and am not able to say anything about the present condition of matters, but I have heard that so far he seems none the worse for the condition of his larynx. From the scientific aspect the case, of course, presents features of unusual interest. Was the original growth benign or malignant? Who was right, clinical observation or the microscope? Again, did the undoubted recurrence represent the return of an originally innocent or of a malignant growth, or was it possibly a keloid? It must be remembered that the original growth was situated on the *posterior* part of the right vocal cord and the arytenoid cartilage, whilst the present neoplasm is situated in the *anterior* aspect of the scar close to the anterior commissure. But quite apart from the scientific aspect, the ethical question forces itself upon our attention, What is one to say to the patient in circumstances such as those described? Having thought a good deal about this knotty question, I still think that the course I pursued was the right one. All members of the medical profession who have been engaged in the case have agreed with my view; but I thought this a proper occasion to bring the whole question involved before a wider forum, and shall be glad to hear what course the members of this section think ought to be followed under similar trying circumstances to those described.

Finally, let me once more express my conviction that the operative treatment of malignant disease of the larynx, if pursued on the lines which are at present generally followed by British observers, will yield the more satisfactory results the sooner the diagnosis is made, and the earlier and the more thoroughly operation is carried out.

INTRODUCTORY REMARKS BY PROFESSOR T. GLUCK (Berlin).

PROFESSOR GLUCK, in his address, dealt mainly with the major operations for the eradication of cancer which had got beyond the

reach of a simple thyrotomy. After a brief prefatory reference to the history and development of the major operations upon the larynx, he mentioned his manner of operating in cases of stenosis, cicatricial obliteration, and diffuse papillomata of the larynx, and also in cases of stenosis of the trachea resulting from loss of substance through necrosis of the tracheal rings. The stages of thyrotomy and laryngotomy, and of the operation for making good defects caused by exfoliative necrosis of the cartilages, were also mentioned. Speaking of cases of retrolaryngeal cancer, with or without glandular infection, which had come under his notice, he said only those operations had a prospect of success, in the technical and in the human sense of the word, which extirpated the larynx and the pharynx by a transverse resection carried far into the healthy parts. He had successfully extirpated malignant growths which had extended over the tonsillar regions by a combined method from the wound in the throat and from the mouth—the head overhanging—without exposing the jaw-bone in any way.

He had already extirpated with success the pharynx, the larynx, the œsophagus, the entire thyroid gland, the vagus nerve, the cervical portion of the carotid, and the jugular vessels, and had obtained results in which the patients' lives had been prolonged for upwards of two and a half years. Simple vertical cuts and saving the hyoid bone were important factors for a plastic operation, or for prosthetic purposes at a later date. Formerly operations for malignant diseases, extrinsic as well as intrinsic, of the larynx, also of the tongue and of the adjacent parts of the pharynx, terminated unfortunately, for the majority of cases died from septic broncho-pneumonia from the inhalation of septic matter. In extirpation of the larynx, he performed a prophylactic resection of the trachea, which was exactly sutured into a button-hole opening made in the skin of the throat, so that the development of broncho-pneumonia was thereby absolutely prevented. By this procedure was obviated the necessity of having the head overhanging, and the use of canulæ, tampons, and similar mechanical means, which were not always adequate, and often caused suppuration, necrosis, or even gangrene. By the plastic and prophylactic operations there was interposed between the cavity of the wound and the lungs—a living organic barrier, an impermeable diaphragm, which rendered the aspiration of foreign bodies, be they what they may, into the air-passages impossible. For hemi-laryngeotomy, and for laryngotomy, and also for total exenteration of the larynx, together with the epiglottis, he had invented a plastic operation with skin flaps,

which were fixed with sutures on the healthy side of the larynx, the pharynx, the œsophagus, and on the fascia and muscles of the throat. This operation took the place of the resection of the trachea, which, however, represented the fundamental and original idea of all modern prophylactic methods of performing this particular group of operations. The skin flap which occupied the space of the resected larynx acquired, in course of time, a soft and slippery surface like mucous membrane. If the skin flap employed in the pharyngo-plastic operation could not be taken from regions without hair, then it might become covered later with hairs, which the patient could pull out from time to time when they occasioned trouble; but in touching the skin-flap, there was no reflex movement produced as in touching the mucous membrane of the pharynx. After the wounds of these large operations have healed, the patients ate like normal individuals, nor had they need of a tracheotomy-tube, as the tracheal stump and the skin of the neck were united together, and there was not subsequently stenosis. After the wound was healed and the patient was out of danger, attention was to be given to the reconstruction of the resected or extirpated organs, but never before all danger was passed.

Speaking of the duration of the development of cancer of the larynx and pharynx, he said he had known cases in which the patients had been under treatment for nearly ten years before the diagnosis had become manifest. Some patients had had besides cancer many papillomatous formations, which had been extirpated by endolaryngeal methods, and that had made the diagnosis more difficult. On the petiolus of the epiglottis marked cancer could exist without necessarily occasioning distress. Retropharyngeal tumours could become decomposed and putrid, and be accompanied by glandular infection, before the seriousness of the illness was known. On the other hand, often little tumours which were accompanied with swelling and œdema, dyspnœa and dysphagia, hæmorrhage, and hoarseness, drew attention to the disease. An early diagnosis and a radical operation saved the patient. Early external operations for intrinsic laryngeal cancer were attended with as good, and perhaps better, results than any operations for malignant tumours in any other part of the body, and he wished that this consoling conviction might become universally known.

As regards the diagnosis, he said, the pathologist to be positive, must examine the deeper parts of the growth. In order to place these deeper parts at his disposal, the larynx would have to be extirpated or resected, and then the examination would have no practical value. It was not possible to decide from the laryngo-

scopic examination the extent of the disease; for instance, one might believe the disease to be limited to the mucous membrane, and that a simple thyrotomy would be sufficient, whereas, at the operation, it might be found necessary to immediately extirpate the larynx. These were tragical surprises which, with all experience, could not be avoided.

As regards the dangers and complications of the major operations on the larynx, they all participated in the dangers arising from the anæsthetic, excitement, shock, etc. Diabetes, cardiac disease and advanced age did not constitute absolute contra-indications. After operations upon the neck, the larynx, and the pharynx, hæmorrhage from the bowels might set in, which need not be due to malignant disease of the stomach or intestines, but could be caused simply by stagnation. The ligature of the carotid artery could produce lateral hemiplegia. Resection of this vessel might be immediately followed by loss of consciousness and death in a few hours. After the operation, if the temperature rose and the pulse quickened to 130 or 140 and became irregular, there might be sepsis, intoxication with iodoform, or cardiac failure to be dealt with. Bronchitis was treated with inhalations, and by frequently changing the canula with as little irritation as possible. An unexpected syncope might occur in the first thirty-six hours after the operation, or three or four weeks later after the wound had healed. Embolism was practically never met with after operations on the larynx and pharynx. Myxædema, after removal of the thyroid gland in connection with laryngeal cancer, subsided under thyroid treatment.

As to the different methods of speech after these operations, he referred to patients who, after the exenteration of the larynx, were able with an artificial larynx to speak in an audible voice, and to some who could even sing. After hemi-laryngeotomy the patients spoke without a canula by means of cicatricial bands of cylindrical form or transplanted skin-flaps, which acted like accessory vocal cords. After total laryngeotomy patients had learnt to speak distinctly with the double canula of Gussenbauer, or if the communication between the naso-pharynx and the trachea had ceased to exist, then they spoke with what was called the pharyngeal voice; the air from the stomach, or from the cul-de-sac behind the tracheal wound, produced a murmuring, which, passing along the folds of the mucous membrane of the œsophagus or pharynx, was transformed by the movements of articulation into a distinct whispering voice. For patients who could not acquire the act of converting this pharyngeal murmuring into a speaking voice he

had devised a phonetic apparatus, by means of which the weak whispering articulation was intensified into an audible and clear voice.

Professor Gluck gave a brief account of the varieties of tumours he had removed and of the results. From a girl of twelve he had removed a chondro-sarcoma of the left thyroid cartilage by laryngectomy, which the patient had survived for upwards of three years. A pregnant woman, aged twenty-two, from whom he had removed a sarcoma of the cricoid cartilage by a laryngo-fissure, gave birth to a healthy child, and continued well for three years and a half. A lady, aged twenty-seven, the subject of a cavernous sarcoma, which had necessitated the extirpation of nearly the entire larynx, continued in good health for nine years. Another pregnant woman, aged twenty-four, who underwent subhyoid pharyngotomy for the extirpation of a growth, also gave birth to a healthy child, and had remained well for upwards of five years. A man, aged fifty-four, survived a hemi-laryngectomy for sarcoma for thirteen years; but another man, aged sixty, died after extirpation of the larynx for the same disease. Amongst the cases of carcinoma, he referred to two with glandular infection, which had necessitated very extensive operations. The first had been operated upon by Professor Fraenkel by the endolaryngeal method, and Professor Gluck had subsequently extirpated the cancerous glands in the right side of the neck. The lady survived the operation five years. The second case was a medullary cancer of the epiglottis and the root of the tongue, after a subhyoid pharyngotomy and a radical extirpation of enormously enlarged glands on the right side of the throat the patient was without a canula, and was able to speak and swallow like a normal person. He was now fifty-nine years of age, and a few days previously, when Professor Gluck had seen him, he was in perfect health. In four cases the vocal cords had been extirpated by laryngo-fissure with excellent results, the patients surviving half a year, two and a half, three and a half, and four years respectively. In other cases partial or total laryngectomy, with and without extirpation of the pharynx and larynx, had been performed. Amongst thirty-five hemi-laryngectomies of a more or less extensive nature there had been three deaths, one after twenty-four days—when the wound had already healed—from sudden heart failure; another, also independently of the operation, from a phlegmon of the right gluteal muscle; and the third, on the fifth day, from pneumonia. Amongst one series of twenty-two cases of total extirpation there had been only one case of death—that was on the eleventh day, from iodoform poisoning, in a man aged

seventy. Amongst twenty-seven cases of transverse extirpation of the larynx and pharynx, in the majority of which infected glands were also extirpated, there had been only one death, and that was on the fifth day after the operation, in which ligation of the carotid was followed by lateral hemiplegia and unconsciousness. How brilliant the surgical progress had been could be gathered from the fact that, out of a former series of nine cases—certainly very serious ones—there had been four deaths, and that out of the first series of ten operations—dating back to the year 1888—there had been only two recoveries.

The operation, Professor Gluck said, lengthened life, and renewed hope; and if really after a year or a year and a half in the desperate cases relapses occurred, then, according to his experience, the operation made the last stage less painful and death more easy. On the other hand, as regards the patients who recovered, their relatives said they had lived contentedly, and in some cases merrily, until a relapse brought death rapidly. He could have presented to the meeting thirty-eight of his patients who had survived the operation, one of whom had been operated upon thirteen years ago. Of those who had died, a number had lived several years (11, 8, $6\frac{1}{2}$, $5\frac{1}{2}$, $4\frac{1}{2}$, $3\frac{1}{2}$ years) after the operation, and in full health, and some had died from causes other than a recurrence of the disease. In one case, nine years after hemi-laryngectomy for cancer, the disease developed in the other half of the larynx and the adjacent glands. After a second radical operation the man lived for over two years, and died at seventy-six years of age, the operation having prolonged his life for eleven years.

For tuberculous caseous perichondritis of the thyroid cartilage with abscess and laryngeal fistula he had resected the larynx in three cases—once on both sides and twice on one side—with good results. Twice he had performed a total laryngectomy. One case died, in spite of that, of consumption, and the other had been well for five years, and was perfectly healthy.

In four cases he had removed diffuse papillomata in children by laryngo-fissure; they had all healed permanently, and without a tube. He had performed transverse resection of the trachea eight times, on account of cicatrices following diphtheria and typhoid, and had had seven recoveries. It was not ascertained whether the typhoid case died of cardiac failure or of asphyxia.

Professor Gluck said he had recently shown five of his patients in Heidelberg, where they were seen by Dr. Dundas Grant; but, in consideration of the long distance, he had brought only two with him to Swansea. The patients had both been operated upon for

malignant disease of the larynx and pharynx, the one five years previously and the other three months. In the case of the one of five years' standing, two operations had been performed for total extirpation of the larynx, resection of the pharynx, of the great vessels of the neck, and of the vagus nerve. A pharyngo-plastic operation had been performed, and the patient spoke with a pharyngeal voice, which was quite audible and distinct, and continued to follow his occupation of a farmer. The second patient, who had undergone a similar radical operation more recently, made himself clearly understood with Professor Gluck's nasal-phonetic apparatus.

A series of larynges which had been extirpated on account of malignant disease by Professor Gluck, together with portions of adjacent structures, such as the lymphatic glands, jugular and carotid vessels, and vagus nerve, were demonstrated. The majority of the individuals to whom these organs belonged had recovered, and were in good health.

DISCUSSION.

Dr. HERBERT TILLEY (London) gave some details of five cases of thyrotomy for malignant disease of the vocal cords. Four of these were alive and in perfect health six, five and a half, four, and one years respectively, after the operation. The first case was an advanced one, and it was necessary to remove the corresponding arytenoid cartilage with the vocal cord. The fourth case was a very feeble individual suffering from advanced heart disease, and in whom some milk escaped into the neck wound within thirty-six hours of operation. Septic poisoning set in, and a fatal result ensued in about six days.

He had sewn up the skin wound in all cases at the close of the operation, with the exception of the lower end, where a strip of iodoform gauze was inserted to act as a drain. This was removed several times during the day, as it became soiled by mucus from the trachea.

For checking the oozing from the wounded parts in the larynx, he had found Whitehead's varnish a most excellent antiseptic and styptic.

With regard to after-treatment, he related an interesting experience. An old man, seventy-four years of age, was operated on (thyrotomy) for malignant disease of the left vocal cord. For the first twenty-four hours after the operation the patient did well, when his pulse became very rapid, delirium set in, and his temperature rose to 102° F.

The wound looked healthy, and there were no abnormal physical

signs in the chest. It seemed possible that he was in want of nourishment, and that possibly this was not being afforded by the nutrient enemata. At any rate, all the symptoms disappeared shortly after he was given some brandy-and-egg mixture by the mouth, and he made an uneventful recovery.

Dr. JOHNSON HORNE said the subject had been so exhaustively dealt with by the openers of the discussion that it required time to give what they had said the consideration its importance deserved. He desired to thank Sir Felix Semon and Professor Gluck for their most comprehensive exposition of the subject, and to thank Professor Gluck also for his demonstration of the really remarkable growths he had removed.

He felt sure that there was a general consensus of opinion that in suitable cases thyrotomy was a perfectly ideal operation. Unfortunately, through the want of a sufficiently early diagnosis, its usefulness was only too often limited, and then we had the operation so successfully developed by Professor Gluck at our disposal.

Speaking from a pathological as well as from a clinical experience, Dr. Horne said that when an error in diagnosis was committed it was more commonly on the side of regarding an innocent growth as a malignant one than a malignant growth as an innocent one.

As regards the removal of a portion of a growth by the endolaryngeal method for a pre-microscopic examination, it was often difficult to obtain enough of the growth upon which to base a positive diagnosis. A negative result from such an examination was to the case very much what a negative result from an examination of the sputum was to a doubtful case of pulmonary tuberculosis, and he thought it was as well not to disturb the growth by any endolaryngeal procedure unless consent previously had been obtained to thyrotomy being performed if found to be advisable; and in doubtful cases he considered thyrotomy, in its present state of development, was not only justifiable, but the right course to adopt.

Dr. R. H. WOODS (Dublin) was in favour of suturing the cartilages, in his experience granulations had not consequently developed within the anterior commissure of the larynx, so as to suggest a recurrence such as had been observed and described by Dr. Tilley. He was opposed to Whitehead's varnish as a styptic and antiseptic, on the ground that oedema might ensue if the surface, which it sealed, was not absolutely aseptic. He attached considerable importance to the proper preparation of the patient, and held purging to be a factor in preventing sepsis.

Dr. EUGENE S. YONGE (Edinburgh) read the notes of two cases of epithelioma of the larynx remaining well two years after thyrotomy.

Dr. DUNDAS GRANT considered that the introductions to the discussion by Sir Felix Semon and Professor Gluck respectively were among the most valuable contributions to their knowledge of the subject which could have been presented to any meeting of laryngologists. It was of the greatest interest to observe how the work had proceeded along the two different lines, and with such magnificent results in both. Sir Felix Semon deserved their gratitude for having taught in the most unmistakable way the necessity for early diagnosis, and for promptitude in acting upon its indications without losing the golden moments. The operation of thyrotomy was practically devoid of danger, and it was not putting it too strongly to say that they were justified in carrying it out even before an absolute diagnosis of intrinsic carcinoma had been made, for if by any chance the growth proved, on opening the thyroid, to be a simple one, it was an easy matter to close the larynx again, and even if the voice were somewhat damaged by the procedure, the knowledge that the disease was not malignant was ample compensation for such a drawback. Sir Felix Semon had generously acknowledged his indebtedness to Mr. Butlin for the guidance and collaboration which his surgical skill and experience had rendered so valuable. There can be no higher ideal than the removal of the disease with as little disturbance of normal anatomy and physiology as possible, and this humane and conservative method, which appealed so strongly to practical healers of the sick, was here exhibited in its most typical form, the essential for its success being early diagnosis.

These methods had, of course, their limits, and when complete eradication by this comparatively mild measure was of doubtful possibility, the motto had to be "thorough," and thoroughness had been the idea most prominently before the minds of Professor Gluck and those who had attacked the subject from his point of view. There can be no question that his work had enabled them to face the removal of the larynx with greater equanimity than was previously possible. The dread previously felt that utter voicelessness must ensue from total extirpation was to a certain degree dispelled, as the so-called pharyngeal voice was by no means a negligible quantity; and they had seen cases in which oral utterance was quite as distinct after the operation as the pre-existing disease allowed it to be before that. In a case of sarcoma in which Dr. Grant excised the whole larynx, and with it the infiltrated thyroid gland, the

patient was able to speak in a loud whisper, and to have quite satisfactory communion with the members of her family.

Dr. Grant referred to a possibility that, when removing a portion of the contents of the larynx for microscopical examination, the fragment of tissue removed might contain no definite malignant growth. This had happened to himself in one of his cases, but being convinced from the clinical evidence that the case was malignant, he removed another portion, the features of which were quite characteristic. In the case in which this occurred the disease was found, on thyrotomy, to be much more extensive than the laryngoscope had indicated, and it was necessary to remove the cartilage of one half of the larynx, and almost all the soft parts of the other. This occasioned considerable interference with the sphincter of the larynx, and caused regurgitation of fluids into the trachea. As, however, Mr. Butlin's injunction as to leaving the tracheotomy wound open had been acted on, the fluids found their way out by this opening, and, in point of fact, the patient was encouraged to sip small quantities of very weak biniodide of mercury solution, for the purpose of cleansing the interior of the larynx and removing a fœtor which previously arose from it. The power of swallowing speedily returned, but the flaccidity of the one half of the larynx was such that it became indrawn during inspiration, and it was necessary to replace the tracheotomy tube, with which the patient was quite comfortable.

In the case of complete excision before mentioned, the patient became on one occasion so violently thirsty that she insisted on drinking a large quantity of water; this came out through the operation wound as fast as she drank it, bringing away a considerable quantity of muco-pus, and from that moment her condition became steadily better; she made a good recovery from her operation, but died a year later from recurrence in the neighbouring parts.

The speaker thought that cases in which, before operation, there was a tendency to the regurgitation of fluids into the larynx were less favourable in their prognosis than those in which this did not exist, as there was every probability of the recurrence of "swallowing pneumonia," as happened in a case of his in which this condition was present, although otherwise it seemed a favourable one for operation.

Dr. C. P. CHILDE (Portsmouth) spoke of the unfortunate results following operations for malignant disease of the larynx in alcoholic subjects, and how sudden death might unexpectedly occur.

The PRESIDENT congratulated the section upon the excellent dis-

cussion. He endorsed the views expressed by Dr. Horne about the usefulness of, and the value to be attached to, a premicroscopic examination of a piece of the growth; he also concurred with Sir Felix Semon that the conclusions drawn from statistics arrived at by massing together the results of all such operations ever performed were fallacious, and that the value of an operation could only be arrived at by analyzing the results of individual observers.

Sir FELIX SEMON, in his reply, considered that the responsibility of anxiety arising from the diagnosis should not be placed upon the patient. Speaking of the technique of the operation, he said the little vessel near the vocal process often gave trouble, but the bleeding could be arrested by compression. He had always used cocaine, and had not tried adrenalin as a styptic in thyrotomy. He advised Dr. Tilley to give food from the first through the mouth. In conclusion, he again urged early diagnosis to avoid extirpation.

PROFESSOR GLUCK also replied and thanked the section for their kind attention to his communication.

SOCIETIES' PROCEEDINGS.

NINTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

Held in Lexington, Ky., April 30, May 1 and 2, 1903.

President: J. A. STUCKY, M.D., of Lexington, Ky.

DR. J. A. STUCKY delivered a presidential address. He said that the Society had good reason to be proud of its rapid growth and great achievements in the few brief years of its existence. It had been organized on a broad foundation, and there should be no fence put up to prevent the entrance of those who were loyal to the code and had won their spurs. The existence of this Society had shown the wisdom of following the broad principles laid down at its very inception; and at the present day its members recognised no east or west, no north or south, but one brotherhood and one purpose.

Dr. S. MACCLEN SMITH, of Philadelphia, exhibited a folding head band, which was convenient because of its great portability. It was not his own device.

New Instruments.—Dr. CHEVALIER JACKSON, of Pittsburgh, exhibited a skiagraph of the skull; also his emergency thyrotomy