chest on the left side; this has increased in size. The present condition of the palate is seen in Fig. 2.

The pathologist, Professor Turnbull of the London Hospital, reported that examination of the primary tumour and glandular masses showed a condition of melano-carcinoma. The microscopic appearances in the primary growth and in one of the cervical glands are represented in Figs. 3 and 4.

The author will, in a subsequent issue of the *Journal of Laryngology and Otology*, report further on this case, giving a detailed description by Professor Turnbull of the microscopic findings.

The writer intends to discuss the question of melanomata and to refer to all the published cases of melanoma of the hard palate.

# CRITICAL REVIEW

## THE SEPTUM OPERATION.

By T. B. LAYTON, M.S., Surgeon to the Throat and Ear Department, Guy's Hospital.

My experience of the last six years has led me to the conclusion that the results of the septum operation are often unsatisfactory and frequently bad. A patient has to face danger, pain, discomfort, expense, and loss of time. The sum total of these he calls "undergoing an operation." When this is out of all proportion to any slight improvement, permanent or temporary, I classify the result of the operation as unsatisfactory. I call it bad when, after undergoing the operation, he has no relief from his symptoms; I think it very bad when the patient is worse than he was before the operation. I fear that the last class is not negligible. To my mind, we should earnestly consider the matter and ask ourselves where we are making mistakes and how we can diminish them in future.

From the operative point of view there are three areas in the septum nasi. One is the cartilaginous part situated immediately within the nares; behind this is a bony part formed by the central plate of the ethmoid and the upper portion of the vomer which clothes with osseous tissue the sphenoidal process of the septal cartilage. Below these lies another bony area which is formed by the lower margin of the vomer articulating with the nasal crest.

We must distinguish two situations for operative interference upon



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the deviated septum—the low and the high. The low operation is done for obstruction in that part of the nose which is in relation to the inferior turbinal. The deviation may have an axis which runs from before backwards or from above downwards. Frequently it is compound, with both these axes present. It involves all parts of the septum, the cartilaginous and the two bony parts. The high operation is performed upon a deviation which lies at the upper part of the middle meatus opposite the middle turbinal. This affects the cartilaginous part with a small area of the upper bony part behind it. This deviation has no axis but is a lateral bulge of a saucer shape.

It is important to keep this distinction clearly in mind. The details of technique vary in the two operations; the structure of the deviation is different, and the symptoms which indicate operation are distinct in the two classes of patient upon whom one is called to perform them. We see then that our survey will necessitate a consideration of the indications for the operation, as well as a discussion of certain details of technique, both operative and post-operative.

**The High Operation.**—The high operation is done for pressure upon the middle turbinal, either for the relief of headaches thus induced or to afford drainage in the middle meatus in suppuration of the sinuses. The criticism as to bad results, with which this paper started, does not fully apply to this operation; but that may be because it is not so often done. Indeed, it would appear that it hardly comes within the list of operations performed by some rhinologists, although it might more often be done in cases in which we now remove the anterior end of the middle turbinal. We should, by so doing, be able to relieve the pressure without the loss of mucous membrane which the latter operation entails. A danger arises, however, lest the advocacy of the high operation should make it fashionable, and, by its too frequent performance, rhinology might be brought still more into disrepute than it already is owing to the bad results of the low operation. Both of the indications for the high procedure are of such a nature that they may lead to abuse.

This is not the place to discuss in detail nasal headaches, but we may lay down two postulates. First, if the surgeon desires he can always find, consciously or subconsciously, something within the nose which he can persuade himself is the cause of the headache. Secondly, no headache is purely nasal in origin; there is always some other factor in its causation. From these two postulates we may deduce the following rules: That the severest self-criticism must be maintained when advising any nasal operation for headache and that a complete medical examination must first be made. The decision as to operation will then depend upon a relativity between



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the general and local factors in causation. With little general disturbance and a marked intra-nasal lesion an operation may be done, but when the reverse is present it should be avoided; between the two extremes there is a large series in which decision will be difficult.

In making this decision, the effect of palliative treatment may be considered. If the shrinkage of the mucous membrane with adrenalin and cocain, which is a necessary part of the examination, affords complete relief from the pain for an appreciable period of time, it may be deduced that the shrinkage has relieved some pressure in the region under suspicion. If this period of relief is succeeded by one of intense headache, we may further conclude that the subsequent swelling, as the constriction passes off, has caused the headache to return. In all such cases it is well, however, to remember the possibility that the visit to the surgeon has afforded a temporary relief merely by suggestion. We should try, therefore, to obtain a longer period of shrinkage of the mucous membrane in the area of the suspected lesion. This may be done by the application of an astringent, such as a solution of one of the silver preparations. Each application may relieve the pain from a few days to a week; and a series of applications may cure the condition. If they do not, the temporary relief that has been gained will suggest that a permanent cure may be obtained by operation. When the suspected deformity within the nose is a high deviation of the septum, an operation carefully performed upon it may afford immense relief.

When we turn to suppuration in the sinuses we have, in this operation, one of the most valuable therapeutic methods for the treatment of sinus disease. It would appear as if it were not often practised in this country, but it compares in its efficiency with the high removal of the middle turbinal in providing drainage. A complete discussion of the indications for the septal operation would necessitate a review of the diagnosis and treatment of suppuration in the sinuses which open below the middle turbinal, and this would at the moment be out of place.

Two points, however, must always be kept in mind. The first is, that in each case the operation must be considered on its own merits in comparison with other forms of treatment, operative and non-operative. In reaching a decision in favour of the operation, the following steps must be taken. First, we must know that there is suppuration in the sinuses; the diagnosis must be an accurate statement of fact, and not an inference from indirect evidence. Next, we must know as accurately as possible which of the sinuses is involved. Thirdly, we must consider whether the septal operation advised is suitable for suppuration in the cells affected. That it is of value for suppuration in the frontal and ethmoidal cells we may affirm. There-



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fore, when these as well as the maxillary sinus are diseased, it may be used as a stage in the treatment. Is it of value when the maxillary sinus is alone involved? The writer is inclined to believe that it may be.

The second point to be remembered is, that there is a distinct possibility that the operation on the septum may be a failure, and in these circumstances spells disaster. There is a risk that suppuration may occur, between the flaps as the result of the close association of the field of operation with a suppurative lesion. If suppuration of the wound occur, it may lead to thickening of the septum in the area formerly the site of the deviation. The thickening may press against the middle turbinal as firmly as the original deviation. Further operation may then be needed, which is likely to be difficult of performance and mutilating in character.

**The Low Operation.**—Let us next consider the low operation on the septum. This is generally performed for the relief of obstruction to the airway; but occasionally other indications may be valid, as illustrated in the following cases. In 1913, a patient complained of severe rhinorrhœa; he used twelve or more handkerchiefs each day. He had a deviation on an antero-posterior axis with a sharp angle which just touched the inferior turbinal almost along its whole length. Operation on the septum greatly relieved him; it did not effect a cure, for he continued to use four handkerchiefs daily. He was seen again in 1919, when he feared a return of the previous condition; this proved, however, to be transient after influenza. This is an isolated experience.

I have not found that operations on the nose are of much value for the relief of asthma. An operation upon the septum nasi in one patient stopped the attacks entirely for three months. After four years he had again to resort to a "patent cure." It is possible that a pyramidal deviation far back in the nose, the apex of which impinges on the lateral wall of the nasal fossa above the inferior turbinal, may occasionally be a factor in the causation of headache. I once attempted to remove one of these deviations from a stout, middle-aged lady who was not a satisfactory case for a local anæsthetic. Under general anæsthesia, I proceeded to remove the deviation with a nasal saw. In spite of the previous packing, blood flowed freely at the first cut. At the second cut, the saw slipped from its groove, and being unable to see, I could not get the instrument back into the same incision. Rather than do harm I desisted from proceeding further. Her physician, however, who sent her to me, said that her headaches had been cured. I have been unable to follow the case, so cannot say whether the cure was permanent.

When all these indications have been considered, however, the



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number of cases is few, and it is approximately correct to say that nasal obstruction is the main indication for the low operation upon the septum nasi. The results of these operations show a failure to reach the ideal.

We may classify the unsatisfactory or bad results under four heads: (1) Those due to errors of judgment; (2) those from faults in operative technique; (3) those due to accidents during the period of healing; and (4) those in which no apparent cause of failure can be found.

(1) **Errors of Judgment.**—Among errors of judgment must first be placed errors of diagnosis. Thus:—

Mr X., having been advised by the specialist, under whose charge he had been, to have a septum operation performed for the relief of his deafness, applied to the Ministry of Pensions. Deafness had arisen after an attack of diphtheria which he had while in the army, some eight years previously. He had never had any discharge from the ear, but had found his hearing improve somewhat on recovering from the neurasthenia which he had developed as a result of his war service.

A prematurely elderly, grey-haired man of 43, he had normal drum-heads, showing no evidence either of old perforation, of retraction, or of increased opacity. He could carry on conversation with an individual with ease, but stated that, at the dinner-table or at a board meeting, he was quite unable to follow the proceedings. His left ear was of but little value, but with the right he heard the spoken voice at 8 feet. His septum was undoubtedly deviated to the left, with an airway somewhat excessive on the right side; this had never given rise to any nasal symptoms, and the mucous membrane of the nose and pharynx appeared normal.

On testing him with the tuning-forks, the bone conduction on either side was markedly shortened, on the left by as much as twenty-five seconds, while the fork placed on the mid-line of the head was not heard at all. Yet the loss of air-conduction was very slight. He continued to hear the fork by air, not only long after he ceased to hear it by the bone, but also for a considerable time after the examiner ceased to hear it on his mastoid. The evidence suggested that the patient was suffering from nerve deafness, and he did not need much persuasion to forego all thought of operation. It is to be assumed that the surgeon who had advised the operation on the septum had thought it to be a conduction deafness.

Sometimes, however, we may sympathise with the surgeon who makes the error in diagnosis, as well as with the patient who has submitted to the operation. Thus:—

Major B., middle-aged, stout and plethoric, was said to have suffered for some years from chronic suppurative otitis media, for which he had been using hydrogen peroxide. His chief complaint, however, when first seen, was the discomfort in his nose, obstructed by large masses of bad-smelling crusts, which had worried him constantly since he had had an operation on his septum, some two years previously, for the relief of his otitis media. Examination of the ear revealed an otitis externa which at first sight



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appeared to be secondary to the otitis media, till doubt was thrown on this by the discovery of two small osteomata at the bottom of the meatus. The peroxide was stopped and the skin condition rapidly cleared up with calamine ointment. So far as the drum-heads could then be seen, there was no evidence that they had ever been perforated, and it would seem that the trouble had from the beginning been a skin complaint. The ears have remained well, but little or no relief has been afforded to the nasal condition. Most of the septum has disappeared, leaving a large cavity affected with a dry rhinitis, almost an atrophic one. In this cavity hard crusts collect, needing constant douching, spraying and blowing of the nose.

Such errors of diagnosis are, however, not of common occurrence. Usually the bad results occur in patients for whom the operation has been advised on account of some condition clearly recognised, which the surgeon firmly believes will be relieved by an operation on a septal deviation.

There are certain persons and certain noses in which good results are not likely to be obtained even though, on other grounds, the indications seem clear. Amongst these are the individuals who consistently make too much of their symptoms. Their statements are all in the superlative. All their thought seems concentrated on one symptom till some chance reference to another causes them to discuss volubly the new sensation. Their expectations from treatment are as exaggerated as their complaints. If one falls into the mistake of operating on these patients, they expect complete relief from their symptoms within a few days, or even a few hours. If the deviated septum has worried them before, the symptoms that follow the operation are still worse. They do not wait until the wound within the nose has healed before they are again complaining, so that they do not even have the transient improvement due to the faith healing which is inherent in all operations, and which is the only improvement from so many; and if they do, fresh symptoms call for some new operation which, if done, leads the patient well on the way to acquiring the "operation psychosis."

There is, again, the patient in whom the symptoms are real enough, but are out of all proportion to the objective signs to be seen by anterior rhinoscopy. This is common to many nasal maladies and often indicates some deviation from the path of health which is hardly sufficient to be called disease. Under the conditions of modern civilised life there are few who do not, at some season, have changes in the nasal mucosa of such a nature as to make the brain conscious of the existence of an abnormal condition. Some transient swelling of the membrane, dryness of the vestibule, some response to a minor infection, will so impress themselves on the patient's mind by increased sensory stimuli, that there arises what we call subjective



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symptoms. The healthy mind will not allow these symptoms to disturb it. But when the healthy body begins to fail, its owner, who never imagines he can be ill, feels these stimuli more than he was wont to do, until he comes to ask advice of the rhinologist. To operate is but to give relief for short periods. More benefit will be attained by the removal, permanently or for a time, of the conditions which first caused the slight digression from health. Often this is some slight disturbance of the stomach or of the bowels, insufficient to make the patient think he has indigestion or is constipated. Sometimes a slight anæmia may be the cause. Amongst others, it is the want of rest or recreation associated with work from dawn to night at some occupation that provides but little interest.

Such minor mental deviations from the healthy state are not infrequently the cause of nasal symptoms. The young father struggling to make both ends meet; the maiden engaged but with no near hope of matrimony; the woman at her menopause who has not enough to occupy her mind outside her body—these form groups of patients upon whom septum operations are often done with disappointing results. Another group is formed by certain men of early middle-age. Mr Mayo told us last summer how the male has his change of life as well as the female of our species. This appears to bear most heavily upon those bulky, vigorous men who in their youth have taken hard exercise and been great sportsmen. In the early 'forties they find themselves unable to keep fit and inclined to become obese. Such men are very prone to nasal symptoms and, in most, the septum is not straight. They are very likely to have it operated on, and almost always without relief.

Care is necessary when considering the nasal cavities that are too wide and those that are too narrow. The dryness in the roomy cavity may pass on to atrophic rhinitis if the septum is straightened or if mucous membrane is removed. Here we must distinguish between those which are by nature large, and those which are wide on one side owing to the concavity of the deviation. In the latter an operation may be of value not merely to relieve the obstruction on the one side, but even more to retard the progress of the changes in the other. The narrow nose is a trap to the unwary and to those of small experience. One may argue that in a narrow nose the correction of a slight deviation should have a great remedial effect. To one who has never had much space through which to breathe a slight increase should make much difference. Experience shows this argument to be fallacious, and that persons with the narrow nose gain no benefit from operation. They are better advised to do without it and to obtain such relief as may be possible from intranasal and from general treatment.



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These points concerning the patient's mental and physical condition and his type of nose should always be in the mind of the rhinologist when he considers the septum operation. He must also satisfy himself that the obstruction is within the nasal cavity proper and not anterior to or behind it. The slit-like anterior nares with collapsed alæ are not infrequent and often cause some slight obstruction. It is a difficult condition to treat, but one thing is certain, that a septum operation will do no good. The last stage in the decision is to estimate how much of the obstruction within the nose is due to the deviation of the bone and cartilage and what part is played by swelling of the mucous membrane. In every case, before decision, the latter should be shrivelled with cocain and adrenalin and the airway re-examined. It is only when the obstruction remains distinct and definite that operation is indicated. If the obstruction has almost disappeared, only a bad result may be expected. Even if the obstruction be very materially diminished the result is likely to be unsatisfactory.

(2) **Faults in Operative Technique.**—The septum operation is difficult, and one of my teachers used to say that when one found it easy, the operation should not have been done. A want of appreciation of this may sometimes account for bad results.

After interference, cases are met with in which the septum remains deviated and obstructs the nose, suggesting that the operation should be done again. It is inadvisable to do so. A mass of fibrous tissue is bound up with mucous membrane and a further attempt is almost sure to lead to disaster. In other cases, again, the greater part of the septum has disappeared, leaving a large hole through which one nasal fossa may be seen from the other side. Further, there are cases with the characteristic depression of the bridge of the nose.

I cannot but think that the chief reason for these defects is the frequency with which the operation is performed under general anæsthesia. By this method the operation is vastly more difficult even than it is under local anæsthesia. If it cannot be done under the latter, the case should be considered afresh in all its aspects with a view to re-estimating the indications for the operation. In many cases the added difficulties of operation under general anæsthesia will cause the balance of good judgment to swing against an operation.

This is a convenient place to consider the operation in children, on whom it should seldom, if ever, be performed. In addition to the disadvantage of general anæsthesia is the fact that the nasal aperture is so small that the difficulty of operating is still further increased. It is an operation "de luxe." Many are none the worse for not having undergone the operation. It is doubtful whether any



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life has been prolonged for one day by its performance, or whether anyone has been saved thereby from serious disease.

Can we say that to refrain from the operation will impair the development of the child? The answer to this will depend upon the view which is taken as to the cause of that type of face known as the "typical adenoid facies" with the high palatal arch and overcrowding of the teeth. In this country it has been accepted as a fact that this type is due to nasal obstruction. Our American colleagues have been sceptical of this theory; while in France it is looked upon as an unfounded hypothesis. My sympathies are entirely with the French point of view. To those who hold this view the possible development of a deformity will afford no excuse to do the operation.

To return from our digression. The disappearance of a large part of the septum exemplifies the fact that the healing power of the nasal mucosa is at once a safeguard and a source of anxiety to the rhinologist. The operation is done entirely through an incision at the anterior part of the septum, and it is our aim to make no other hole or tear. It must be in few cases only that this aim is attained. In the majority an additional perforation does not matter. It is extraordinary the amount of mucous membrane that may be torn and still a good result occur. How then do these large holes result? They are due to tears—not necessarily large—in the mucous membrane of both sides, the one opposite to the other. The membrane retracts, and by its power of rapid healing, the mucosal edge on one side joins with that on the other. Prevention lies in being careful not to damage the mucous membrane on the side opposite that from which the operation is being done. This double tear is most likely to occur during the removal of the bone of the nasal crest. In doing the dissection preparatory to this removal, it is important to remember that the perichondrium of one side is continuous with that of the other between the cartilage and the bone. Hence, when the cartilage has been removed, a fresh incision through this perichondrium with a sharp instrument is needed before any dissection with the elevator is attempted. To start with a blunt instrument is to court disaster by tearing membrane on either side.

Men and women with a characteristic nasal depression may be seen from time to time. The profile of the nose passes straight from the forehead to the point where the bony framework ends. There it sinks with a sudden concavity to the tip, which is somewhat *retroussé*. Occasionally this deformity is caused by a blow on the nose in boxing or in football, but usually by the surgeon. It is due to tearing through of the ligaments which attach the lateral cartilages of the nose to the lower margins of the nasal bones. The



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lateral cartilages of the nose are a part of the septal cartilage, being wing-like projections of its anterior margin. Traction, therefore, downwards and backwards upon the septal cartilage will drag on the lateral cartilages and tear them away from bony attachments. Prevention is simple. Cutting instruments only should be used for the removal of the cartilage, and particular care should be taken at its upper and anterior part. If blunt forceps—such as Luc's—are used in this area, excessive pulling is likely to result, and it is only thus that the displacement can arise.

(3) **Accidents during the Period of Healing**. — However pleased the surgeon may be when he has finished the operation, he is not sure even then of a good result, for some trivial accident may upset all the careful work that he has done. The accidents are three —hæmorrhage between the flaps, suppuration between the flaps, and displacement of the flaps. There is a fourth which should not occur but sometimes does. Adhesions may form between the septum and lateral wall. If these occur on the side on which the operation has been done, it means that the inferior turbinal has been injured by the instruments. If they arise on the other side, not only has the opposite turbinal been damaged, but an adventitious hole has been made in the septum. Or, the adhesion may take place between the cut edge of a septal perforation and the stump of the inferior turbinal if part of this has been removed. The latter procedure should not be carried out unless the surgeon is sure that he has made no tear on the opposing side of the septum, and I doubt whether it is ever necessary. The swelling of the inferior turbinal on the concave side is a compensatory hypertrophy which will disappear when the airway is diminished.

I do not propose to discuss the pros and cons of various details, but to describe my own post-operative technique and to state my reasons for each step. These are based on three principles, to diminish the blood flow through the septum for forty-eight hours, to avoid trauma to the nose for a period of three weeks, and to carry out a policy of masterly inactivity so as to leave all to Nature, who will then do her work very well.

When first discussing the operation with patients, I warn them that they must expect no improvement after the operation for at least two months. Although they will probably prefer to be off duty for a week, there is no need for them to be so for more than two days. This is a great boon to the city worker, who can have the operation done on Friday afternoon and return to duty on Monday. It is explained further that, though they are off duty for so short a time, they must not expect the wound within the nose to heal quicker than a wound in any other part of the body; consequently, they must lead a quiet



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life for a period of three weeks. During this period they must be careful not to catch cold or other infection, and therefore they must avoid a stuffy atmosphere, hot and crowded places, and neighbours suffering from cold or sore throat. Inspection of the nose will be required at least twice after the operation, and possibly more often.

At the end of the operation each side of the nose is packed with 2-in. ribbon gauze saturated with soft paraffin while hot. The pieces are cut in lengths of 2 ft., and the pot in which they lie is warmed so that the paraffin is semi-liquid when they are inserted. The strip on the convex side is first inserted, being placed far back in the nose and filling the nasal fossa. Care must be taken not to overdo this, otherwise the side that was obstructed may become too roomy and cause some obstruction on the previously concave side. A second plug is then inserted on the other side sufficiently tight to cause pressure against the first strip, so that the two form a splint keeping the flaps in place. Before the patient leaves the table he is warned that he must not sneeze, and is shown how to prevent this by pressing the thumb against the palate behind the incisor teeth in the event of his feeling the inclination to sneeze. After this he sits upright in a chair as long as possible. If the operation is done in the morning the patient remains in this position till eight or nine at night. When the weather is warm he may sit out in the garden or even quietly walk about. If the operation is done in the evening, an attempt is made to get the patient to spend the night sitting upright in the chair.

In order to ensure a good night's rest some light, warm food is given during the day and the last thing at night, and instructions are left for a full hypodermic dose of morphia. The nurse is not to use her judgment in giving this. She has orders to administer it if the patient is not asleep by 10 P.M.

The advantages of performing the operation under local anæsthesia are thus evident in the post-operative period as much as they are during the performance of the operation itself. There is no fear of the plugs being pulled out in a semi-conscious stage. Movements of the head with the increased flow of blood through the nose, which occur during the stertorous stage of recovery from the anæsthetic, are avoided.

The nasal plugs are left for forty-eight hours, but if one or other tends to come out or one end slips into the nasopharynx it is immediately removed, and no attempt is made to replace it for fear of disturbing the flaps. If the operation is done in the presence of sinus suppuration the plugs are taken out after twenty-four hours, and, if the patient finds them very uncomfortable, they are withdrawn some hours before he goes to bed on the second night. After removal the patient is warned that he must on no account syringe, douche, or spray



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the nose or blow it with any violence, and he is instructed to blow it gently with the nostril open. The only additional treatment permitted is an inhalation of Friar's balsam exhaled down the nose. A little plug of cotton-wool within the naris on either side, frequently changed, may act as a filter by holding up micro-organisms which are inspired.

The patient is seen in three to five days, that is to say, about a week after the operation. Usually the briefest inspection alone is necessary, but if any accident has occurred there is still time to save the result. If an adhesion is forming it may be divided and a small paraffined plug placed over the wound of the turbinal to prevent it re-forming. If the flaps have fallen into a bad position they may be pushed back and a plug reinserted on the convex side. If blood or pus has collected between the flaps, this may be let out by inserting a fine pair of forceps within the wound and allowing it to escape. The patient must then be seen daily until this danger is past. At the same visit a stitch is removed, if one has been used to sew up the original wound.

The patient is seen again in another two or three weeks; by this time the flaps have healed well, but even now it is possible to correct a new deviation if one has developed. If no such untoward event has occurred, it is time to treat any rhinitis that has arisen. The nose is full of thick sticky mucus and there is some swelling of the mucous membrane. The patient is taught to wash out the nose with warm physiological saline by means of a syphon douche, and this should be repeated daily for some weeks and with gradually decreasing frequency for another month or more. He is encouraged to pay a final visit if possible at the end of two months, in order that one may be assured of a good result.

Great stress has been laid upon careful after-treatment of this kind. I am sure that in consequence I have snatched a final success in many cases that otherwise would have been a failure.

(4) **No Apparent Cause.**—The strict logician would say that cases under this head should be included with those due to errors of judgment. Yet there are cases where every care has been taken to make sure that they are suitable for operation, in which the operation has been well done, and where there appears to be an excellent airway in a healthy nose, and still the patient complains of definite symptoms that suggest obstruction. Perhaps these are sent to us to make us humble. At anyrate, they must be borne in mind when placing before the patient the possible results of operative interference.

Under this head I would discuss those cases in which the operation is done for the relief of deafness in the group of conditions of which we speak colloquially as chronic catarrhal otitis media. Can any of us recall a single case in which any appreciable improvement in the



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hearing was definitely traced to the performance of this operation? If we cannot do this we may argue that, though we look for no improvement in the hearing, the operation must be done to stay the progress of the disease. What right have we to make this claim? Is there any evidence in favour of it? We cannot prove it is not so, for to prove a negative is notoriously impossible. But the onus of proof rests with those who make this claim and not with those who refute it. A favourable answer to all these questions is so problematical that we take a great responsibility on ourselves by advising the operation. It may be said that the operation should be done in such cases not to relieve the deafness but to alleviate the feeling of heaviness in the head and the noises of which he often complains. Does the operation stop the noises? Would not the heaviness in the head be cured as easily by the daily dose of salts? After all, are we right in persuading him to undergo an operation for a symptom other than that for which he came to us?

The septal operation has become one of the stock procedures in the hands of the aural surgeon. Are we right in allowing it to remain there? It would seem that there is considerable room for scepticism on this point. In the meantime, I put before myself two rules for guidance. In the average case of middle age where deafness is associated with marked nasal obstruction due to a very definitely deviated septum, I advise the operation for the nasal obstruction and tell the patient he may hope for some improvement in hearing. A youth, just starting in the battle of life, and becoming deaf, will be so handicapped in the struggle that it seems right to advise the operation even when the deviation is less marked than in the former case. No hope of improving the deafness, however, is held out, but the possibility that the operation may prevent the deafness getting worse is put forward.

To sum up—the septum operation has a useful place among those operations that are devised neither to save life nor to prevent serious disease, but to relieve the patient of some unpleasant symptoms which impair his efficiency, which lower the wage-earning capacity or make his life a misery. It is, however, a difficult one both in its manipulative details and in making the decision as to whether it should be done. It is one in which an untoward result may occur even after the most consummate care. When it occurs the patient is often left much worse than he was before. There are at present many such cases. Their total number is not a credit to the rhinology of to-day. It behoves us to improve the position that we hold. The first step towards this is to recognise our failings. Hence my reason for writing this Critical Review.



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