TRANSACTIONS

OF THE

ELEVENTH ANNUAL MEETING

OF THE

AMERICAN LARYNGOLOGICAL ASSOCIATION

HELD IN THE CITY OF WASHINGTON, D. C.

MAY 30 AND 31, AND JUNE 1

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HELD IN THE CITY OF WASHINGTON, D. C., MAY 30 AND 31, AND JUNE 1, 1889.

ADDRESS OF THE PRESIDENT.

By ETHELBERT CARROLL MORGAN, A. B., M. D.

Fellows of the American Laryngological Association:

The eleventh annual session of this organization is inaugurated, and I experience profound pleasure, as your president and as a citizen of Washington, in bidding you cordial welcome to the national capital, to our hearts, and to our homes. Few among you can appreciate my joy to-day at being spared to greet this association in my native city, and, more than all, to have the honor on this occasion of acting as your presiding officer.

You find our historic city decked in the robes of spring; on all sides the industry, learning, and generous wealth of a great nation are reflected. You are surrounded by the beauties of nature and art, and are in the home of the scientific libraries, laboratories, and museums, fostered and encouraged by a liberal Government. Every American and every physician should alike share in the desire for the substantial improvement and adornment of the Mecca of this great and populous country.

Wisely you decided to follow in the wake of the numerous scientific bodies, among them the National Academy of Sciences, that make pilgrimages to our city and exert a healthy influence toward popularizing their special fields of scientific investigation.

The history of laryngology, her struggles and her conquests, in the capital of your country is brief, and embraces a period of scarce fifteen years; hence your meetings here will create a happy influence.

When you visited our city last September you constituted an important and honored branch of a congress which did much to spread the fame of American medicine and advance the cause of scientific research. Your work in that congress is attested by the volume of our "Transactions" now in press, and forms an enduring monument, creditable alike to the American Laryngological Association and to the Congress of American Physicians and Surgeons.

The noble work in which this association has been absorbed during its eleven years of existence has resulted in placing laryngology upon a substantial basis, and of demonstrating its truths and benefits alike to the profession and to suffering humanity.

The outlook for laryngology was never brighter, new conquests lie within our grasp, the field is unlimited, no pessimist can flourish in our ranks, the honor of fellowship in this association was never more coveted, our influence upon medical thought in the Old World was never greater, and the wisdom of the coterie of laryngologists who organized the American Laryngological Association at Buffalo in June, 1878, is apparent.

The harmonious and business spirit which has always characterized our meetings is traceable to the unselfish and untiring zeal of our secretary, Dr. Delavan, whose sole thought is the welfare of the association and the best interests of its members as individuals.

Reviewing the history of the association, I find that a kind Providence has left our band of co-workers intact, and there are, happily, no deaths to chronicle.

A valuable and superbly illustrated volume, containing the transactions of our tenth meeting, will be printed in eight months after the reading of the papers, but has entailed much labor upon our faithful and ever-willing secretary. The expense attending the printing of these transactions was increased owing to the fact that the "New York Medical Journal" could not accept the contract on account of the lateness of our meeting. This volume has a table of contents of all papers read to the association since its organization, and this alone would justify the additional expense. We expect to derive a revenue from the sale of these volumes, and to be able to consummate an advantageous contract for their future publication.

An important amendment to our Constitution, increasing the

limit of active fellowship, comes up at this meeting. I hope the discussion thereon will be general and marked by the candor and spirit of friendship which characterize all our debates and lead to results favoring the best interests of the association.

The limit of our membership is fifty, and will be reached when the two members-elect of this session are installed. There is a probability of two vacancies in the near future, and for them numerous gentlemen engaged in our common specialty are available.

This matter has been referred to in preceding presidential addresses, has been fully discussed at several of our sessions, but action invariably postponed. I think the question should be definitely decided at this meeting.

Our library, under the assiduous care of Dr. French, has assumed very creditable dimensions, containing nearly a thousand separate titles, but I regret to learn of a lack of interest in making contributions to its shelves among our members. The librarian thinks our collection would be more accessible and popular if in charge of the Surgeon-General's Office, and he recommends its deposit in that library.

Dr. Billings informs me that he will, as far as possible, keep the collection intact and permit the free use of the books by our members if they are placed in his custody.

I venture some opinions regarding the entertainments in connection with our annual gathering, at the risk of being ruled out of order. The time has arrived when rules relative to their number, their character, and the time of their occurrence should be adopted.

The expenses attending the annual dinner, one of the pleasantest features of our meetings, should be charged to all members attending the sessions, whether they participate in the dinner or not. Thus much annoyance would be avoided, and in the event of a small surplus it could be utilized for a few invited guests at each dinner, or turned into our treasury. We should never dispense with this dinner, as was the case last September, in deference to the interests of the congress in which we were participating.

A committee having full power to provide proper entertainment (private and official) should be appointed for each meeting, and should be known as the "Committee of Entertainment."

And now, gentlemen, I can not refrain from reiterating the assurance of my heartfelt appreciation of the good-will and friendship which must have influenced you in selecting me as the president of this distinguished body.

Amid the many attractions of this scientific and educational center, we should gain renewed impetus for our important and humanitarian work. I therefore wish you a pleasant sojourn in Washington, a profitable scientific session, and an early repetition of this meeting.

Paper.

REPORT OF THE REMOVAL OF A SUPERNUMERARY TONSIL.

(*Specimen and Drawings.*)

By ETHELBERT CARROLL MORGAN, A. B., M. D.

DR. D. BRYSON DELAVAN * has said: "Of all the internal organs of the body, none are more easy of observation than the tonsils. And yet, with an almost complete knowledge of their appearance, relations, and anatomical construction, there are few parts whose physiology and pathology are so unsatisfactorily explained." Hence no apology is needed for recording the following rare case:

History.—Mr. C. N. B., aged twenty-six, a vigorous and otherwise healthy man, by profession a stenographer, consulted me September 7, 1886, for what he feared was a malignant tumor of the pharynx.

He stated that a growth, which he could see as well as feel with the finger, near the palate, was causing him pain and discomfort. This growth he first discovered four years previous. Occasionally it had given him considerable pain, especially after smoking or when he became bilious.

During the last two months, however, the tumor had greatly increased in size, and the pains had become of a shooting character, extending to the ears, larynx, and top of the head, forcing him to seek medical aid.

He also informed me that his mother died of cancer of the breast, and that, at the age of sixteen, he had contracted syphilis, which, beyond mild secondary cutaneous manifestations, had never troubled him in any manner since.

My examination revealed a pendent tumor between the right palatine folds near the uvula, and protruding beyond their borders perhaps half an inch. The tumor was the size of a small almond, having its broad end to the velum and its point downward, but the outline was somewhat irregular. Its color, as well as that of the velum and pillars, was a dusky red. Slight engorgement of the cervical glands appeared to exist.

The patient was agitated by the persistency of the pain, was losing weight and strength, and was anxious to have relief, if an early operation

* "Archives of Laryngology," New York, i, 4, 337.

gave any promise, for he was convinced in his own mind of the malignancy of the growth.

I watched the case, administering Donovan's solution internally, and used topical measures, but, there being no amelioration, I decided to remove the tumor.

Accordingly, on September 14, 1886, in the presence of Dr. James E. Morgan, Dr. J. C. McConnell, and others, the patient properly arranged, I seized the growth here exhibited with a volsella, readily lifting it from its bed, and was surprised to find the breadth and depth of its attachment.

With a bistoury I cut deeply into the tissues adjacent to the tumor, which occasioned slight pain and moderate hæmorrhage, and lastly, with the cautery blade at a bright red, I burned the wound made in operating. A sedative spray, rest, and bland food were ordered, and in ten days the wound had cicatrized so that I simply watched the patient thereafter, discharging him, cured, on November 16, 1886.

On March 26, 1887, in writing me a history of his case, he says: "I have gained in strength, flesh, and good health since the operation, but occasionally, after smoking, have a pricking feeling in the throat."

I have examined Mr. B. recently (May 20, 1889), and find him, nearly three years after the operation, with no recurrence, and with no throat trouble except what he traces to the inordinate use of tobacco at times. His normal tonsils have always been ill-defined, and only became plainly visible when acutely inflamed.

The tumor was submitted to microscopic analysis by Dr. Gray, of the Army Medical Museum, who stated that its structure was identical with that of a faucial tonsil which had undergone hypertrophic changes. Dr. Gray made these excellent photo-micrographs and furnished the following written statement:

War Department, Surgeon-General's Office,
United States Army Medical Museum and Library,
Tenth Street, Washington, D. C., *September 16, 1886.*

Dr. E. Carroll Morgan:

My dear Doctor: The specimen sent for microscopic examination proves to be, as you suspected, a supernumerary tonsil. It somewhat resembles an ordinary hypertrophied tonsil, but differs from it and the normal gland by having the submucous connective tissue immensely thickened and degenerated into a dense fibrous connective tissue. The gland also differs from the normal by being divided up into small lobes, the septa being formed by bands of connective tissue coming from the submucous connective tissue, and by folds of the mucous membrane. There are no mucus-secreting glands inside the folds of the mucous mem-

brane as in the normal gland. The specimen resembles the normal in possessing numerous lymph follicles and by being formed largely of a diffuse adenoid tissue. Yours very truly,

W. M. Gray, M. D.,
Microscopist to Army Medical Museum.

The location and the microscopic characters of this tumor, as well as the history of the patient, prior and subsequent to the operation, prove that I had an hypertrophied accessory or supernumerary tonsil to deal with, an interesting and exceedingly rare abnormity.

Some of the so-called ductless glands show a tendency to divide or form supplemental masses (Allen). They include the spleen, thyreoid body, thymus body, suprarenal bodies, intercarotic bodies, and coccygeal body.

Accessory, supplemental, or supernumerary spleens, called also spleniculi or lieniculi, are frequently found in the gastrosplenic omentum, near the lower part of the spleen. They are commonly spheroidal in shape and vary in size from a pea to a walnut. Multiplicity of the other organs named is much less frequent than the spleen.

The pituitary body in part, the thyreoid, thymus, intercarotic, and coccygeal bodies are developed from the embryonic hypoblast in association with the primitive alimentary tract (Allen). They present some features in common with the lymphatic system, but still form a distinct group.

The spleen, tonsil, solitary and agminated bodies of the small intestine, and other adenoid structures of the alimentary canal, are closely related to the lymphatic system. Lymphatic glands are variable in number, in size, and mode of aggregation. It may be expected, therefore, that the above-mentioned related organs will likewise vary.

Follicular lymphoid glands, commonly more or less conspicuous, are found on the posterior third of the tongue, where their orifices are distinctly visible, and they give to the surface an uneven appearance. The tonsils are compound glands of the same character. Follicular lymphoid glands are numerous in the pharynx, and give the surface of the pharynx a more or less mammillated aspect. A patch of these bodies extends between the mouths of the two Eustachian tubes across the back of the pharynx, and is called the "pharyngeal tonsil." Hunter is said to have first called attention to them. Lacauchie, in 1853, had described them, and Luschka, in 1862, gave them their name.

Kölliker, in 1854, confirmed the existence of the pharyngeal

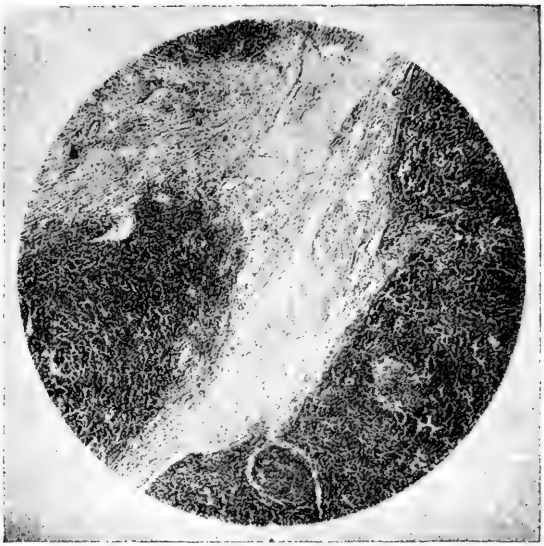


FIG. 1.—Showing bands of dense fibrous connective tissue separating the gland into lobules; showing also lymph follicles.

FIG. 2.—Showing lymph follicle surrounded by diffuse adenoid tissue.

tonsil; he also hinted that what appeared to be similar follicles were to be found in other parts of the pharynx. In the 1867 edition of his "Gewebelehre" he definitely stated that these are lymphoid follicles in the following language: "Follicular glands, simple as well as compound, analogous to the tonsils, are met with in the vault of the pharynx, where the mucous membrane is closely attached to the base of the skull. Here a glandular mass stretching from one Eustachian opening to the other, and from one to nine millimetres thick, may constantly be met with; it is, upon the whole, smaller, but otherwise its structure resembles, in all essential respects, that of the tonsils (p. 132). Besides this mass—which I will call the follicular glands of the pharynx, and which also Lacauchie appears to have seen ('Traité d'hydrotomie,' 1853, Table ii, Fig. 10), whose largest sacculations are situated in the middle of the roof of the pharynx and in the recesses behind the Eustachian apertures, and which in aged persons frequently present enlarged cavities filled with puriform masses, while in children and in the new-born they are mostly hyperæmic, like the tonsils—there occur round the apertures of the tubes and upon them, toward the choanæ, on the posterior surface of the velum palati, and on the lateral wall of the pharynx, as far as the level of the epiglottis and the laryngeal orifice, more or less numerous smaller or larger follicles, which have the same structure as the simple follicles of the root of the tongue."

There would seem to be nothing in the way of these several lymphoid structures undergoing hypertrophy as such structures do in other situations. Probably they often do so. In the region of the pharynx such an hypertrophy would have the appearance of the faucial tonsils, and suggest the name supernumerary. Such additional tonsils, however, excepting the inter-Eustachian, are scarcely at all mentioned by writers. A fair amount of research has discovered only the following by Jurasz, in the "Monatsschrift für Ohrenheilkunde," etc., Berlin, 1885, p. 361 *et seq.* His paper is entitled "Casuistische Beiträge zur Lehre von den Anomalien der Gaumentonsillen."

Case I.—A man, aged eighteen, spoke in a high-pitched voice through his nose, and had done so from early childhood. He made no other complaint. The nasal cavities were, however, free. The space between the right palatine arches was quite large, but the tonsil was only rudimentary; the left was better developed. While examining the parts, the doctor was surprised at the sudden appearance from the throat of a large tumor which rapidly filled the entire faucial space. The tumor was whitish gray, soft, lobulated, and the size of a hen's egg. Pedicle small and

short. It was removed by Czerny, and was found to spring from the lower anterior portion of the right posterior pillar. Microscopical examination showed the structure of a hypertrophied tonsil, with some hyaline degeneration of the reticular tissue.

Case II.—His second case, which he calls "tonsilla accessoria," was in a woman aged thirty. She had an irritating cough; but the thoracic viscera were found to be normal, except a marked smallness of the tonsils. On rhinoscopic examination of the naso-pharynx, he found a red, uneven tumor, size of a hazel-nut, with broad base attached below the right tubal prominence. The mouths of the tubes were of the normal yellow color, the pharyngeal tonsil not enlarged; the choanæ were free. Externally the tumor looked like a papilloma; microscopic examination showed it to be of the same structure as the faucial tonsil.

Conclusions.—1. The lymphoid follicles of the soft palate and pharynx are liable to be aggregated, resembling in arrangement the faucial tonsils. 2. The condition is exceedingly rare, since, excepting the so-called "pharyngeal tonsil," I have found but one case reported. 3. These lymphoid follicles are also liable to hypertrophy. 4. Such hypertrophies probably occur oftener than is generally supposed. 5. The indications for operative interference in this condition are identical with those for the faucial tonsil.

Discussion.

Dr. J. N. Mackenzie, of Baltimore: In connection with the case reported by Dr. Morgan, I would briefly refer to a case which I reported some time ago, an account of which has not yet been published. It was a case of tumor of the pyriform sinus, which was removed with the wire snare. Upon microscopical examination, it was found to be composed of the lymphoid tissue so graphically described by Waldeyer and his pupils. I have on several occasions removed growths from the tonsils, and once from the anterior faucial pillar, but I am sorry to say they were not examined microscopically. They would doubtless have shown a similar structure to that found in the pyriform sinus.

Dr. D. Bryson Delavan, of New York: This subject has been so thoroughly and carefully worked out by Dr. Morgan that it has given me considerable interest to try to recall a similar instance. While I remember to have seen it stated that supernumerary tonsils may occur, yet, after a careful search through the literature, I was able to find but the two cases referred to by Dr. Morgan. I have seen several cases of tumor of the tonsil, which were distinctly pedunculated and easily removed, but which proved to be largely of a fibrous structure. It seems possible that these fibrous tumors, which are not uncommon, may be degenerated supernumerary tonsils. In the case reported there had been considerable growth, the tumor increasing markedly in size during three or four years.

It may be that these fibroid tumors begin as supernumerary tonsils, and later, becoming rich in fibrous structure through the irritation to which they are exposed, assume the character of the former growth.

Paper.

THE RELATION BETWEEN FACIAL ERYSIPELAS AND ERYTHEMA ON THE ONE HAND, AND INTRANASAL PRESSURE ON THE OTHER.

By GEORGE W. MAJOR, M. D.

IT is my firm conviction that facial erysipelas is sometimes produced by nasal causes acting independently of external infection. This decision has been arrived at as the result of careful observations extending over a number of years. I believe that a definite relation exists between many cases of erythema and erysipelas occurring on the nose, or in its neighborhood, and inflammatory conditions within the nasal chambers, more particularly when they are productive of pressure.

If such is the case, then it becomes our duty to distinguish erysipelas and erythema of an intranasal origin from the same diseases dependent upon other causes. The importance of accurately establishing the origin of these attacks can not be overestimated when we consider that success will often depend upon its recognition. The majority of subjects of facial erysipelas doubtless convalesce under local and constitutional measures even though the exciting cause is unknown and therefore is allowed to persist. The duration of the illness will be greater and the liability to extension and complications will be manifestly increased, not to mention the tendency to recurrence. If, therefore, a removable cause can be demonstrated as productive of facial erythema and erysipelas, we shall find ourselves in a better position to arrest the course of the disease when present, and in the future to prevent it altogether. This is my apology for briefly placing on record the four following cases, with a few remarks thereon:

Case I.—In March, 1884, M. C., a young lady, aged twelve years, was referred to me by Dr. Arthur A. Browne, of Montreal, for the treatment of a troublesome nasal catarrh. On examination of the nose, I found a general hypertrophic condition present. The right middle turbinated body was very much enlarged, turgid, and abnormally sensitive to the touch. It was in contact with and pressing upon the nasal septum. On the cheek bone of the same side there was a dark, dull red and elevated

patch of erythema of the area of a half-dollar. On inquiring into the history, I learned that this eruption had lasted for five months, that it had first made its appearance during a severe cold in the head, and that a nose bleed seemed to diminish its prominence; a variety of local and constitutional remedies had been adopted without success. The probability of pressure being the cause at once suggested itself to my mind. Scarification and punctures of the middle turbinated tissue relieved the sensitiveness of the parts locally and diminished the redness of the facial patch. Soothing local collunaria also gave further relief. Subsequently a series of galvano-cautery applications permanently removed the pressure, and with it the erythematous blush gradually vanished. No local treatment was adopted for the eruption, nor were any constitutional means employed. There has not been at any time since a recurrence of the disease.

Case II.—In February, 1885, I saw, in consultation with the late Dr. R. Palmer Howard, a case of facial erysipelas in a child of four years. The disease had commenced on the bridge of the nose and had extended to the cheeks. The condition had lasted for five days and showed no inclination to yield to the usual local and constitutional remedies. The child's stomach had become irritable and refused to retain anything whatever. On examining the nasal chambers, I found both nostrils obstructed with swelling, the result of an acute cold, and suggested the abandonment of all local and constitutional medication and the substitution therefor of warm alkaline nasal injections. In the course of twelve hours the swelling in the nasal chambers showed considerable reduction, and *pari passu* the erysipelatous blush. In twenty-four hours all trace of the disease had disappeared.

Dr. Howard knew of my views relating to intranasal pressure, and willingly acceded to the change in treatment.

Case III.—In the winter of 1884 I saw, in consultation with Dr. Browne, W. C., aged twelve years, suffering from erysipelas of the nose and cheeks. This child had frequently suffered from erysipelas having its origin always in the same region, though generally spreading to other parts of the body. Some of these attacks had been of most serious and alarming character. I had previously seen him in consultation when suffering from this disease, and had suggested to the medical attendant the likelihood of a nasal origin.

I ordered nasal injections alone, and had the satisfaction of seeing the disease disappear in the course of thirty-six hours. When convalescent I destroyed the hypertrophied turbinated tissue, and have been informed that no recurrence has taken place.

Case IV.—In February of this year A. J., female, aged thirty-six years, was referred to my clinic at the Montreal General Hospital for an erythematous patch occupying the left cheek bone. She stated that it had already lasted four months and that it had so far resisted all treatment. A nasal examination revealed a swelling of the left middle turbi-

nated body exerting pressure on the septum. After deeply puncturing the swelled tissue and allowing of a free flow of blood, a nasal cleansing solution was ordered. In a week the patient reported herself free from the disease.

I have notes of two more similar cases occurring under my own observation, and of four kindly furnished by colleagues, but abstain from making any use of them beyond their mere mention.

During an extended experience of nasal operative work common to all in our specialty, I have but once met with facial erysipelas succeeding a surgical operation in the nasal chambers. It was in a case of nasal polypi, and any interference invariably produced erysipelas. The man, however, came of a family in which erysipelas was a usual complaint. In the cases above referred to the erysipelas always commenced on the bridge of the nose, and was greater on the side of greater pressure. There was no condition present in the nasal chambers that I could recognize as of an erysipelatous nature in any of them. Medical literature, in so far as I have been able to ascertain, is barren of any reference to the matter to which I have thus briefly referred.

Discussion.

Dr. J. O. Roe, of Rochester: I have seen a number of cases of erythematous rash about the face which was due to the cause described by Dr. Major. This was well pronounced in a case recently seen—that of a girl twenty-three years of age. She had an erythematous rash upon the face, very red, and studded with blebs and blotches, giving a very conspicuous appearance. She had been treated with constitutional remedies by two or three distinguished men, without benefit. They afterward referred her to me, and I found in both nostrils that the middle turbinated bodies projected firmly against the septum. I removed the projecting portions, rendering the passages free, and there was an immediate subsidence of the erythematous trouble, and it has now entirely disappeared. I can not agree with Dr. Major that erysipelas is due *per se* to intranasal pressure. Erysipelas is caused by a distinct germ, and is an infectious disease. Those who have intranasal difficulty with erosions are more liable to become infected by these disease germs. As we know, erysipelas may come from the infection of a scratch, but the latter is quite different from the erythematous rash which may be excited by simple local irritation.

Dr. Mackenzie: I can not agree with Dr. Major in regard to the silence of medical literature upon this subject. I think that it has been pretty fully discussed in the last five or six years. I know that some centuries ago, in the time of Willis and Sylvius, this erythema of the nose and face was discussed in separate chapters, and was attributed to intra-

nasal changes. I have myself discussed the subject pretty thoroughly in Wood's "Reference Hand-book," published in 1887. The Germans have reported cases of so-called erysipelas and erythema of the external nose and cheeks as exceedingly common. I have seen erythema very often, but I have not seen a case of true erysipelas. The so-called cases of facial erysipelas from intranasal changes seem to me to be rather an accentuation of the act of blushing. It is a sort of chronic blush. It can hardly be called true facial erysipelas.

Dr. DALY: I am not a believer in the theory of intranasal pressure. I believe that the conception of the theory is not good, and consequently the superstructure is on a bad foundation. The evils, whatever they may be, that we recognize as coming from so-called intranasal pressure, are evils that in reality arise from intranasal turgescence. There is no question in my mind that the condition which my friend Dr. Mackenzie speaks of as an accentuated blush, a prolonged blush of the parts—a very pretty idea—is, when divested of all superfluous mystery, largely due to hypernutrition from a turgescent and permanently dilated and enlarged blood-supply.

During the past year or year and a half I have had under my professional care two cases. One of these was a very well marked case of erythema of the skin of the nose and extending out upon the cheek. I was, however, not consulted by the patient on account of the skin disease, but for a condition which he spoke of as intranasal catarrh. I resorted to prompt surgical measures, removing the turgid condition of the intranasal structures—in a word, cutting off the blood-supply by destroying the blood-vessels; and, as a result, the condition of which he complained as catarrhal was removed, and subsequently also the erythema disappeared. I met the man, who was from a neighboring town, a few weeks ago, and did not recognize him. The turgid and red condition of the nose had disappeared, and he presented quite a respectable appearance and was altogether much pleased with himself.

The second case was of a somewhat similar character in a young lady. She had erythema of the external surface of the entire nose, with a horseshoe-shaped patch around it of the same kind extending down to the outer angle of the mouth on each side. She had been told that it was due to menstrual disorder. I lost sight of that opinion after finding that there was sufficient intranasal deformity to warrant interference for stenosis. After relieving surgically almost complete stenosis of one naris and partial stenosis of the other, the erythema disappeared. In this case, by the way, there was copious hæmorrhage, almost causing death, after one of the operations with the saw. I had said to the patient that a little bleeding would do no harm. She went to her home, two miles and a half in the country, and there bled copiously, but assured her friends that the doctor had said that bleeding would not matter. She bled well into the night, when my assistant was sent for, and found her almost *in articulo mortis*. She, however, recovered, and is now perfectly healthy

and a handsome girl, with good nasal respiration, with no defect of skin or complexion.

I do not believe in chronic facial erysipelas, and think that the term is a misnomer. I regard erysipelas as essentially an acute inflammatory disease of a specific type, and depending oftener upon an acute constitutional disorder than a local one, and as diverse from the condition of chronic erythema as possible—in fact, I don't believe such a thing as chronic erysipelas exists at all.

Dr. F. I. KNIGHT, of Boston: Without repeating what has been said, and well said, upon this subject, there is one point which the gentlemen seem to have overlooked. This is in regard to another condition which may serve as a cause of erythema of the nose and face. It is one which I always search for and frequently find—namely, necrosis. When a patient presents himself to me with a localized strong blush on the nose or cheek, I look for necrosis, just as in a case of unilateral profuse purulent discharge I look for a foreign body or necrosis. The worst cases that I have seen have been where there was decided necrosis. Here the erythema has been removed by giving free vent to the purulent discharge and keeping the parts clean.

Dr. DELAVAN: In four cases of this affection that I have seen the erysipelas has been very severe. The first case was a girl, seventeen years of age, who had recurrent attacks of erysipelatous swelling over the alæ of the nose and extending over the cheeks. These attacks recurred every two or three weeks. I thought that some necrotic process might be the cause of this condition, but I failed to find it. I found, however, marked turgescence of the nasal mucous membrane. The condition was treated topically, and in time, with the subsidence of the catarrhal trouble, the erysipelatous attacks disappeared and did not recur.

Another case was that of a girl, fifteen years of age, who suffered from adenoid hypertrophy at the vault of the pharynx. She had had recurrent attacks of erysipelas. That this was true erysipelas was proved by the fact that the inflammation was very severe, that the nose swelled to a large size and remained thickened for a number of weeks, and that, with the subsidence of the attacks, there appeared a distinct herpetic eruption, as often occurs in erysipelas. In this case no necrosis was present. There was, however, extensive engorgement of the nasal mucous membrane, with some pressure in the neighborhood of the middle turbinated body on both sides. The patient had improved under treatment. About two weeks after her last attack, a younger sister, sleeping in the same room, suffered from the same condition. In the latter case there was also some turgescence of the intranasal mucous membrane.

Dr. HARRISON ALLEN, of Philadelphia: I think if Dr. Seiler were present he would tell us of the connection between nasal disease and acne. It has been my experience to see in two cases attacks of furuncles follow treatment of the nose. In a third case these furuncles occurred without surgical treatment of the nasal cavities. In one of the cases there

was distinct flushing of the face and nose. I looked upon this as a mild form of cellulitis. I see no difference between a diffuse form of cellulitis of the face arising from intranasal causes and that which follows abscess of a tooth. Under the latter circumstances we frequently see cellulitis of the entire face. I think that Dr. Major meant erysipelas and not cellulitis, so that these remarks refer more to what was said by previous speakers than to the paper itself.

There seem to be several different conditions—first, a distinct erysipelas; second, diffuse cellulitis in various forms; and, third, a chronic determination of blood to the face dependent upon chronic irritation.

Dr. S. W. Langmaid, of Boston: I recently saw a case of erysipelas in Dr. White's clinic in Boston, and he remarked that in such cases we should look for the cause in the nose. The dermatologists have therefore not lost sight of this fact.

Dr. Major: In my paper I have avoided theory and confined myself simply to facts. My opinion is based upon clinical observation that led me to look for these cases. I have looked for them and I have found them. These have been cases of erythema and erysipelas under medical treatment by men high in the profession, but without benefit—cases that have been under the care of dermatologists for months without improvement, and they have been cured by simple removal of the pressure. That is about as straight evidence as to cause and effect that any one need want. I do not think that turgescence will produce erysipelas or erythema unless it causes pressure. In regard to necrosis, this is common enough in syphilitic cases. The erythematous condition may continue for months. I have not mixed up erysipelas and cellulitis. One of my patients had fourteen attacks of erysipelas. All commenced in the nose and extended over the body. In regard to the literature, I would say that I consulted a number of books, but saw no reference to this matter. I am sorry that I overlooked Dr. Mackenzie's observations in Wood's "Hand-book."

Paper.

ACUTE MULTIPLE ADENITIS (SEPTIC?); ŒDEMA OF THE LARYNX, WITH SPONTANEOUS CURE.

By S. W. LANGMAID, M. D.

ON Tuesday, April 30, 1889, I was summoned by telegraph to visit Mrs. R. at a city sixty miles from Boston. The case was supposed to be one of amygdalitis. I arrived at the hotel at which Mrs. R. was temporarily staying, and when she had been ill for eight days, at half-past five in the afternoon.

The patient, a lady about forty years old, was in bed, propped up by pillows, very restless, with anxious expression, breathing with difficulty

culty, with dry, croupy inspiration. There was no lividity of the face, or other indication of impending suffocation; but I was informed that during the preceding twenty-four hours there had been at times danger of strangulation. The submaxillary glands were much enlarged, as were those lower down in the vicinity of the larynx. The whole region of the neck was swollen, and the tissues in front of the larynx and trachea were thickened. The pulse was feeble, but not rapid. The temperature was 99° F. The voice was fairly loud and clear.

Mrs. R. was able to get out of bed and allow me to make a laryngoscopic examination by sunlight illumination. The mouth and pharynx were normal. There was no enlargement of the tonsils, no membrane, and nothing unusual in the naso-pharynx. The epiglottis was very erect, normal in shape, and only slightly congested. A tumor, apparently as large as a filbert, in which the arytenoids seemed to be incorporated, occupied the posterior arytenoid space, and covered two thirds or more of the glottis. The anterior third of both vocal cords could be plainly seen approximated and scarcely moving during inspiration. Nothing abnormal was discovered in the lungs. My diagnosis was œdema of the vestibule of the larynx, caused by the pressure of the enlarged cervical glands; cause of adenitis unknown, but diphtheria suspected, of which no trace now remained in the throat, mouth, or naso pharynx.

The attending physician was an irregular practitioner, and had not looked in the throat during the first four days of Mrs. R.'s illness. Another physician had been called the day previous to my visit, who had ordered poultices to the neck, after which the dyspnœa seemed to be slightly relieved. No nourishment had been taken for days because of inability to swallow, but the mouth and throat had been constantly washed and gargled with milk and Apollinaris water. No other treatment seemed to have been used, except hypodermic injections of morphine, which the patient demanded, and which she had been accustomed to take occasionally for attacks of severe headache.

Mrs. R.'s condition seemed most critical. Dr. George W. Gay, of Boston, was telegraphed for, and asked to bring tracheotomy instruments. The patient was closely watched, the throat frequently gargled with milk and water, which seemed to assist in expelling small quantities of viscid mucus, and nine or ten ounces of milk were swallowed. Stimulants were refused by the patient.

I determined to wait as long as possible before attempting any operative procedure, but, should suffocation seem imminent, I hoped to be able to reach and open the laryngeal tumor with a curved bistoury, and, if necessary, afterward open the trachea.

Dr. Gay arrived four hours later, and, having examined the patient, agreed that it was best to delay any operation, as there had been no glottic spasm during the day, and the voice remained good. The poultices were continued, and ten grains of quinine and a mixture of chlorate of potassium and chloride of ammonium were given at Dr. Gay's sugges-

tion. Up to midnight, when we left Mrs. R. with her attendants, no change had occurred; but at four o'clock in the morning I was called, with the report that something had broken in the throat. I found that several handkerchiefs had been saturated with a thin mucoid discharge, which was being incessantly hawked up, and which at first was faintly tinged with blood. It was noticed that the dry, sonorous inspiration was more moist in character and less noisy. The patient was informed that through such a discharge great relief would probably be produced, and was again left with her family. The discharge had been so copious that Mrs. R. feared she "would be drowned by it."

Three hours later a laryngoscopic examination was made. It has been said above that at the previous examinations a tumor was seen in the region of the arytenoids and posterior arytenoid space, below which a portion of the vocal bands was plainly visible. Now, nothing could be seen except the erect epiglottis, almost doubled upon itself laterally, and from the recess so made muco-purulent matter welling up.

The dyspnœa was greatly relieved, quiet inspirations being accompanied by moist bubbling sounds. The swollen neck seemed to be softer.

The patient was left in the charge of Dr. T. C. Morril, who had seen her the previous day.

Upon my return late in the afternoon, I was disappointed to find the respiration still somewhat noisy, and that there was no change in the laryngoscopic appearances. The epiglottis was still bent laterally upon itself, and purulent matter was still flowing. There had been constant expectoration during the day and one attack of vomiting, during which half an ounce of pus had been ejected. Milk had been taken in fairly large quantities, and the patient's strength had not diminished.

A restless night was passed, but with increasing freedom in inspiration. In the morning the neck was less swollen and softer, and the epiglottis had resumed its normal shape. Pus was seen welling up behind the interarytenoid space. The arytenoids themselves had not regained their normal contour, but were not œdematous. The discharge of pus continued in diminishing quantities for several days. On the seventh day from my first visit Mrs. R. was removed to Boston. The neck had at this time nearly resumed its natural size, but considerable induration of the tissues in the vicinity of the larynx still remained. The interior of the pharynx and larynx showed only slight alteration of color. On May 10th Mrs. R. was able to be moved by special car to her home at Baltimore.

This case has seemed worthy of presentation to the society for several reasons:

1. On account of the obscurity with regard to the origin of the adenitis with consequent œdema.

2. The unusual sequel to such a condition—viz., the spontaneous rupture of the œdematous tumor and safe evacuation of its contents,

together, probably, with that of a suppurating gland or glands in the neighborhood.

3. The opportunity which was afforded by laryngoscopy for observing the exact condition during the dangerous stage of partial glottic occlusion and fixation, as well as the reassuring appearances after the evacuation of the tumor and glands.

When I first saw Mrs. R. I had no doubt that the adenitis was septic from diphtheria. When told that no membrane had ever been seen or expectorated (I supposed then that careful examinations had been made of the mouth and fauces during the first days of the attack), and the perfectly clean, pale condition of the mucous membrane of the whole upper respiratory tract had been observed, under excellent illumination, I was forced to abandon that hypothesis. The fact that eight years previously a gland had suppurated and discharged on the back of the neck did not help to clear up the mystery of the present acute multiple adenitis. The only history immediately antedating the severe seizure was that Mrs. R. had not seemed quite well for two weeks, and on the day previous had been "chilly" and had a slight "soreness of the throat."

It has seemed, however, to Dr. Gay and myself, since then, that there must have been a very limited diphtheria, all traces of which had disappeared by the eighth day. The account which I obtained from Mrs. R., to whom no mention of diphtheria had been made, after her removal to Boston, lends support to such a view, for she said that at the commencement of her illness she had a "sore throat," and she saw on one side of the back of the throat a red place on which there was a white covering. The urine was free from albumin.

The spontaneous rupture of an œdematous swelling in the region of the larynx is probably rare. Intralaryngeal puncture sometimes, but tracheotomy generally, is required. Intubation, if instruments were at hand, would be in such a case as this the remedy *par excellence*, it seems to me. The importance of laryngoscopic examination in this case can hardly be overestimated, for if it is granted that the rational signs were enough to guide the surgeon to the diagnosis and conduct of the case, it will not be denied that the added information with regard to the situation and nature of the obstruction made the instant and succeeding treatment more exact, and added greatly to the knowledge of the pathological conditions.

Paper.

AN ŒDEMATOUS FROM OF DISEASE, OR SEPTIC ŒDEMA OF THE UPPER AIR-PASSAGES.

By W. C. GLASGOW, M. D.

DURING the winter of 1886 I reported to the Medico-chirurgical Society of St. Louis the existence of an unusual form of throat disease which had been more or less prevalent for two years, and which at that time prevailed to such an extent that it could not fail to attract attention. I called it then rheumatic or œdematous sore throat, from the great similarity of certain of the symptoms to those seen in the ordinary angina rheumatica. I also drew attention to the fact that in certain of these cases patches of exudation were seen in the throat, and I was inclined to consider that these conditions had a common cause. The exudative cases bore a certain similarity to the diphtherias, but the surrounding condition of the throat was utterly dissimilar from that seen in diphtheria. At that time, however, I had not given these cases a sufficient study, and waited to see what further observations would develop. In 1887 Dr. Boislinière, my assistant in the clinic at the Post-graduate School of Medicine, published in the "St. Louis Courier of Medicine" a short article entitled "Œdematous Sore Throat," in which he embodied my views and treatment of the disease. During the winter of 1887 and 1888 these cases were very numerous, disappearing almost entirely during the late spring and summer months, appearing again in the early part of the past winter. About the 1st of January of this year they again appeared, and they have continued during the spring, through the present month. During March and April the cases were unusually prevalent, and the disease might well be called epidemic. I call it epidemic rather than endemic, as I have seen many cases that have originated in different parts of the country. I have also learned from Dr. Seiler, of Philadelphia, that he has seen similar cases in that portion of the country. During the prevalence of this disease I have noticed the disappearance of the ordinary forms of catarrhal inflammation of the throat—a condition which is usually so prevalent during the spring months.

The appearance of the throat in this œdematous form of disease is characteristic, and will always define the disorder. In all cases we find on inspection a pale, swollen, œdematous condition of the

fauces. In some this is limited to certain parts, while in others the entire mucous membrane of the fauces is involved in the process. The œdema is a solid œdema, and differs from the usual serous œdema seen in catarrhal inflammations. To the touch the mucous membrane feels firm and waxy, lacking the moist elastic sensation of a normal mucous membrane. A peculiar glistening appearance is very marked in many cases, and I have seen the palate, when the light was thrown at an angle against it, appear as though set with minute brilliants. In the majority of cases the soft palate is the site of the œdema. In some it is so much swollen and thickened that speech is impaired, suggesting the change caused by paresis of the palate. A lesser degree of œdema is more frequently seen. In these cases the action of the palate is not much impaired, but on phonation the uvula is seen to retract with ridges and folds in the mucous membrane, suggesting the impression that the muscles are unimpaired, while the mucous membrane is infiltrated with some foreign substance. The palatine folds and the lower edge of the palate appear at times translucent at the edges. The naso-pharyngeal space and the nasal mucous membrane are also found in the same condition. The nasal mucous membrane presents most frequently a swollen, very dry appearance. In two cases the naso-pharyngeal space was almost obliterated through the great œdema of the membrane. The epiglottis and the different parts of the larynx are also affected. I have seen four cases where the epiglottis was converted into a solid, swollen mass, and in very many cases the œdema of the posterior surface of the larynx could be quite distinctly seen with the mirror. In four cases the true cords were markedly œdematous. They appeared as swollen, glistening bands with an almost translucent appearance. In another case one, and in still another both false cords were found swollen and enlarged. The two cases in which the solid œdema of the larynx was seen in life died suddenly with symptoms of spasm of the glottis or sudden laryngeal stenosis. In both these cases the post-mortem examination showed a swollen, œdematous condition of the epiglottis and interior of the larynx, which did not subside with death. A peculiarity of this œdema is the rapid and great increase which seems to take place from slight causes. In some cases it disappears almost as rapidly as it arises. In others, however, it lasts for months, slowly subsiding, showing, however, in its course acute exacerbations with an increase from time to time.

An enlargement or swollen condition of the veins is a marked appearance in all cases. Most frequently this is the case with the

palatine veins, especially those at the root of the uvula and the pharyngeal veins. Sometimes this venous enlargement is so great as to cause purpura-like spots, and the mucous membrane appears mottled, the dark spots contrasting with the pale surrounding surface. In two cases I have seen these purpura spots in the trachea, and both these cases showed recurrent hæmorrhages. In one case an enlarged vein was distinctly seen on the cord. A peculiar secretion is characteristic of this disease. In some cases it is scanty and in others it is very profuse. It is characterized by its viscid, gluey nature. When it is taken on the finger and the finger pressed against the thumb and again separated, a glue-like thread is formed, which is so tenacious and elastic that the fingers can be widely separated without breaking the thread. Ulceration is occasionally seen, and when it occurs there seems to be a loss of tissue by absorption rather than by destruction. In one case a large ulcer occupied the lateral and naso-pharyngeal wall, extending toward the wall of the pharynx. In three cases the soft palate presented a loss of substance. In one the anterior pillar of the palate was perforated, forming a button-hole. Ulceration of the epiglottis was seen in four cases. In one the loss of substance originated at three different spots, and continued until the greater part of the epiglottis had disappeared. In another the ulceration extended through the mucous membrane, but did not involve the cartilage. The former case died of tuberculosis, and in the latter the ulceration healed and was followed in the course of three weeks by a similar ulceration of the soft palate. In this case there was no history of syphilis.

In certain cases we find, in addition to the œdematous condition, patches of exudation in different parts of the throat. In some cases this is limited to minute white or yellowish-white points, and in others patches of varying extent are formed. These are seen most frequently on the tonsils, both of which are usually involved. These patches on the tonsils usually commence as isolated points, and the exudation in some cases coalesces, forming a complete covering of the tonsil. In other cases we find the whitish points in the pharynx and on the pillars of the palate. In one case there was a small patch on the right tonsil and an elongated patch on the pillar of the palate, the soft palate partially covered, and the uvula enveloped as a finger in a glove. This patient recovered after a six weeks' illness. In another a patch existed on the hard palate, two distinct patches on the epiglottis, with one on the posterior surface of the larynx. This patient had a syphilitic history. The patches disappeared in four

weeks. These patches have a yellowish-white appearance, are usually firmly attached to the membrane, and can not be removed except by force, when a bleeding surface remains. If untouched, they gradually fade away, the exudation growing thinner until they only show a thin opaline patch resembling a mucous patch. Some of these cases would be called diphtheritic, but the symptoms of the disease and the appearance of the throat must preclude such a diagnosis. In all, in addition to the patch of exudation, we find the surrounding tissue in a condition of œdema, and more or less of the sticky, gluey secretion is present.

In six cases I have seen spots of mycosis; in three they were on both tonsils and on the base of the tongue, with points on the posterior pharyngeal wall. In three the two tonsils were alone involved. Microscopic examination showed *Leptothrix buccalis*. Glandular enlargement of the neck is frequent.

In most cases the glands are simply swollen, but in others they become enormously enlarged. In some cases they are hard and tense, and gradually soften and disappear as the patient recovers. In one case, with massive œdema and ulceration of the lateral pharyngeal wall, the submaxillary glands attained the size of a goose-egg. This varied in a remarkable manner from time to time, both in size and hardness, at times becoming so soft as to suggest suppuration, changing again to the hardness of a sarcomatous gland. In this case the glands on both sides of the neck were involved. In two cases suppuration of the glands took place.

The symptoms of œdematous sore throat are both constitutional and local. The constitutional symptoms are most prominent and are often present when the local symptoms are wanting. The attack commences suddenly in a condition of previous good health. There is a feeling of intense languor and weakness, slight exertion producing an unusual fatigue; the mind is dull and a condition of apathy prevails; a condition of mental inertia is often present. During the day there is great drowsiness, while insomnia is frequent in the same individual. An unusual and excessive irritability is often noticed. Pain is general throughout the body, the muscles and joints being specially involved. A headache of varying intensity is present. It is usually frontal but sometimes it is occipital. In many cases it is simply a dull, heavy feeling of fullness in the head; in others it is intensely violent, with throbbing pain. Pain in the back, especially about the sacrum, is a characteristic symptom; from this point it radiates toward the hips or into the pelvis. Occasionally the site

of pain is more in the lumbar region. Pains in the chest are frequent. The pain is often intensified at night. In many cases we find a soreness or tenderness about the muscles, with a hyperæsthesia of the skin, this soreness being limited to single groups of muscles or a circumscribed spot, with a constant tendency toward a shifting of the site. The joints have a feeling of stiffness, and in some cases there is great swelling and tenderness of single joints, resembling inflammatory rheumatism. There is this difference, however, that the pain and the tenderness of the joint may only remain a few hours, and then it will entirely subside, to again appear in another joint. There is also the absence of the general constitutional symptoms of the rheumatic affection. Cramps, especially in the fingers, legs, and toes, are often experienced. Some patients complain of a tingling or numbness of the extremities. Black stools are very frequently seen, and in a few cases bloody urine was passed. The general appearance of the patient is suggestive of the disease. The skin is of a dirty-white hue, suggestive of chronic malaria. The superficial veins are engorged, and this is especially seen in the veins of the forearm and in some cases in enlargement of the temporal veins. The blood is of a dark Prussian blue, and this change often attracts the attention of the patient. The fever varies greatly in different cases. In the simple œdematous form of the disease the temperature rarely rises above 101°. This may remain for twenty-four to thirty-six hours. This is often preceded by a chilly sensation; in three cases a decided rigor was seen. In exudative cases the temperature may rise to 103° F., or even more. A typical case commences with a chill, a rise of temperature which may continue for twenty-four to forty-eight hours, which then subsides, continuing at about 100° to 101° during four to six days. I have noticed that where the exudation is confined to the tonsils the fever continued rarely more than twenty-four hours, but where it involved the pharynx it continued from five to seven days. The pulse is always increased in rapidity; it is full, soft, and compressible. Sweating is a very prominent symptom. This occurs especially at night, and is accompanied by a chilly sensation resembling true night-sweats. The disease is certainly in a measure contagious. I have often seen different members of a family develop it in succession. Sometimes one member will show the simple œdema and others will have the exudative patches. In the children's ward of the Mullenphy Hospital all the children were affected, and all recovered.

The local symptoms vary in different cases and depend on the

part of the throat involved. In some they are very marked, in others they are entirely wanting. When the nasal mucous membrane is affected, a complaint is made of a feeling of fullness and dryness of the nostrils. When the palate and palatine folds are involved there is frequently pain on swallowing, and it is especially noticeable that the pain is greater on swallowing saliva than on taking food. In fact, the taking of food in some cases seems to produce a certain amount of relief. In cases where there is great œdema of the palate the pain is often so intense as to almost preclude the taking of nourishment. One patient told me that every attempt at deglutition produced a sensation as though a knife were drawn across the throat. But this intense pain is only found in cases where the œdema is great. In the large majority of cases the pain is slight and complaint is made more of a feeling of dryness or a fullness of the throat. It is noticeable that the pain is always increased toward evening and during the night, diminishing, and in some cases almost entirely disappearing, during the morning hours, to be again experienced at the same hour of the afternoon the next day. In œdema of the posterior larynx there is a feeling of fullness with constant desire to swallow, and a sensation as though a foreign body was lodged at this point. Again, a sense of oppression is often experienced in the upper portion of the chest, and there is a constant tendency to sigh. In some cases I have seen an intermittent character given to the pain, it occurring with greater intensity on alternate days. In œdema of the vocal cord there is always more or less change of the voice. It seems to lose in strength and clearness. In two cases, although the speaking voice was little impaired, the singing voice had entirely disappeared. With the subsidence of the œdema the patients who are professional singers regain their voices in the natural strength and purity. The characteristic ropy, gluey secretion is sometimes so profuse that constant hawking and expectoration are necessary. This is also found even with scanty expectoration, the sensation being produced by the feeling of fullness. Hæmorrhages are quite frequent; usually they are small in quantity and recur frequently. In three cases I have seen profuse hæmorrhages in which the expectoration of blood continued through several days. The blood is usually black, clotted, and may be mixed with a viscid secretion, but often it is simply a pure dark blood. When the larynx is affected, cough is a frequent symptom. It may occur in an incessant hack. In other cases there are violent paroxysms. The cough at times bears a great resemblance to

the cough of whooping-cough, the inspiratory stridor being especially marked.

Without proper treatment the acute symptoms in the œdematous form will continue from three to five days. A comparative state of well-being then comes in which the symptoms are greatly mitigated. This is followed by another attack. I have seen cases who have suffered in this manner for four months in whom the acute exacerbations occurred about every three weeks. In cases with exudation I have seen the patches remain from one to six weeks.

Diagnosis.—The œdematous form of the disease can only be confounded with that due to a catarrhal inflammation. The pronounced constitutional symptoms and the characteristic appearance of the throat will differentiate the conditions.

In the exudative cases, where the exudation patches are prominent on the tonsils, we should naturally think of simple follicular amygdalitis. The general symptoms are in a measure similar and the appearance of the tonsils is not unlike that of amygdalitis. Close inspection, however, will show the minute white points in different parts of the fauces, and the condition of solid œdema, which is always present, is not found in simple amygdalitis. The tonsils are never enlarged to the degree seen in amygdalitis, and, instead of the red, hyperæmic condition, we find rather an unnatural pallor of the membrane. The characteristic sticky secretion is also wanting. When the exudation is extensive, especially when it is on the pharyngeal wall and the palate, the close similarity to mild diphtheria will give us a good deal of anxiety. The presence of the solid œdema of the fauces and the character of the secretion will help the diagnosis. The behavior of the patch seems to me to give positive and definite information toward a diagnosis. I have never seen paralysis follow in these cases of exudative pharyngitis.

The treatment of the œdematous form of disease of the throat is very simple. It consists in saturating the system with the benzoate of sodium. I usually combine it with the liquor ammonii acetatis. I have found it to act as a specific remedy in the disease. As a local remedy I have found the bicarbonate of sodium in conjunction with a little carbolic acid to act as a soothing, pleasant gargle. Under this treatment the symptoms promptly disappear, and the patient recovers. In some cases, when the joints are prominently involved, the addition of the salicylate of sodium seems to be of service. Although quinine moderates the symptoms, I have never found it to produce permanent relief. After the subsidence of the acute

symptoms I have found the mistura ferri et ammonii acetatis, often combined with arsenic, to be very useful in overcoming the anæmia which always remains after the acute attack has subsided.

From a study of these cases of œdematous disease of the throat, I am convinced that we are considering a constitutional disorder rather than a local disease, and that the condition of the throat is simply one of the manifestations of a general condition. In a paper I am preparing for publication I have endeavored to show an analogous condition existing in the lungs to that seen in the throat. The solid œdema found in the lungs resembles in many respects that seen in the fauces. I maintain that this analogy is strictly legitimate, from the fact that I have seen this condition of the fauces to exist in connection with the pulmonary form of disease, and also from the fact that there are frequent alternations of the two forms in the same individual. Post-mortem examinations have proved that the pathological changes in the body are such as are only found in septic conditions, and cultures of the lung tissue show the presence of various micro-organisms.

Hence I would consider the pathological changes in the throat and lungs to be simply manifestations of a general septic condition, dependent probably on some pathological change in the blood.

The appearance of the disease in certain portions of the year, followed by its complete disappearance for many months, leads me to think of an atmospheric influence in producing it. The recognized fact that patients suffer more and are more prone to relapses in cloudy or rainy weather and improve in the bright sunshine, seems to strengthen this supposition. I have thought at times that it might be a manifestation of influenza, a disease which, as is well known, sweeps over the country in waves and then entirely disappears. The symptoms of influenza, as portrayed by Graves and others, bear a striking similarity to those seen in this septic œdema. Its long continuance during several years is, however, not in accordance with the epidemics of influenza which have been described.

Discussion.

Dr. T. A. De Blois, of Boston: I have been much interested in Dr. Langmaid's paper, particularly with reference to the possibility of diphtheria being coincident with the condition he describes. Last year I was called in consultation to a case of supposed œdema of the larynx. The epiglottis and the arytenoids were œdematous, not so much at the first examination as subsequently. I punctured the epiglottis and got a

slight discharge of blood, and in twenty-four hours the place of puncture was filled by the exudation of diphtheritic membrane. The œdema then progressed, and the arytenoids became so large and obstructed respiration so much that they were punctured, and again extension of the membrane occurred. There was no discharge of pus at all. Sometimes marked œdema will precede a very slight exudation. As Dr. Langmaid has said there might have been exudation which had passed away when he examined the throat; but I have never seen œdema follow exudation.

Dr. DALY: The condition which Dr. Glasgow has so well described is somewhat new to me. The doctor spoke to me in regard to it a year ago, and asked me if I had seen such conditions. At that time I had not; but last autumn, when the bad weather began, there was in Pittsburgh an endemic of the class of cases to which Dr. Glasgow has referred. A number of them fell to my professional care, but by far the larger number were treated by the general practitioners. I did not regard this swollen condition of the fauces so much an œdema, as we understand that term, as that it was a subacute inflammatory condition of the mucous membrane, with attendant swelling. There was a sufficient number of these cases that had superficial and very thin diphtheroid patches in various parts of the fauces to warrant me in my opinion that they were cases of a diphtheroid disease of the throat. I was confirmed in this opinion by the subsequent occurrence of glandular enlargement, which came on in nearly every case, and was located in the deeper regions at the sides of the throat, sometimes in other parts of the body, and in one or two instances in the axilla. In short, I regarded this endemic as a diphtheroid disease, with exaggerated local symptoms scarcely warranted by the local deposit of false membrane or fibrinous deposit; but, while there were exaggerated glandular symptoms, there was a rather amenable condition of the constitutional symptoms.

The calomel treatment, which I am so fond of employing in cases of true diphtheria, and which has stood me in very valuable service—much more so than any other plan of treatment that I have ever adopted—did not give the results which I am in the habit of observing from it in true diphtheria. These cases were usually manageable, but sometimes slowly so, with a treatment something like this: Three or four times a day, three to four grains of Dover's powder, with two or three grains of quinine upon a full stomach, and then the use, both locally and internally, of a solution of the chlorides—chlorate of potassium, Squibb's preparation—with dilute hydrochloric acid in syrup or, preferably, in glycerin. This was used as a gargle in hot water, and a moderate dose taken every two or three hours.

After the local disease subsided, the glandular enlargement was usually treated with an ointment of veratrine, or simple lanolin, and the use of the iodides. Much handling of these glands was resented by increased pain and swelling. I believe that this is a modified form of diphtheria, with exaggerated local symptoms, but a more amenable condition of the

constitutional symptoms, and depending upon a modified form of the germ or infection. It seems to me that it has sprung up in the Mississippi and Ohio valleys, and has radiated from those regions.

Dr. J. C. Mulhall, of St. Louis: I think that a great deal of credit is due to Dr. Glasgow for being the first to recognize that there is a peculiar type of inflammatory trouble of the upper air-passages sweeping over the country. I can confirm, from experience in St. Louis, the existence of this peculiar class of cases. The last acquaintance that I saw before I left was a gentleman who came to the train to tell me that, for the third time, he had tenderness in the throat. He came to me two weeks ago with what he thought to be the symptoms of ordinary quinsy. I found these white patches of exudation on one tonsil, and a great deal of pain without œdema. I regarded the case as one of ordinary follicular amygdalitis, and treated it in the ordinary way. I gave him aconite and a gargle of tincture of guaiacum. In forty-eight hours he again presented himself with an abscess of one tonsil, but the usual relief did not follow the evacuation of the pus. He again returned in forty-eight hours, and then was present this peculiar type of œdema. It involved the uvula, the anterior and posterior pillars on the right side, and extended down the pharyngeal wall on the right side. He then took my advice and went to bed. The treatment which was then adopted seemed to have a marvelously rapid effect in relieving the trouble. It was the old-fashioned antiphlogistic treatment. The inflammation seemed to be of a rather active type, the temperature being from 100° to 103°. The treatment consisted in the application of very hot poultices to the side of the throat every half-hour, the administration of Norwood's tincture of veratrum viride, and antipyrine. Saline purgatives and scarification were also employed. This treatment had a marvelous effect. He recovered, but subsequently the throat again became sore, and exactly the same thing occurred. The same treatment was pursued, and the symptoms subsided in twenty-four hours. When I left St. Louis he had been well for four days, but, as I have stated, he came to me to say that, for the third time, symptoms of irritation of the throat had appeared. Some time ago I saw another gentleman with the same sort of an attack, which subsided, under the treatment mentioned, in forty-eight hours without any recurrence. I have also observed the glandular implication which is very unusual in ordinary sore throat. I saw one of Dr. Glasgow's patients on Monday. He has been suffering since December 15th, and it is only within the last month that the glandular enlargement has begun to recede. His was one of the cases in which ulceration took place. It is possible that the case described by Dr. Langmaid, and probably the case of Allen Thorndyke Rice, belonged to this class, having involved the larynx and produced acute œdema. I have not seen any of the cases in which there has been laryngeal involvement, although, curiously enough, during the last winter I have seen two cases of acute typical laryngeal œdema from erysipelas. With Dr. Daly, I think that

this affection originated in the Mississippi Valley, and has radiated to other parts of the country.

I should like to say a word in regard to the pneumonia which has occurred in connection with these cases. I was recently in the biological laboratory of Dr. Bramer, of St. Louis, and he showed me the results of some cultivation experiments from this form of pneumonia, side by side with the cultures from the ordinary pneumococcus. The growth was entirely different, although the gross examination had shown interstitial pneumonia in both instances.

Dr. S. Hartwell Chapman, of New Haven: While expressing my admiration for the exhaustive analysis and close observation of the symptoms of this disease which is the subject of Dr. Glasgow's paper, I can not but differ with him as to the character of the disease itself. It is, I am sure, but another and not unusual development of diphtheria. We are not obliged to seek in the Western States for these peculiar phenomena, for they are quite as common developments of diphtheria in the Eastern, and I feel confident that I am giving the experience of laryngologists in the Middle and Southern States as well.

A case which occurred in my practice during the spring of this year will illustrate the close connection between the ordinary forms of diphtheria and this peculiar form of which we are indebted to Dr. Glasgow for collecting the interesting symptoms. In the first week in March I treated a lad of ten years, in a family consisting of parents and two children—this lad and a boy-baby of about eighteen months. This case was one of mild typical diphtheria with well developed tonsillar and pharyngeal membrane extending to the brim of the larynx, with moderate glandular enlargement, considerable exhaustion, and moderate rise in temperature. The case was treated with quinine, stimulants, and mercurials, and ran an ordinary course of about ten days, with no bad results following. On the fourth or fifth day of this attack my attention was called to the younger child, who was found to have a dense swelling of moderate size directly under the chin, with rise in temperature and the appearance of being very ill. The same treatment was adopted in this case as in the other, with the addition of hot fomentations to the glandular enlargement. No membrane could be observed in the throat, and indeed the mucous membrane seemed to be in a perfectly healthy state. There was no hoarseness and no dyspnœa.

Notwithstanding all preventive efforts, the glandular enlargement continued to increase, extended to other glands, and finally produced a uniform infiltration of all the tissues of the neck. This occurred rapidly, so that by the end of the fifth day the appearance of the little patient was very peculiar. From the ears to the clavicles, and extending almost to the shoulders, the swelling was one uniform smooth mass, into which the face and chin seemed to have sunken. With the gradual increase of this infiltration, dyspnœa appeared and became finally very alarming. The process of deglutition ceased on the second day, and the patient was nour-

ished *per rectum*. It seemed likely that suppuration had taken place, so that I made several deep incisions in the sublingual region. This operation was followed by rather copious hæmorrhage, but no pus was found and the symptoms were not at all relieved. An O'Dwyer tube No. 2 was then inserted into the larynx, although with very great difficulty owing to the infiltration. This was left *in situ* four days, during which time the infiltration so rapidly subsided that the conformation of chin and neck again became evident. By the eleventh day the patient was again able to swallow liquids. By the fifteenth day convalescence set in. During the course of the disease there was no membrane to be observed, and the mucous membrane of the pharynx and mouth retained its healthy appearance. The peculiarity of the case was the development of enormous infiltration into all the tissues of the neck, forming a dense, hard, inelastic swelling. During convalescence moderate suppuration of the sublingual gland took place. As far as it is possible to judge, this seemed to be a case of modified diphtheria of the general type of the disease so ably described by Dr. Glasgow.

Dr. Charles E. Sajous, of Philadelphia: It has been my good fortune to see several of these cases, and the remark made by Dr. Chapman that they are not limited to the West is exemplified by the fact that Dr. Seiler described a number of them before the German Medical Society of Philadelphia a few months ago. The first case that I saw of this affection was in a young man from New Jersey. He had been exposed to the contact of no case of the kind in the neighborhood. I was struck with the amount of pain and the severity of the general symptoms which accompanied the throat trouble. The appearance of the throat did not resemble the condition seen in diphtheria. Instead of the yellowish, leathery membrane generally present in diphtheria, there were small white patches, probably twenty or thirty in number, covering the pharynx and tonsils. Around these patches was a narrow areola of redness which gradually disappeared to again increase toward a neighboring patch. The vault of the pharynx was slightly involved. There was slight œdema of the soft palate. The temperature was raised throughout the entire course of the attack (102·5°). The case appeared at first to be one of follicular pharyngitis, but the general symptoms were such that I made up my mind that it was an affection with which I was not acquainted. There was redness of the fauces and slight tinnitus aurium. The patient complained of incessant pain in the back and in both legs. After trying a number of remedies, he was placed on benzoate of sodium, suggested by the remarks of Dr. Seiler, which were reported to me by a member of the German society who was present when the paper was read.

I saw another case in Wilmington to which I was called in consultation. This was in a child about two years and a half of age. The case much resembled that reported by Dr. Chapman. The glands were greatly enlarged—sufficiently so, in fact, to warrant the intention of the attending physician to freely open them, fluctuation being present. The knife

was not used, however, but the child was placed under minute doses of the bichloride of mercury. The glandular swelling rapidly disappeared and the child got well. The appearance of the throat and the general symptoms were about those found in the case from New Jersey.

Dr. DELAVAN remarked that this discussion was a timely one, coming as it did in connection with a recent celebrated case. He referred to a patient in this condition whom he had seen suddenly die from heart failure. Other cases, apparently similar, had been occasionally reported. He believed that they were analogous to those described by the older French writers and by Sir Morell Mackenzie as "acute œdematous laryngitis," and more recently by Senator, under the name "acute infectious phlegmon of the pharynx." The speaker thought that the possibility of the disease being diphtheria had not been satisfactorily eliminated. In view of the dangers attending it, he urged that the affection be more carefully studied and explained, and he thanked the reader of the paper for the valuable light which he had thrown upon it.

Dr. LANGMAID: Dr. Glasgow's cases seem to me quite different from the one which I reported, in which the œdema was the result of pressure and not necessarily a symptom of the disease which caused the adenitis. I thought that the case which I have related was of sufficient interest to bring before the society, because it was almost diagrammatic. The neck was swollen even from the jaw to the clavicle. The short history of illness made me expect to find membrane or an ulcerated patch from which membrane had been discharged. I found a perfectly clean throat. I can not conceive of an adenitis as extensive as this in a patient of the age of this one, coming on as suddenly as it did and disappearing so suddenly, that was not septic. I believe that there was diphtheria in this case, but, as the history of the first eight days is not known, I can not speak positively. There was no œdema of the pharynx or fauces when I examined the patient. It also seemed to me that the spontaneous evacuation of pus from some gland, as occurred in this case, must be very unusual.

With regard to the cases spoken of by Dr. Glasgow, it has seemed to me that, with the remains of a general practice clinging to me, if these cases had occurred in Boston, I should have seen some of them. I do not recall any such case, and, so far as I know, they have not been presented to the societies. For some years we have had conditions in Boston which, with the constant presence of diphtheria in certain sections, would render the occurrence of a general epidemic very probable. It has not occurred, and it has seemed to me that, for some reason, the atmosphere of our city is not suitable for the spread of diphtheria. This is possibly the reason that we have not seen these bastard cases, such as Dr. Glasgow has described.

Dr. GLASGOW: There is only one point to which I need refer, and that is in regard to the connection between this form of disease and diphtheria. No one could possibly consider the œdematous form as diphtheritic,

and the question could only occur when the exudation is present. In my earlier observations I thought the exudative cases might be diphtheritic. In one case, a young girl of seventeen, the whole palate and tonsil was covered with exudation. I thought that it was a case of diphtheria, and placarded the house as the law exacts. As I watched the case I became convinced that it was not diphtheria. I called in one of our ablest physicians, and at first he said that it was diphtheria, but, after watching the case for a few days, was convinced that it was something else.

The history of the exudation is not that of a diphtheritic patch. It never comes away in a mass, but gradually fades away, growing thinner and thinner day by day. It is not surrounded by the inflammatory zone seen in diphtheria. That diphtheria may be ingrafted on such a condition of the mucous membrane I am fully convinced, since I have met with it in several cases. The œdematous condition of the mucous membrane seems to furnish a fertile culture soil for the development of cocci.

Paper.

SOME DISCURSIVE REMARKS BASED UPON HAVING OBSERVED INTIMATE RELATIONS BETWEEN CHRONIC DISEASES OF THE UPPER AIR-TRACT AND NEURASTHENIA.

By WILLIAM H. DALY, M. D.

DURING the past five years I have made some observations and noted them with reference to certain symptoms or diseased conditions referable to the intranasal structures or of the pharynx or larynx which have either been the immediate precursors or the concomitants of neurasthenia. In other words, many of the patients that have consulted me for a variety of symptoms referable to the upper air-passages have at the same time given a history of concomitant or early succeeding neurasthenia, and I think I may offer these observations to the profession as being not only new to its literature, but based upon a clinical experience sufficiently extensive to warrant us in taking up a new line of thought as to some of the features expressed in naso-pharyngeal catarrh and functional and inflammatory aphonia as they precede or coexist with neurasthenia in some one of the latter's many forms. It was the teaching of Murchison and others, and quite generally accepted too by the profession, that many of the conditions we know now as neurasthenia were conditions of suppressed or undeveloped gout or lithæmia; but if the thoughtful medical man will carefully read Murchison, eminent and able reasoner and clinician though he was, he will nevertheless be forced to conclude that the

data for pronouncing certain forms of nervousness, in men especially, which are characterized by insomnia, indigestion, mental irritability, etc., conditions of suppressed gout or lithæmia are wholly insufficient to satisfy those of us who like to believe we have found a rational cause, or that we have been taught one that is to our minds reasonable and borne out by future observations of our own upon patients. Unless this can be done, few of the thinking men in the profession can long hold to any dogma, let it emanate from whatever source it may.

I am fonder of noting plain practical observations in pathology and therapeutics than of indulging in abstruse theories as to what causes these certain conditions noted. Why? Because it is much easier for me to do this, and it suits best my practical bent of mind. Yet how much commoner it is among medical men, as among laymen, that at once a cause is sought for an evil and little or no attention paid to the interpretation, meaning, or cure of certain manifestations! As I have said, I confess to being more wrapt in noting the coexistence of symptoms, and, if possible, getting a remedy for their alleviation and cure, than of diving into their mysterious workings and explaining their manifestations by mere theories. The abler heads may weave theories to their hearts' content. But one page of practical experience, with careful and intelligent observation honestly reported, will redound more to our instruction than whole tomes of dry and baseless theory or dogma. What I have to say will, I trust, at least seem worthy of inspiring further observation in this direction. In these days of hard going and pushing for place, fame, and fortune, especially in cities, it is appalling indeed to see the early wreck of the physical and mental constitutions of the cultivated and respectable men and women who are neurasthenic either through their own folly or circumstances that are innocent enough of themselves if guarded by common sense and moderation. Now, it will seem strange to you possibly to hear from me that I believe laryngology and its congener, rhinology, have much with which to concern themselves in neurasthenia, as well as in the many reflexes that have been so well studied by the able minds of J. N. Mackenzie, Hack, of Freiburg, Roe, of Rochester, and others. But you will not be altogether surprised either. One of the old masters in medicine spoke of the nose and throat as the gateways of life, and I believe he was quite right. They are more than that; they are also the sentinels at the gateways of life in more ways than one. It is from these regions we are so often warned of the approach of discomfort, danger, and disease.

I need not refer to the fact that all the disease germs enter the system through these gateways. It is in one of these gateways that the half-pleasing sense of titillation causing sneezing warns us that we are catching cold; and, by the way, let me digress and ask, What is "catching cold"? My observation has taught me that the causes of so-called "catching cold" are as often intrinsic as extrinsic. That is to say, a patient without any exposure whatever to draughts of air, either suspected or real, may, by a certain state of the organs and their secretions, be seized with a tickling in the pituitary membrane and sneezing, followed by all the symptoms of "catching cold," and subsequently have pneumonia or other form of pulmonary inflammation with all its worst and most protracted consequences. Now, resuming my subject, permit me to refer to a summary of twenty-five cases of which I have the clinical records bearing specially upon the question I have brought herein to your notice in the title of this imperfect paper. These cases have a clinical history like the following ones selected, with certain features altered, masked, or absent, but the main ones to which I call your attention prominent and leading—viz., the presence of acute or chronic disease of the upper air-tract in some of its extent, and neurasthenia in one of its protean forms.

Case I.—J. G., male, aged thirty, of bilious temperament, good parentage and habits of life, no acquired blood disorder, occupation active and mentally exciting. Subjective symptoms, a sense of intranasal fullness under the bridge of the nose and alternating stenosis in one or the other naris, especially at night when trying to sleep. Has a sense of worry and anxiety constantly present, and his mind is very active when repose is sought at night, precluding sleep, which, when obtained, is light and fitful. Appetite good, and digestion thought to be good. Uses no tobacco or stimulants. Social relations marital and excellent. No vices or excesses. Local objective symptoms, a bony spur upon the left side of the septum narium and a flaccid state of the mucous membrane on both inferior turbinates. Still under treatment, with some improvement going on, although the patient says he fails to discover the latter. This, however, will be discovered to him surely when the local intranasal condition is cured, and a cure in this case is one of the most encouraging and certain of possibilities, with further time and care.

Case II.—Miss W. J., aged twenty-eight, nervo-phlegmatic temperament. A well-rounded, symmetrical, and apparently well-nourished figure. Complexion sallow. Nose flattened and tip deflected to the right. Secretion of mucus from nares posteriorly copious and sometimes offensive; tongue clean. Appetite and digestion always poor; bowels constipated. Catamenia normal. Has lived for over a year on pancreatized

milk chiefly. A sense of intranasal fullness even when she is certain the canals are cleansed and freely pervious to air. Always weary and tired, and especially at the latter part of the day she is utterly exhausted. Sleeps badly, and always wakes with a bad taste in her mouth and a dry tongue.

Objective intranasal examination reveals a contorted condition of all the internal parts throughout that looks as though the nose had been hit with a hammer or caught in the door at some former time and badly twisted in its extrication. All the ordinary anatomical relations are of a cork-screw pattern and quite beyond a brief description. This patient is improving, but nothing short of the highest and most skilled rhinoplastic surgical art will ever make this nose a thing of beauty. The neurasthenic state is improving under alterative, local, and general treatment.

In ten cases, with which I will not burden you in detail, there was obstinate inflammatory aphonia attended with utter prostration, nervousness, and insomnia; seven of these patients had nasal disorder of a chronic character; the remaining cases all had as leading factors naso-pharyngo-laryngeal diseases in some form, with neurasthenia in some form also. Although one swallow does not make a summer, a flock of them will cause us to look for a change of weather; and will this little flock of cases not cause us to look out for this too widely prevailing constitutional condition as one of the unfortunate possibilities or concomitants of disease of the upper air-tract? That they coexist there can be no question.

Discussion.

Dr. JOHN O. ROE, of Rochester: This is a subject which can not fail to interest us, because we all must have met with many such cases, and it simply illustrates the general effect which local irritation may have upon the system. The persistent nagging of a constant irritation will sooner or later produce a depressed condition of the system, and, unless we remove the local cause, we can not hope to relieve the general condition. It is useless to enlarge upon the subject, as most of us are familiar with it, and it should not escape our attention in cases of general debility that we must look for and remove causes of local irritation.

Dr. F. W. HINKEL, of Buffalo: I rise with some hesitation to express my opinion, on account of my limited experience as compared with that of the gentleman who read the paper. I can not concur in the opinion that has been expressed. It seems to me that before we admit that a general neurasthenic condition can be the result of any nasal lesion as the sole cause, or as the main cause, a careful analysis of all the constitutional conditions is required. I should be interested in hearing what the general treatment was to which Dr. Daly alluded. I admit that any local irritant would have its effect upon the neurasthenic condition, but

that pharyngeal or naso-pharyngeal lesions can be the main cause of such a condition I am, from my own experience and general observation, hardly able to admit.

Dr. Daly: I hope that the gentleman will do me the justice to admit the caution with which I approached this subject. The title of my paper is "Some Discursive Remarks based upon having observed Intimate Relations between Chronic Disease of the Upper Air-tract and Neurasthenia." The problem I left largely for this body to solve, if it is within its power, as to which is the causative condition.

Dr. Langmaid: I did not understand Dr. Daly to say that the condition was due to disease of the nose, but that there was an intimate relation I did understand him to say. I should differ with Dr. Roe, and should consider that much of the trouble in the nose was from the neurasthenia. I am sure that is what Dr. Hinkel means. So often is this the case that operative interference fails to relieve the patient because the neurasthenia is not cured.

Dr. Mackenzie: I do not like to speak upon this subject, for I am afraid that I should keep the society too long. In my paper, read at the meeting in Philadelphia, I made the statement that very frequently in nasal troubles—as, for instance, in hay-fever—the local symptoms are due in a certain class of cases to the neurasthenia, and, until the general condition is relieved, the local treatment is without avail. It is a curious historical fact that this peculiar dulness and incapacity for vigorous intellectual work, dependent upon chronic affections of the nose, was recognized by the ancients. A number of classical writers—for instance, Cicero—mention this curious fact.

Dr. Sajous: I am inclined to support rather vigorously the remarks made by Dr. Daly. It has been my fortune to observe a number of cases in which I noted fluctuations in the nervous condition, and these corresponded with fluctuations in the conditions within the nasal fossa. I have now under treatment a gentleman who, some months ago, had an operation for deviated septum performed by a fellow-specialist. The operation was done because all treatment directed to the general systemic condition had been without benefit. After the nasal trouble had been corrected the gentleman immediately began to improve, and the general neurasthenic condition, although it did not quite disappear, was materially improved, and he was able to resume his duties. I am sorry to say that the secondary treatment of the case was not such as to maintain the condition obtained immediately after the operation. The septum, as often happens in these cases, returned to its original position, and at once there was a marked return of the general symptoms. Having undergone a second operation, with a carefully conducted secondary treatment, the neuralgia and other symptoms not only disappeared as they had before, but they did not return. In this case we were able to follow the fluctuations as the case proceeded, and to note the marked benefit brought about by treatment of the nose.

Dr. Daly: The imperfect manner in which I have been compelled to present this subject does not do either myself or the subject justice. I would say that the remarks of my friend, Dr. Roe, have a great deal in them. I believe that he has epitomized a great deal that is valuable—that is, that this local irritation, this local obstruction, which is a source of continual nagging and local irritation year after year, is borne by the patient because he does not know where to get relief, or is in the hands of a practitioner who will not see these conditions or admit that others can see them, and therefore temporizes with the case until some acute disorder comes on, and with it an explosion, so to speak, of one of the forms of neurasthenia.

While the presentation of the subject may seem crude and rather bold, I assure you that it is a modest presentation. I have had sufficient observation, with flattering and lasting results in treatment, to warrant me in re-uttering what I said to you with fourfold force if it were in my power, that local treatment alone, leaving the neurasthenic condition out of the question, is necessary, is advisable, is right, and that such local treatment will be sufficient of itself to cure, and it will be surely followed by relief from the disagreeable and troublesome neurasthenic symptoms. I say *followed*, and I say it advisedly. These symptoms come on late in the history of the case, and they take their departure late. In other words, the physiological and anatomical condition of the intranasal structures can be made as near normal as possible, but still the neurasthenic symptoms will linger. The patient will not be cognizant of any general improvement, possibly of no local improvement at once, but tell the patient to wait. It will come in one or two months or perhaps a year, but it will surely come, and come to stay.

In regard to the question of general treatment. I do resort to general treatment, which is very simple and rational. In these cases of neurasthenia, while the predisposing cause may be, and I believe that it is, a local condition, there is a condition of deficient nutrition co-existing, and I direct mild remedies, but not frequently given, to act as a fillip to the secretions. I give a mild hepatic stimulant once or twice a week at bedtime, such as a quarter of a grain of calomel with fluid extract of senna, with something to prevent griping. This is simply a stimulant to the liver, and it gains these certain ends, not suddenly, but gradually. Other than that, I do not rely much upon internal remedies. I do not believe in the phosphates, which I regard as a once popular fad now moribund. I depend largely, and would not hesitate to depend entirely, upon restoration of the intranasal structures to what would be considered a normal anatomical and physiological condition.

Paper.

A CASE OF SARCOMA OF THE THYREOID GLAND.

By J. SOLIS-COHEN, M. D.

Pressure on the Right Sympathetic Nerve; Unilateral Tonic Spasm of Laryngeal Muscles; Intermittent Clonic Spasm of Opposite Side; Compression Stenosis; Tracheotomy; Hæmorrhage from the Gland Twenty Months later; Pressure upon the Left Sympathetic Nerve; the Functions of the Compressed Pneumogastrics aroused by Irritation of the Trachea; Death from Disturbance in the Functions of the Two Pneumogastrics.

X. Y. Z., of Wyoming Territory, a stock raiser, aged about forty-five years, applied to me July 18, 1887, at the instruction of his physicians, with a swollen neck, dyspnœa, right-sided ptosis and contracted iris, abnormal warmth of the same side of the face, and with frequent right-sided perspirations of both neck and face. His clinical history was as follows: He was reared in a limestone district, and had always led an active out-door life. His mother had had a goitre, which he thinks was the cause of her death. A brother and sister have disease of the throat, which he thinks is due to swellings in the neck.

Somewhere about 1871–'72 he began to notice that in running he got out of breath much sooner than any of his companions, and that his neck was getting thicker and thicker, so that within from five to six years it increased fully two inches in circumference. His general health continued good. In 1874 he suffered pain for the first time. This pain was a neuralgia of the right eye, which had been more or less continuous since, and at times excruciating. In 1881 he had erysipelas of the right side of the face, and about one month after recovery therefrom his right upper eyelid drooped and the ptosis had been continuous. In 1885 he noted that the right side of his face was hot, and this heat had been continuous since. This heat had been attended by frequent perspirations of the right side of the face and neck, sometimes several times a day.

The patient was a sturdy man of medium height, with an irregular, dense, nodulated tumor of the thyreoid gland, larger on the right side, with several enlarged cervical glands to the exterior of the tumor, and with considerable collateral effusion into the surrounding connective tissue. This effusion he stated was much less since he had left the high altitude of Colorado. He had considerable continuous dyspnœa, and had had a few suffocative spasms. The outline of the lower portion of the larynx and of the trachea could not be defined. He had contraction of the right pupil, ptosis of the right upper eyelid, and redness and heat of the right side of the face, with frequent perspiration of the same territory. The right vocal band was immobile in the median line (Fig. 1), and the movements of the left band were feeble, but sufficient for respira-

tory and phonatory purposes. The diagnosis made was that of malignant tumor of the thyreoid gland with stricture of the trachea by compression.

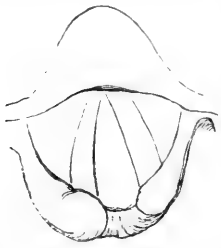


Fig. 1. — Immobility of the right vocal band in the median line.

The ptosis, contraction of the pupil, heat of the face, and perspiration I attributed to the results of pressure upon the sympathetic nerve; and the spastic contraction of the vocal band in the middle line to the result of pressure or irritation upon the recurrent laryngeal nerve.

A tentative treatment with arsenic internally and with inunctions of diluted red iodide of mercury ointment over the mass soon produced improvement in breathing and marked diminution in the bulk of the tumor, especially in the nodules at its periphery.

On August 1st I noted for the first time clonic spasms of the left vocal band, rendering the slit for breathing very narrow, but without producing as much disturbance of breathing as I had noted in similar conditions. I attributed this spasm to reflex irritation from traction on the right pneumogastric by the contraction of the mass, rather than to any direct implication of the recurrent nerve of the left side. The patient reported that he had nearly choked the night before, apparently from something which he had swallowed; but I attributed this to spasm. I deemed it most prudent to send him at once to a hospital, where I performed a prophylactic tracheotomy without anæsthesia a few hours later.

On the right side of the middle line, the skin, the intermediate tissues, the thyreoid gland, and the wall of the trachea were all one continuous mass. The trachea was away over to the left side of the neck, and was bent upon itself in its descent behind the sternum. The incision had to be made directly through the enlarged isthmus of the gland. This structure was so calcified posteriorly as to necessitate the use of the curette to scrape a way through to the trachea. After the trachea had been opened a terrific hæmorrhage took place from a portion of the tumor which had penetrated the left side of the trachea. This hæmorrhage was so sudden and so profuse that, had the patient been unconscious, he would in all probability have perished through inability to obey instructions necessary —to place his neck in a favorable position and to cough out the blood as it flooded the air-passage. On account of the bend in the trachea, it was found impossible to introduce the cannula with the aid of the ordinary pilot conductors. Trousseau's dilator and Golding-Bird's dilator both failed; but with the three-valved dilator of Laborde, fortunately at hand, it was found practicable to keep the opening patent and to push the impeding swelling to one side, so as to admit of the introduction of the tube. The patient professed to have experienced no pain whatever during the operation, pain having probably been deadened by the attending excitement. The condition of the parts was such as to justify the infer-

ence that the cervical vessels were involved in the growth, thus precluding attempts at extirpation of the mass in the future.

The neuralgia of the right eye ceased with the operation and did not return, and the heat and perspiration of the face diminished considerably. The ptosis and contraction of pupil remained uninfluenced.

Before the wound was dressed, the exposed portion of the diseased gland was dusted with potassium-chlorate powder. This produced considerable disintegration of a portion of the mass which discharged through the external wound, and the size of the tumor diminished to such an extent that, at the end of two weeks, the length of the tube had to be lessened by nearly half an inch, and the tracheal opening had receded a little toward the middle line of the neck.

I kept the patient under observation for about six weeks, during which time he progressed very satisfactorily in every way, except that the clonic spasm of the left vocal band soon became tonic, with permanent occlusion of the glottis to a very narrow slit totally insufficient for respiration (Fig. 2). It appeared in this instance, as I have noticed in similar ones, that as soon as the artificial opening in the trachea insured access of air to the lungs in sufficient quantity, the forced contractions of the dilating muscles of the glottis, in the struggles for breath, subsided, and the spasm became permanent and unopposed. I considered the condition to be spasm of the laryngeal muscles, rather than paralysis of the posterior crico-arytenoids, because of the tense condition of the edges of the vocal bands and the backward position of the arytenoid cartilages—physical conditions which require active contraction of portions of the posterior crico-arytenoid muscles. The voice was excellent as to modulation, but weak in intensity, reedy in tone, and produced only with considerable expiratory effort.

Fig. 2.

About one month after the tracheotomy the patient complained of regurgitation of undigested food about three hours after the mid-day and evening meals. Whether this was due to pressure of the tumor upon the œsophagus, or to the presence of a diverticulum, remained undetermined, as the condition soon subsided and did not recur.

The patient returned to his home with his tumor diminished to fully one half of the bulk it had acquired previous to the operation. The trachea had not receded from its position somewhat to the left of the middle line. The contracture of the glottis had become permanent and apparently complete, so that there was practically no room for respiration through it.

Several months after his return to Wyoming Territory I received a letter from his physician, under date of February 15, 1888, in reply to a letter of inquiry, that "the patient was doing nicely, and coughed but very little, the enlargements on the neck having reduced considerably in size and being quite soft. The right pupil remained slightly contracted, and he suffered from occasional attacks of facial neuralgia. He was in

good spirits. His weight was one hundred and forty-five pounds, a gain of twelve pounds since he had left Philadelphia. His appetite was fair. He underwent active exercise without much difficulty. He slept well, and, in short, was doing nicely—much better than he had dared to anticipate."

About one year later, February 2, 1889, the patient returned to me to learn whether anything could be done to disembarrass him of his tube, the presence of which, interfering with his convenience, was the only thing he complained of. He felt perfectly well and vigorous. His neuralgias and other pains had almost ceased. The ptosis and contracture of the iris were as formerly. The tumor had enlarged somewhat. The larynx and trachea were fully an inch to the left of the middle line. The glottis was oblique, from right to left, and practically air-tight, the vocal bands being in tense apposition (Fig. 3), and remaining quiescent on the strongest efforts at inspiration.

Fig. 3.

The larynx showed no indication of structural disease. The voice was good and well modulated. While no encouragement could be given as to any hope of dispensing with the tube, I thought something might be done constitutionally to reduce the bulk of the tumor, and therefore put the patient on a course of Zittmann's decoction of sarsaparilla, under the influence of which the tumor diminished considerably in size in about two weeks, especially as regarded some enlarged lymphatic glands on the right side and just above the clavicle.

Some bloody oozing from the top of the wound was now noted on changing the cannula, but I could not determine its source. It did not occur every day, and did not seem to be due to any erosion of the tissues. Despite my desire that the patient should remain with me, he insisted on returning home to shear his sheep, shipping himself a quantity of Zittmann's decoction, and carrying the formula for its manufacture with him, so that its use could be continued under the supervising sanction of his own physician.

Some three weeks after his departure I received a telegram that he was on his way to Philadelphia, his throat bleeding badly. Arrangements were made for his instant admission to Jefferson Medical College Hospital on his arrival. He arrived March 22d, looking well, but pale. The wound was not bleeding. He told me that the oozing of blood at changes of the cannula had gradually become more copious, and that, after a serious hæmorrhage, his physician had thoroughly cauterized the track of the wound with nitrate of silver, and had started him off to Philadelphia with strict injunctions not to remove the cannula under any circumstances until he had reached me—a most judicious procedure and advice, as the sequel proved, all oozing having ceased for two days. I allowed him to remain a day without disturbing the tube. On the next

day, in the presence of the late Professor S. W. Gross, whose co-operation I had requested in anticipation of trouble, I removed the tube. Blood poured out from the fistula as from a little pitcher. After a moment of consultation, we cut down upon the parts without anæsthesia, exposing them freely, but we could find no bleeding vessels. The hæmorrhage was parenchymatous from the left side of the body of the gland, which formed part of the fistula. We then cauterized the parts freely with the thermo-cautery, which restrained the hæmorrhage in great measure, but not wholly. Then the cannula was replaced, after having been wrapped in a tampon of gauze, into which a considerable quantity of Monsel's salt had been rubbed. This controlled the hæmorrhage satisfactorily, and the cannula was not removed until the fourth day. There was no further hæmorrhage. There was considerable dyspnœa after these procedures, and the parts became somewhat swollen. I noted contraction of the left pupil. This and the dyspnœa indicated an additional pressure on the left sympathetic and pressure upon the pneumogastrics. The dyspnœa would come on suddenly, there would be an arrest of respiration, and then the face would become pale and then livid, consciousness becoming benumbed and occasionally abolished. Sometimes this condition would be preceded by spasmodic, irregular, diaphragmatic respiration. Any irritation of the mucous membrane of the trachea would relieve the dyspnœa, redden the face, and arouse the patient's consciousness. The dying functions of the nerves were aroused the most effectually by passing down a loop of wire —in fact, the wire of the brush used for scrubbing the cannula. This had been first used for the purpose of drawing out any clotted blood which might have been occluding the trachea. Relief by its introduction was so marked that the patient begged for its almost continuous presence in the trachea. He could recognize the spot in the posterior wall at which the loop of wire would be most effective, and would grasp the physician's hand to prevent its being moved therefrom. When it was withdrawn from time to time, the phenomena of arrest in respiration would supervene. Inhalations of oxygen gave but momentary relief to the dyspnœa. For three or four days there was little sleep, and that fitful and irregular, respiration being maintained chiefly by the presence of the foreign substance in the trachea, and the patient sank from exhaustion on the evening of the fourth day. A promised autopsy was prevented by the interference of relatives after they had arranged to permit it.

The marked feature in this case was the rousing of the pneumogastrics by titillation of the tracheal mucous membrane and the continuous presence of a foreign body—a condition which I had never observed, and of another record of which I have no knowledge.

Paper.

SOME POINTS IN THE PATHOLOGY AND TREATMENT OF DISEASE OF THE NASAL PHARYNX.

By JOHN N. MACKENZIE, M. D.

THAT the nasal pharynx is exquisitely sensitive to reflex producing impressions is a fact which has been known for some time, and the older medical literature contains isolated examples of neurotic phenomena of various kinds emanating from pathological conditions of this region. These reflex neuroses of the nasal pharynx were, however, almost unknown except to special workers in this field until the publication of a brochure by Dr. Tornwaldt, of Dantzig,* in which prominent attention was drawn to the subject, and which invested the so-called bursa pharyngea with a pathological importance hitherto unrecognized and undescribed.

According to Tornwaldt, this bursa is a constant integral part of the rhinoscopic picture, and can always be recognized, sometimes as a furrow-shaped, sometimes as a blind *cul-de-sac*, directly in the middle line in the center of a curve drawn from the upper edge of the posterior nares to the atlas. This sac is the frequent seat of various pathological processes—hyperæmia, cystic formations, hypersecretion, and simple and purulent inflammation; and these often lead to reflex disturbances—such as asthma, cough, nasal polypi, various ear troubles, neuralgia, inflammatory conditions of the naso-bronchial tract, etc. He furthermore maintains the proposition that naso-pharyngeal catarrh has its starting point, in very many cases, in a localized pharyngeal bursitis, and that its cure is only possible after destruction of the bursa itself. His treatment, accordingly, consists in the obliteration of the bursa by means of nitrate of silver, following insufflations of this agent (one to ten) with the application of the fused solid directly to the sac. Tornwaldt's hasty enthusiasm carries him to the startling statement that, of 892 cases of naso-pharyngeal disease examined by him, 202 were primary affections of the pharyngeal bursa.

There are many objections which may be urged against the theory of Tornwaldt. In the first place, the very constancy and existence of the pharyngeal bursa is a subject of dispute among distinguished anatomists, and, according to my experience, the appear-

* "Ueber die Bedeutung der Bursa Pharyngea," etc., Wiesbaden 1885.

ances described by Tornwaldt are by no means constant in the rhinoscopic image.

In the second place, when we consider the changes which take place in the pharyngeal vault during the different stages of inflammatory affections of the nasal pharynx—the frequent formation of cysts of varying shape and contents, the formation of depressions, furrows, and other conditions of the pharyngeal tonsil—it will be readily understood how easily mistakes in diagnosis may occur, or how difficult it often is to differentiate between well-recognized appearances in the pathological anatomy of post-nasal inflammation and the theoretical primary bursitis of Tornwaldt. That such errors have been indeed committed is evident from some of the literature on the subject.

It is highly improbable, nor are there any just grounds for belief, that an organ of such comparatively trifling anatomical and physiological importance should be vested with the peculiar privileges assigned to it by the followers of Tornwaldt. Since I became aware of Tornwaldt's researches I have searched in vain for what might be unequivocally termed a primary pharyngeal bursitis. When the bursa has been involved, it has been so invariably in connection with well-marked and far-advanced naso-pharyngeal disease. So that, from the standpoint of my own clinical experience, I am unable as yet to confirm the observations of Tornwaldt. Naso-pharyngeal disease is the most common affection of this climate, and the innuendo of Carroll Morgan—that the postulate of Tornwaldt regarding the great frequency of primary disease of the bursa, living, as he does, in a city of small population, has not been confirmed by the vast majority of specialists residing in large cities, and commanding an immense amount of clinical material—may possibly carry with it considerable force.*

While, then, Tornwaldt's observations must, for the present, be taken with a considerable amount of reservation, they have, at least, directed prominent attention to a field of naso-pharyngeal pathology of exceedingly great interest and importance. From them we may learn the lesson that, in order to dissipate certain inveterate naso-pharyngeal affections, we must not rely on astringents, alteratives, *et id omne genus*, but we must destroy the source of the discharge.

My own observations concerning this class of naso-pharyngeal neuroses may be briefly summed up in the following propositions:

* "Maryland Medical Journal," March 19, 1887.

1. The nasal pharynx is, in quite a large proportion of individuals, exceedingly sensitive to reflex-producing stimulation.

2. The areas chiefly involved are the posterior portions of the turbinated erectile tissue and various points along the upper and posterior portions of the naso-pharynx.

3. In consequence of this extreme sensitiveness, a local pathological process, which in many persons would give rise to no reflex neuro-vascular changes, may awaken a host of neurotic phenomena referable not only to the region primarily involved, but also to other and even remote organs of the body. These may include cough, asthma, and various neuralgic affections, or the local structural lesion may be the starting point of the various sympathetic affections of the respiratory tract.

4. That this class of naso-pharyngeal neuroses are explicable on the same general principles laid down in the article read before this association, May 29, 1886 (*vide* "Transactions," page 154 *et seq.*), and the pathology of the nasal and post-nasal affections is, therefore, one and the same.

5. That the treatment should be carried out according to the general directions laid down in the article just mentioned.

6. That when the morbid process originates in the pharyngeal tonsil, attention should not be directed to the bursa alone, but an endeavor should be made to extirpate the tonsil, as far as possible, in its entirety.

7. That, while a favorable prognosis can not be safely predicted by treatment of the bursa alone, extirpation of the pharyngeal tonsil often offers the most favorable prospect in long-standing cases of post-nasal inflammation.

Paper.

SOME PERSONAL OBSERVATIONS UPON THE ACUTE AND CHRONIC ENLARGEMENTS OF THE ADENOID TISSUE AT THE VAULT OF THE PHARYNX, AND THE MEANS USED FOR THEIR RELIEF.

By D. BRYSON DELAVAN, M. D.

THE subject of adenoid hypertrophy at the vault of the pharynx, although not a new topic, is one which has by no means been exhausted. Many points connected with it have yet to be recognized and explained. No apology, therefore, would seem necessary

for its study, if to it could be brought new facts, clearer light, or fruitful discussion.

It is not the object of this paper to deal with matters long ago investigated and already fully understood. It is hoped, however that a few practical suggestions, gained through clinical study and tested in the light of experience, may be added to the present stock of information bearing upon the matter. With the history of the subject and with the already recorded experience of others it will be unnecessary, for the most part, for us to deal; nor can the usual categorical arrangement of matter be made, since the points to be presented are more or less disconnected, independent, and fragmentary. Still, it has seemed desirable that they should be collected and thus published together.

The material presented herewith may be classed under three general headings—namely, as relating (1) to ætiology, (2) to pathology, and (3) to treatment. As to the origin and development of adenoids, the theory has generally been accepted that they usually commence to grow during childhood, that they remain stationary during youth, and, finally, that, if left to themselves, they will shrink away and disappear with maturity. Hence it has been taught that, so far as they themselves are concerned, they might be allowed to remain without interference on the part of the surgeon, the disastrous symptoms which are caused by them in the child being the immediate reason for their removal.

While in a majority of instances the above assertions are beyond question true, there are, on the other hand, many cases which seem to prove them incomplete, and which in themselves would offer abundant material for special consideration. Indeed, when carefully studied, the exceptions will be found, we believe, to embrace several large and important groups of cases—cases which occur by no means uncommonly, and which are capable of giving rise to annoying and even serious symptoms.

Again, with regard to the pathology of the condition, much has yet to be learned as to the varieties of deformity which it may show, the relative importance of these varieties and of the symptoms growing out of them, and of the influence which it may exert upon surrounding organs.

In the treatment of adenoids many improvements upon the methods usually adopted are possible, several dangers are to be avoided, and greater certainty and accuracy of result are to be attained.

And, first, with regard to the origin of adenoids, one of the most important statements quoted above is to the effect that hypertrophy begins in early life.

While, without doubt, many cases originate during early childhood in some one or more of the causes already familiar to us, it now and then happens that a patient will refer the first symptoms of the difficulty to a period later than puberty. Of such cases it is my belief that many are the immediate and direct sequelæ of an attack of diphtheria or scarlatina, most commonly of the former. The structure and pathology of Luschka's tonsil are largely analogous to those of the faucial tonsil. A general condition of enfeeblement, repeated catarrhal attacks, and other well-known causes may result in hypertrophy of the faucial tonsil at almost any age short of middle life, and, to a certain extent at least, the same may be true of the adenoid tissue at the vault of the pharynx. Not alone may it happen, therefore, that the enlarged Luschka's tonsil may not atrophy as the child grows older, but, as has been stated above, hypertrophy may even take place after the period of childhood has been passed. Cases are not uncommon in which enlargement sufficient to cause injurious results has persisted through middle life. The writer lately operated, with marked relief, upon a gentleman aged forty-four. In another patient, a well-known surgeon of over fifty, he has observed a distinct enlargement, dating back to childhood and even now giving rise to troublesome catarrhal symptoms, cough, and reflex irritation.

Among adults, however, he has seen a condition of moderate hypertrophy, most frequently in women of thirty or under. The patients of this class are usually somewhat stout in figure, and resemble each other in general type. They may or may not have concurrent disease of the faucial tonsil. They are subject to attacks of catarrh of the upper air-passages. They are apt to suffer from various impairments of digestion. Many of my own cases have been in singers, whose voices have been directly injured in consequence of the above irritation, vocalization being difficult, the notes husky or at least impaired as to their brilliancy, and moderate efforts being followed by fatigue. All of these symptoms are aggravated by the slightest cold. Often the patient is able to locate with considerable accuracy the seat of maximum irritation. Examination of the upper pharynx shows a pharyngeal tonsil which very rarely extends below the upper margin of the Eustachian prominence, but which is distinctly enlarged and congested, and bathed in mucus. The Eus-

tachian prominence, meanwhile, is pressed upon by it, in some instances with injurious force, and while the thickening may be but apparently slight, its effects, as above indicated, may be serious. Among other results, impairment of hearing may be quite out of proportion to the amount of hypertrophy present; but it is often, however, wanting. Local topical treatment in these cases seems of little or no avail, while operation is followed by distinct relief.

One of the most interesting phases of adenoid disease is that condition in which a temporary enlargement of the tissue at the vault of the pharynx takes place under special excitation, the enlargement subsiding with the disappearance of the cause. As this condition has not been heretofore described, so far as the writer is aware, special attention is called to it. It is well illustrated by the following case (I), which is exceedingly instructive as explaining a very possible source of error and disagreement.

A young lady of eighteen, blonde, somewhat delicate, but on the whole well developed and in the enjoyment of fair health, was treated by Dr. Albert H. Buck, of New York, during one winter for deafness, with good results. In the following summer she went abroad. While in London she consulted Sir William Dalby, who, making a digital exploration of the upper pharynx, stated that he found there a considerable mass of adenoid growths which, in his opinion, should have been long ago recognized and removed. Sojourning in Paris, the patient was placed under the care of Dr. A. Gouguenheim, who made a careful rhinoscopic examination and failed entirely to confirm the diagnosis of the London physician. In the fall she returned to New York and again visited her American physician. He, having heard the testimony from abroad, re-examined the vault of the pharynx and found an abundant hypertrophy. He admitted his failure to find it at former examinations, said that the criticisms of the gentleman in London were merited, and sent the patient to me for operation. In the course of a month from this time she appeared. Careful rhinoscopic examination of a pharynx remarkably easy of demonstration revealed absolutely nothing except a decided redness and a very slight degree of thickening at the pharyngeal vault. With this series of successive contradictions the parties concerned were naturally very much discomfited.

It was not possible that any of the observers could have made an error in a condition so plain and so easy of demonstration, and it occurred to the writer that some cause based upon an acute attack must have been present at the time when the enlargement was noticed.

Further investigation developed the fact that the patient had

contracted a severe coryza both on the outward and the homeward voyage, and that she was suffering from these colds when examined in London, and afterward in New York. Examined before her departure, again in Paris, and finally in New York after the subsidence of the acute symptoms, no appreciable enlargement was present. The hypertrophy, therefore, was due to these acute attacks; it existed during their course, and finally, when they subsided, it disappeared. This phase of adenoid disease, although uncommon, should not be allowed to pass unrecognized. Certainly it is so little understood as, in the present instance, to have misled three of the most eminent specialists living. It appears to be analogous to the acute enlargement of the tonsils commonly seen in patients in whom these glands are irritable and liable to swell during attacks of cold. It is a condition capable of causing much annoyance. Perhaps the best descriptive title which could be applied to it is, "acute recurrent enlargement of the adenoid tissue at the vault of the pharynx."

While cases such as this, in which the subsidence of the hypertrophy is nearly complete, are unusual, the acute enlargement of pharyngeal adenoids already to some extent hypertrophied is a matter of the commonest occurrence, and opportunities for studying it are constantly afforded. The condition is important, both on account of the temporary inconvenience which it causes and also of the tendency which it manifests to leave behind a permanent enlargement of greater or less degree.

Chronic hypertrophy, as generally met with, is of two tolerably distinct varieties. In the first the adenoid element seems to predominate, while externally the surface of the enlargement is irregular, often simulating a true papilloma. The consistency of this variety is one of its chief characteristics, for it is soft to the touch, friable, easily broken up, and showing a tendency, when torn away, to separate in large, spongy masses. In the second variety the conditions are essentially different. The hypertrophied mass partakes more of the nature of a well-defined tumor, its base being tolerably small, its surface smooth, its consistence firm, and its substance composed more largely of fibrous tissue elements. Operation upon the latter variety is far more difficult than it is upon the former, as its dense structure offers greater resistance to the efforts of the surgeon, which, when successful, result in the detachment of but small fragments of firm tissue, in marked contrast to the large masses which are easily torn away in the variety first mentioned.

The actual degree of hypertrophy present may be no criterion

of the amount of occlusion or of irritation which it may cause, for, in some cases, a comparatively small growth will give rise to symptoms of considerable severity. Again, thickening of the tissue at the vault of a degree hardly sufficient to attract attention may indicate the existence of a condition such as described in Case I, and thus become of great value as a diagnostic sign. Palpation in such cases is not a sufficiently exact means for determining the truth, and recourse must be had to the rhinoscope, aided, perhaps, by the probe, to establish the diagnosis.

Although the general effects of obstructed nasal respiration are sufficiently well understood, there is one series of results which merits more careful attention than it has yet received—namely, the permanent deformities of the bony framework of the nose and hard palate, due primarily, as it appears, to atmospheric pressure and associated with obstruction to nasal respiration. While with the angular upper jaw and high-arched hard palate it is sometimes possible to find a normal nasal septum, the contrary is the rule. Some of the most aggravated conditions of septal deformity are met with in these cases. The well-known experiment of occluding one nostril in a growing rabbit has proved conclusively that marked asymmetry of the nose may result, and there is every reason to believe that similar causes acting in the young child may be followed by like deformities, and that, too, at a very early period in the child's history. That marked deformity of the septum and of the other bony structures of the nose may arise early in life from obstruction to nasal respiration due to adenoid hypertrophy in the naso-pharynx is certain, so that impeded nasal respiration from the presence of adenoids during the period of constructive activity is a constant menace to the normal development of the osseous structures of the nose, as well as of the adjacent antra, and, therefore, of the face itself. Case II illustrates some of the points mentioned above:

F. M. O., aged three years and a half, a mouth-breather, was found on examination to have a large adenoid which was confined to the left side of the pharynx, the right side being comparatively free. The right nasal cavity was abnormally wide and unobstructed; the left was absolutely occluded, the septum being pressed tightly against the turbinated bodies. The adenoid was removed under chloroform, and it was proposed subsequently to restore the position of the septum by gradual pressure. Meanwhile, however, the child was encouraged to breathe as much as possible through the left nostril. The effect of this, within a few months, was to cause such decided improvement in the position of the septum that special efforts at dilatation seemed unnecessary.

The location of the growth is a matter of considerable importance, not alone with regard to the means used for its removal, but also because of the influence exerted upon the auditory apparatus. While it is not uncommon to find that a very considerable amount of hypertrophy may be attended with little or no impairment of hearing, the converse is generally true. Congestion, deafness, and tinnitus are often present in cases where the amount of attendant hypertrophy is remarkably slight.

In proof of this, the following typical case (III) will serve as an illustration:

Miss S., aged twenty-four, at twenty-one had an attack of scarlet fever, following which she suffered a progressive loss of hearing until the deafness became almost complete. Examination of the tympanum showed a moderate degree of opacity. Examination of the upper pharynx revealed a small amount of hypertrophy of all of the adenoid elements of the locality; the tissue at the vault was not so markedly involved as that at the lateral walls of the pharynx, posterior to and a little above the posterior pillar. The enlarged tissue at the vault was removed by slow degrees at repeated sittings by means of the curette, the galvano-cautery, and chromic acid, and was only accomplished after the exercise of much trouble. A fair degree of improvement in the hearing distance followed this, but the best results were not attained until the whole of the offending tissue had been removed from the lateral walls of the pharynx. Subsequent to this the tinnitus vanished and a rapid and gratifying return to little less than the normal hearing distance was accomplished.

To this case might be added the records of many more, all more or less striking. Thoroughness, therefore, is of considerable importance in the removal of these growths, and we are forced to believe that testimony to the contrary is unsafe; although it has been stated by competent observers that "it is not necessary to be too energetic, or to imagine that every particle of the growths must necessarily be brought away, the principal object of the operation being to establish free nasal respiration. If this be effected, a small amount of adenoid tissue left behind may not do harm. The vitality of the remaining tissue is probably destroyed, and it will atrophy. The growths do not recur after removal."

With these opinions, as applied to certain cases at least, experience has forced us to disagree, for, as we have just seen, the establishment of free nasal respiration is by no means the only end to be attained, although we may freely admit that it is the principal and most important one.

As is now well known, the idea that a partial removal of the faucial tonsil will be followed by atrophy of the part left behind is, generally speaking, incorrect. As a rule, only so much will ultimately disappear as has been taken away by the surgeon. The same appears to be the case with Luschka's tonsil. In several cases which the writer has had an opportunity to examine at intervals for several years after operation, the tissue left by him at the time of the operation has remained, going through the same processes of congestion under the influence of attacks of cold and of improvement under favorable conditions which were observed in the original growth. From the history of such cases as the one exemplified in Case III, in which the injurious effects of even small hypertrophies are shown, it seems worth while to insist that operations for the removal of adenoid tissue of the upper pharynx should be thorough and complete. If, as often happens, the thorough removal of the tissue is not easily accomplished in one operation, there can be no impropriety in so informing the parents and in operating again. At least, the patient should be occasionally examined, and the case not abandoned until the removal of all offending tissue has been radically effected. Failure in the above precaution may seriously invalidate the result of a really good operation and reflect unmerited discredit upon the operator. It is impossible to overestimate the importance of this precaution, to which fact attention is particularly called.

Not uncommonly the subjects of this disease are the children of tuberculous parents. Indeed, the frequency with which it is found associated with a tuberculous history is somewhat remarkable. Hereditary syphilis, too, is responsible for many cases, some of the worst which have come under the observation of the writer having been in the children of syphilitic parents. This, of course, is no more than would be expected, as the hypertrophy of the pharyngeal adenoid tissue is but another expression of the general strumous condition under which such patients labor.

In operating upon pharyngeal adenoids, the greatest difficulty seems to be in the thorough removal of the tissue anterior to the vault and just above the roof of the nasal cavities, and of that upon the lateral walls in the region of the fossa of Rosenmüller. Particular attention should be paid, therefore, to these localities, and, if necessary, any remaining tissue subsequently removed.

Jelenffy and others have referred to the danger of fragments of detached tissue falling into the larynx and thus causing asphyxia. While this might happen in the course of an operation done with the

ring-knife or curette, with the forceps carefully used it would not be likely to occur. It is far more probable that dangerous obstruction of the larynx should arise from the impaction of blood-clots in the glottis, an accident which has happened in the experience of the writer, with startling although not with serious results.

In operating, great care should be taken not to wound the healthy parts, as laceration of the mucous membrane is liable to be followed by persistent bleeding, if not by more serious results. In the use of the forceps, particularly with the patient in the recumbent position, it is absolutely necessary that the uvula be held carefully away from the grasp of the instrument. Failure to observe this precaution may result in the seizure and injury of this important organ, if not in its destruction.

An English writer advises that the patient be examined the day after the operation and all ragged ends and fragments of mucous membrane found hanging from the posterior wall of the pharynx carefully trimmed away with a pair of scissors! Such a procedure should never be necessary, since it does not seem that the condition mentioned could arise excepting from great carelessness in operating. Nevertheless, the writer has seen one case—that of a young woman of twenty-two, a slender blonde, in whom the pharynx was remarkably narrow antero-posteriorly and the mucous membrane delicate—where the removal of a fragment of adenoid tissue from the vault by means of a modified Loewenberg forceps was attended with the loss of a strip of mucous membrane from the median part of the posterior pharyngeal wall of about an eighth of an inch in width and extending downward to a point below the uvula. At a subsequent sitting the same accident threatened, and was only prevented by the employment of unusual care. It is possible, therefore, that, while with the exercise of ordinary skill stripping of the mucous membrane from the posterior wall of the pharynx should not occur, in exceptional cases it may be necessary to observe unusual precaution in order to avoid it. The accident may be best prevented by following up the detached mass with the finger inserted into the upper pharynx, and, while pulling forward with the forceps, tearing away from below with the finger-nail any adherent fragments of tissue.

The question of hæmorrhage after these operations is important. Occurring violently during the operation, it will be an effectual impediment to the progress of the work, but can always, of course, be recognized. The appearance or continuance of bleeding after the operation has been completed, and, possibly, after the departure of

the physician, is a far more serious matter, and one which might easily lead to disastrous results. Fortunately, cases in which either of these things has happened are unusual, and, if recognized, the bleeding should be tolerably easy to control.

Thus far only five instances have come to the notice of the writer. In one child, a victim of hæmatophilia, fatal hæmorrhage was caused by the simple exploration of the pharynx with the finger—certainly a most unusual accident. In another case a small forceps was introduced into the pharynx for purposes of diagnosis, and one small mass of tissue removed. Bleeding continued for two days. Dr. R. J. Hall informs me that he was called upon to control a severe hæmorrhage from the vault of the pharynx of a mulatto of nineteen, following an operation upon that part, and succeeded in doing so by means of an astringent tampon.

My friend Dr. George A. Richards operated upon a young boy in whom profuse bleeding occurred during the operation and continued after it until syncope supervened. The child was exsanguinated, and remained in an anæmic condition for some time. In one of my own cases, a delicate boy of four, bleeding was profuse, and the effects of the operation were felt for two months.

There can be no question that the forcible removal of adenoids is a painful operation. From all patients, old as well as young, comes the same testimony. Time and again the writer has operated upon adolescents and upon adults at repeated sittings. Time and again he has had the testimony of intelligent subjects to the effect that the act of operating was exceedingly painful. Time and again he has seen the same patient suffer for a number of hours after each sitting with neuralgia, headache, and sometimes with pain in the ears. He has found it not uncommon for a patient to run down under the shock of repeated operations to such an extent that the nervous system was severely impressed.

By reason of these considerations he has been forced to believe that, in a large number of the more severe cases operated upon, anæsthesia is a most valuable adjunct. Not that the risks of anæsthesia should be incurred needlessly in a patient of good nervous force and in whom the amount to be removed is small, but that, on the other hand, the great majority of patients suffering from the complaint under discussion are abnormally weak, timid, and nervous. They are difficult to operate upon, the work is apt to be imperfectly accomplished, and the results are by no means so satisfactory as when full opportunity is given to explore the pharynx at leisure, and

to remove at once every vestige of adventitious growth that can be reached.

What particular anæsthetic should be used must be determined by each individual operator. Of late the writer has had chloroform administered, and, with an experience of about sixty cases, he is able to speak favorably of it. Its special advantages over ether in this operation, aside from its quickness, lack of irritating qualities, and less nauseating effects, are its ease of administration during the operation, and the fact that it does not cause the same abundant secretion of viscid mucus from the faucial region which is excited by ether, and which in many cases becomes a cause of much embarrassment during operation.

The writer has seen one case in which the removal of an adenoid from a strumous boy of fifteen was followed by a mild double otitis, which subsided after a few days. He has known the same accident to follow the work of other operators. Its possibility, therefore, should not be lost sight of.

It is highly important, when once the necessity for operating is recognized, that the operation be performed without unnecessary delay. The choice of time for operating, however, is a matter of some importance, as the operation may be followed by more or less general depression and the patient be exposed, therefore, to greater risk from the diseases most dangerous to children. The late spring and early summer offer the greatest immunity from danger, while the late autumn and winter are the most unfavorable periods. Any possibility of infection from diphtheria should be most rigorously avoided.

In a case operated upon by the writer in a large apartment house, in which a marked rise of temperature persisted for several days after the operation, with other ill-defined but threatening symptoms, it was finally discovered that an epidemic of diphtheria was present in the house.

The immediate effect upon the voice of an operation may be disappointing, the faulty pronunciation being retained. This is sometimes due, not to imperfect removal of the pharyngeal obstruction, but to a condition of paresis of the velum which has been caused by the presence of the adenoid, and which may persist for some time after its removal.

Finally, as to the general conduct of these cases it must be insisted that they are surgical, and therefore that they should be

treated upon correct surgical principles by men well versed in these principles, both in theory and in practice.

I consider it most important that, after a radical operation for the removal of adenoids, the patient should remain in bed until the shock of the operation is evidently past; that he be placed upon a course of tonics, particularly iron and quinine, until any loss of blood shall have been made good and any depressing result of the operation done away with; and, finally, that it be not taken for granted that every possible benefit has been gained with the completion of the operation. Patients should be examined after recovery from the operation, and not only should the imperfect removal of tissue be remedied, either by surgical or topical means, but the attendant catarrhal symptoms which may remain should be treated, and the general condition of the patient investigated and, if necessary, improved. In this way the best ends may be secured, and what has been a good operation be made to yield finally the most brilliant results.

The all-important question, What degree of hypertrophy constitutes a pathological condition? is one which must arise in the experience of every careful observer, and which has never yet been satisfactorily answered, particularly when it is remembered that simply the removal of obstruction is by no means the only end to be attained. Certainly, an enlargement sufficient to give rise to troublesome symptoms, whether these symptoms be mechanical or not, should be regarded as important, and, if not remediable by topical means, should call for the employment of those of a more radical nature.

Discussion.

Dr. F. H. Hooper, of Boston: I have been much interested in both of these papers and agree, in the main, with what has been said. I think Dr. Delavan's explanation of the case seen by Sir William Dalby and others correct. The extreme vascularity and erectile nature of this adenoid tissue were impressed upon me by one of my own cases. A young lady, twenty years of age, came to me with an attack of acute coryza, and I found what I considered a good-sized adenoid growth at the vault. After the acute attack subsided the growth had almost entirely disappeared.

I think the post-nasal probe an indispensable instrument for a proper examination of the naso-pharyngeal cavity in adults. The parts often look smooth when examined with the mirror, and I have been surprised in these cases, when examined with the probe with the aid of the mirror, to find what a large amount of hypertrophied tissue might be present. In many cases we might be deceived regarding the condition of this cavity

if we relied upon the eye, while an examination with the probe or the finger would set us right. When adenoid tissue is present it ought to be removed as thoroughly as possible. The two chief indications for its removal are obstructed respiration and defective hearing. When a child's nasal breathing is obstructed by these growths they should be removed immediately, no matter what the season of the year might be. With regard to the question of hæmorrhage, I have never seen alarming bleeding except in one case. This was in a very sickly boy, ten years of age, with typical hæmatophilia, on whom I declined to operate in the usual manner. In this case fatal hæmorrhage followed gentle scraping of the adenoid mass with the finger nail. The amount of secretion during the operation depends, I think, upon some idiosyncrasy of the patient rather than upon the nature of the anæsthetic, whether chloroform or ether.

Dr. S. W. Langmaid, of Boston: There is one thing that has not been mentioned in regard to anæsthetics. As Dr. Hooper has said, we do not give chloroform. We give ether, with the greatest confidence as a stimulant, to patients with a failing pulse. If the pulse is feeble, it increases in volume and strength during the administration of ether. Yet, confident as we are in the use of ether, I had an experience a few weeks ago which is not uninstructive. I was asked to operate at the Children's Hospital. I had not seen the child until it was brought to the table. It was a scrofulous, rather weak child, and I was told that it had hip disease. I proceeded in the ordinary way and removed the adenoma. All at once there was heart failure, requiring the rectal injection of ammonia and brandy, and also the subcutaneous injection of the same drugs.

Dr. Harrison Allen, of Philadelphia: I wish to confirm the statements of Dr. Delavan. I had intended to prepare a paper upon the subject which he has so admirably treated. This is now unnecessary. It may interest the fellows to know that the cases that I have had confirm in every particular the conclusions which he has presented. There is a state of pharyngeal distress and ear distress in adults due to something at the vault of the pharynx. Whether it is a recession, or a juvenile condition, or pharyngeal palsy, or some other factor, the truth remains that there is something which the eye will not detect, but which the probe will detect, and, above all things, the finger will detect. The finger can not be used without the employment of an anæsthetic. I think that this is an important thing to be considered. I always insist that an anæsthetic should be given if the condition of the heart admits. This condition is not one that can be treated by nagging processes. Under anæsthesia you can clear out the pharynx and you have the aid of the sense of touch. I have noticed that this material may remain at the anterior part of the vault over the sphenoid bone. I have not been able to dissociate it from some trouble connected with the union of that suture. There is often a recession which is not detected by the mirror.

In respect to ear complications, we read in books devoted to the ear of obstruction of the Eustachian tubes. I have never found mucus in the

tubes where aural trouble was complained of, and you may often see a quantity of mucus, pus, or something else occupying the tube and no ear distress. Is it not possible that the ear distress is due to a state of vascularity and congestion determined by pressure outside of the tube by the adenoid? At any rate, a very small amount of this tissue will cause these symptoms, and often nothing but the finger-tip will reveal its presence. Doubtless this may exist without symptoms, but where reflex symptoms are complained of and the patient comes for diagnosis and treatment, we should make a thorough exploration under an anæsthetic, and if anything is found, take it away. I have often etherized patients and found nothing, but I have never regretted it. There is often no way of determining the presence or absence of this condition without anæsthesia. I always use ether. I was educated never to use chloroform, and I am timid about it. Whether or not this is simply the result of early impressions I am unable to say; I am not able to analyze it. I have used ether without accident.

Dr. J. C. Mulhall, of St. Louis: I have for several years laid it down as an axiom for practical guidance that the pathology of the pharyngeal tonsil was exactly the same as that of the faucial tonsil. Some two years ago a physician of St. Louis came to me with an acute attack, with a temperature of 103° and a great deal of distress and pain about the ears. On examination, I told him he had a follicular inflammation of the pharyngeal tonsil, and he was very much surprised. There was a great deal of swelling of the parts with some exudation from the follicles. That we may have acute exacerbations of the hypertrophy of this part there is no doubt.

I wish to call attention to an instrument which has been very satisfactory in my hands and which was invented by Dr. Gradle, of Chicago. The only objection that I have to it is that the blades open laterally. In one case, in attempting to use this instrument, I caught a portion of the soft palate and tore it. Another objection to the instrument is that it is difficult to grasp that portion of the adenoid that lies close to the septum, and that you are liable to grasp the septum. I have had a forceps constructed with the blades opening antero-posteriorly, and with this instrument I have always been able to remove all the tissue in that region. I have operated a great many times, and only in two or three instances did I require an anæsthetic. Since the introduction of cocaine I have found that the disagreeable part of the operation, which is the scraping of the instrument against the healthy pharyngeal wall and palate, can be avoided. I have applied cocaine thoroughly to these parts, and have succeeded without general anæsthesia. I have never seen any shock in these children. Only on one occasion, where, by the way, this adenoma had escaped detection for ten years, was there any difficulty in inducing the child to return. I have never seen any hæmorrhage. I should like to repeat the fact, not generally known to the profession, that the pharyngeal tonsil is liable to the acute diseases that affect the faucial tonsil.

Dr. F. I. KNIGHT, of Boston: I should like to give, as I have no doubt that it will be of interest, the experience of one of our surgeons in pre-rhinoscopic days. This surgeon had had a great deal of experience in the removal of naso-pharyngeal tumors. One day he told me that he had a case of naso-pharyngeal tumor, and that he would like me to look at it with my mirror. He had done a preliminary tracheotomy, and intended to slit the palate and remove the tumor. I examined the patient and told him that I did not see anything except a little hypertrophied gland tissue. He replied that he had felt a tumor with his finger. He again introduced his finger, and was surprised to find but a small remnant of the former growth. It was one of those cases of acute exacerbation of the adenoid hypertrophy which would have puzzled any one not familiar with the peculiarities of this disease.

In regard to chloroform, we have always been instructed that, while chloroform may be given with perfect safety in the recumbent posture—as, for instance, in midwifery—we have always been told not to give it in the sitting posture. I would ask Dr. Delavan whether he operates with the patient in the sitting or in the recumbent posture.

Dr. DELAVAN: I always place the patient upon his back. I do not consider it safe to use chloroform in the sitting posture.

Dr. W. E. CASSELBERRY, of Chicago: There is one point concerning the technique of the operation for naso-pharyngeal adenoma which I have not seen mentioned. I am impressed with the importance of thoroughly eradicating these growths. This was especially shown in two cases recently in which the operation was performed for the relief of reflex symptoms. In one case spasm of the glottis, and in the other spasmodic asthma, was associated with adenoid enlargement. In both cases material relief followed the operation. The patient with spasmodic asthma, from having the attacks every week or every few days, remained free on one occasion as long as six months. The spasm of the glottis, attacks of which had recurred several times daily, now came only two or three times a month. In neither case was the operation sufficiently thorough to eradicate all the growths, as prominences here and there could subsequently be seen with the rhinoscope, and sufficed, doubtless, to occasion the remnant of symptoms.

With a view to greater thoroughness, I thought it might be possible to see what was being done during the progress of the operation. In order to do this I tied the velum forward with an elastic band passed through both nostrils and out through the mouth. I used the Vienna chloroform mixture, for two reasons—first, because I thought that it might occasion less secretion, and, second, because I desired to have my gas lamp in immediate proximity. I operated with the patient in the sitting posture, and ether no doubt would be safer, and, with the substitution of the electric light for the gas flame, would be unobjectionable. The operation, so far as seeing was concerned, was not an entire success. In one case I could sponge out the blood and occasionally get a view; in

the other case I was unable to do even this. I, however, found that tying the velum forward facilitated the operation. It was no longer necessary to hook the velum forward with the finger, which delays the operation. It might be urged in this connection that tying the velum forward would prevent the ready swallowing of the blood, and thus favor its entrance into the air-passages. To obviate this, as soon as a piece was taken out I had the patient's head and body inclined forward. It is important to do this at all times when there is anything like free hæmorrhage, and when operating with the patient in the sitting posture. The tying of the velum forward and the inclining of the patient forward are two points in the technique of the operation which have given me great satisfaction.

Dr. J. N. Mackenzie, of Baltimore: In operating I do not adopt the plan referred to by Dr. Delavan and Dr. Hooper. Unless the patient is young, or unruly, or comes from a distance, I generally operate at different sittings, removing a portion every day, or every other day, for about a week or ten days. In this way I get rid of the growth with no hæmorrhage to speak of, with very little pain, and without the use of anæsthetics. If the patient seems to feel pain, I use cocaine or some other local anæsthetic.

In regard to the point made by Dr. Hooper with reference to passing a probe over a smooth and apparently healthy surface, I have had this experience. Some time ago I treated a case of obstinate post-nasal catarrh in which there was apparently no hypertrophy of the pharyngeal tonsil as seen by the mirror. An immense quantity of muco-purulent discharge poured out of the pharynx every day, and I became completely dissatisfied with my work. It suddenly occurred to me to make a deep incision in the pharynx, and, with the acquiescence of the patient, I made an incision with a curved knife into the smooth and apparently healthy tissue. This was followed by the discharge of a large amount of a colloid sort of matter, and with great relief to the patient after a few days. He is still under observation. I am trying to remove as much as possible of the pharyngeal tonsil. Since the incision the amount of discharge has lessened very notably.

I have seen only one case in which hæmorrhage was very severe. It was the case of a young colored girl sent to me from one of the lower counties of Virginia. The growth was apparently of an adenomatous character. The soft palate was pushed forward almost to the teeth, the whole mouth was filled with this enormously stretched palate, and nothing could be seen beyond the mass of flesh and tumefaction. There was a little slit on the side through which she could take liquid nourishment. The child was badly nourished, and also had a large adenoid tumor of the neck. When I put my finger into the naso-pharynx, it caused a most alarming hæmorrhage. When I examined the nose, a tremendous flow of blood took place from both nostrils. She had also strabismus, and both eyes were exophthalmic. I hesitated about performing any operation. I took her to the Baltimore Academy of Medicine, and several sur-

geons examined her. One of them put his finger into her mouth, and the bleeding was so great that we thought she was going to die. None of them would undertake the case, and neither would I. Afterward she left the hospital by climbing a tree and jumping the fence and escaping.

As a rule, the hæmorrhage in operating is very slight. It may pour out of the nostril, but it always stops of itself. I think that hæmorrhage on digital examination may be considered almost a diagnostic sign.

I have never met with any accident. The only thing that I recall was in the case of a little girl who was thoroughly anæsthetized and the operation done at a single sitting. A bichloride solution was left with which to syringe out the naso-pharynx. The next day there was a rise of temperature to 103° or 104°, with some pyæmic symptoms. These all passed away after washing out the retro-nasal space.

I consider these cases of adenoid growths as among the most brilliant that we meet with in nasal surgery. There is only one other point to refer to, and that is the nature of these growths. They have been spoken of as adenoid. The growths that I have seen in Baltimore have been of a papillomatous character. I have examined a number of them under the microscope, and their structure does not differ from that of papillomatous growths in other localities. There is, however, a variety which is adenoid; and I believe that is the form which Dr. Hooper sees in Boston, and which Meyer saw most frequently in Copenhagen. We should distinguish between these different varieties. The adenoid growths are more difficult to remove, and occasion more pain than the soft papillomatous growths.

Dr. Delavan: I have nothing to say in addition, except to reiterate the fact, which I appreciate the more the oftener I operate, that the operation is painful and that in many cases cocaine does not meet the requirements. Indeed, it seems impossible that it should in a growth of considerable size, for the cocaine can only be applied to a small portion of the surface, and that the most remote from the pedicle. The operation is painful, and in the majority of cases an anæsthetic will give great help not only to the operator but to the patient.

Paper.

THREE RARE CASES ILLUSTRATED: MULTIPLE PAPILLOMATA OF THE VELUM, IMMENSE FIBROID TUMOR OF THE TONSIL, AND FIBROID TUMOR OF THE NASAL SEPTUM.

By GEORGE M. LEFFERTS, M. D.

THE cases illustrated herewith are of a rarity that justifies me in presenting them.

The physical appearances of the tumors are well shown in the drawings, and require, therefore, no detailed description.

The differential diagnosis in cases so well marked and distinctive as these presents no difficulty. Macroscopical signs alone will suffice for the recognition of their true nature.

Although papillomata are the commonest variety of true neoplasm of the fauces, a growth the size of that shown in the present instance must be very unusual. It occurred in

Case I.—A girl, aged sixteen, who only accidentally noticed its presence in her throat when it had attained fully one third the dimensions here shown. Thereafter it grew rapidly, and in eight months' time resembled the drawing. Little or no inconvenience was caused, dysphagia never being present, and but slight interference with the timbre of the voice.

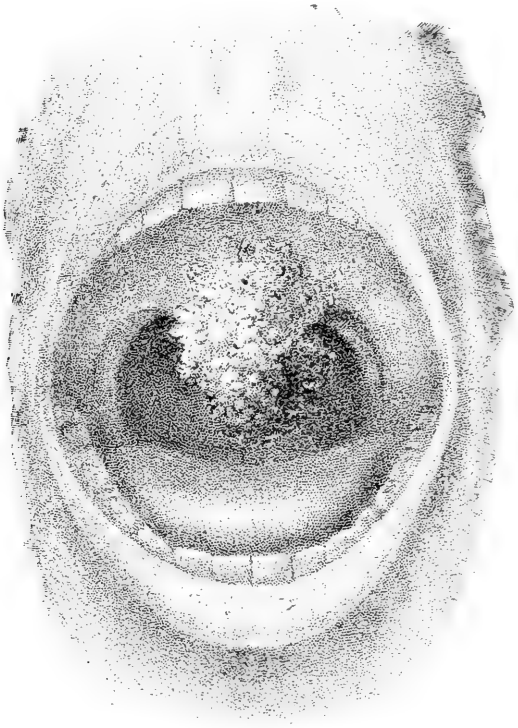


Fig. 1.—Papillomata of the velum.

After anæsthesia of the parts by cocaine, the multiple tumors that made up the mass were removed by scissors curved on the flat. The uvula was not involved and was left intact.

A superficial stellar cicatrix now shows the former site of the sessile portions of the growth.

There has been no sign of any recurrence.

Case II.—A man, aged fifty-five, who for many years had been aware of the existence of a slowly growing tumor in his throat, but increase in size being gradual, and no pain, interference with deglutition, nor embarrassment in respiration having until lately been experienced, no operative procedures had been allowed.

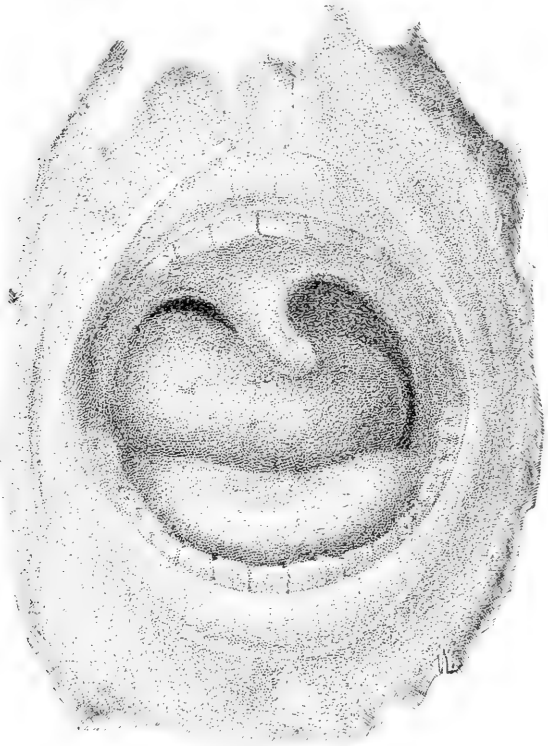


Fig. 2.—Fibroid tumor of the tonsil.

Now, at the date of examination, dyspnœa at night when in a recumbent position and difficulty in the deglutition of both fluids and solids, the growth descending during the act and blocking the path to the œsophageal mouth, demand surgical interference for their relief.

From the region of the right tonsil, the latter being involved in the growth, springs the large, dense tumor, covered by a thin, non-vascular mucous membrane, that is shown in the drawing. It possesses a more or less distinctly defined narrowing at its point of attachment, which renders it an easy matter to encircle it at this part with the wire of the écraseur.

This was done by Dr. C. E. Beebe and the tumor thoroughly and neatly removed. No hæmorrhage.

Case III.—Man, aged thirty-six. I am acquainted with no instance in practice or literature of a *fibroid* tumor springing from the *nasal septum* save the one here shown. The little tumor was hard and dense, its

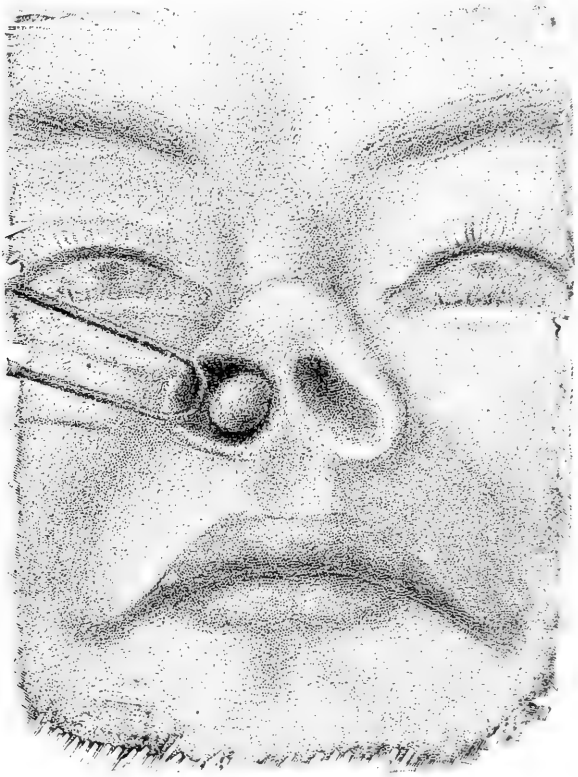


Fig. 3.—Fibroid tumor of the nasal septum.

covering a thin vascular mucous membrane, and it was distinctly pedunculated by a delicate pedicle, the latter attached to the nasal septum just above the muco-cutaneous junction, in the right nostril. The sole symptom caused by its presence was occlusion of the right nasal passage, the discomfort of which had caused the patient to seek advice. He was unable to state how long the growth had existed.

The pedicle was cut through with scissors and the tumor removed.

Paper.

WARTY GROWTHS IN THE NARIS.

By E. FLETCHER INGALS, M. D.

A PECULIAR case of this rare affection has for some time been under my treatment, which I believe will be of interest to this association.

Mr. X., a gentleman forty-six years of age, came under my care three years ago, complaining of hawking and spitting, and hoarseness upon using his voice for a short time. These symptoms were found due to a recurrent pharyngo-laryngitis induced by thickening and deflection of the septum narium and swelling of the inferior turbinated bodies. He objected to operative procedures; therefore the treatment was limited to means for reducing the swollen condition of the turbinated bodies and relieving the congestion of the larynx. In a short time these measures were so far successful that he was relieved and had no more trouble for several months, but the following spring the difficulty returned, and was associated with a subacute tracheitis. I saw him occasionally for a few weeks, and subsequently he remained well, until he finally returned in March, 1888, complaining of similar trouble. At this time, in addition to the appearances formerly noted, I found a small, grayish, sessile, warty excrescence on the mucous membrane of the left naris, about a centimetre and a half within the nostril. To this I applied chromic acid, which completely removed it, and there had been no return at the end of five weeks, when he started for New Mexico. Upon his return, about three weeks later, I found the left nostril about one half occluded by a soft papillary growth, which sprang from the mucous membrane of the septum within about a centimetre and a half of the nostril. This was about seven millimetres in diameter by seventeen millimetres in length, and had a base fully as large as the diameter of the growth. I removed this with a snare and cauterized the base with chromic acid. A week later two or three small growths, grayish in color and hard to the touch (indeed, in all respects, excepting color, exactly resembling warts on the skin) were found—one on the floor of the naris, just within the line of union of skin and mucous membrane, and others on the anterior end of the inferior turbinated body. These were cauterized thoroughly with nitric acid. A month later two more warts were destroyed in the same way, and three weeks later two others had appeared on the septum, about fifteen millimetres from the nostril. These were also touched with nitric acid. A week later, finding that the warts on the septum and turbinated body continued to grow, I thoroughly cauterized them with the galvano-cautery. A month later other small warts had appeared in the

same locality. These were cauterized with nitric acid, and when they reappeared were touched with a ninety-five-per-cent. solution of carbolic acid. Afterward, from time to time, chromic acid and nitric acid or acid nitrate of mercury were used to destroy the warts. Some were eradicated, others grew again, and still others were developed from the surrounding mucous membrane. In December, 1888, and the early part of January, 1889, I curetted out all of the warts to a depth of about three millimetres below the surface of the membrane with the galvano-cautery, but by the 19th of January another small wart had developed near by, and similar growths have continued to spring up at intervals ever since, so that altogether I must have destroyed twenty-five or thirty. Some places where the warts have been removed now appear perfectly healthy, and others show healthy cicatrices. I have not used the galvano-cautery often latterly because I did not wish to destroy so much tissue; besides, the results from it were not much better than from other caustics.

On the 20th of April the patient returned after an absence of two weeks, and I found, besides two or three minute warts on the septum and one of considerable size at the lower part of the nostril, a comparatively large mass of warty tissue at the anterior extremity of the inferior turbinated body which grew from a broad base about eight by sixteen millimetres in size, and was about six millimetres in thickness at its largest part. This was of a pink color, had a slightly raspberry-like surface, and the little nodules, which were somewhat lighter in color than the tissue between them, presented a few small red spots similar to those seen on ordinary warts. The smaller warts were touched with acid nitrate of mercury; the large mass I removed with the galvano-cautery, scooping out the soft tissue nearly down to the bone.

Professor Walter S. Haines has examined this and reports as follows: "The small tumor which you recently sent me has been carefully examined under the microscope conjointly by Dr. A. J. Ochsner and me, and we find it to be a papilloma similar in structure to a common wart. It consists of a central portion of connective tissue, sending off numerous delicate branches or papillæ, which are covered with a somewhat prolific layer of epithelium. The latter, however, although abundant, is entirely superficial, not extending down into the connective tissue itself. We find no nests of cells, nor any other important histological elements excepting those mentioned above."

For several months preceding the middle of April, 1889, the warts have developed less rapidly and have had almost exactly the density and appearance of cutaneous warts, excepting that they were somewhat lighter in color on account of the moisture of the parts. The patient has never had pain in the growths, has no cachexia, is apparently in perfect health, and wounds of the parts heal kindly; therefore I do not think these growths of a malignant or lupoid character.

He has several healthy children, is a gentleman with a clean history, and has no sign or scar indicative of specific disease; indeed, there seems every reason for believing that there is no such taint. At only one time have the growths resembled condylomata, but for a period of about fifteen months they have sprouted up and grown rapidly to a moderate size like cutaneous warts which they so closely resemble; therefore I believe them essentially the same as the verrucæ so frequently seen upon the hands of children.

I have never observed this affection in other patients, and, though authors speak of papillary growths and condylomata in the naris, I have been unable to find a description of any case closely resembling this. I have had the library of the Surgeon-General's office carefully searched and can find records of only two cases at all similar to it, but in each of them there was only one growth which upon removal did not recur. The cases referred to are as follows:

First, "Condylomatous Polyps of Nasal Fossa," etc., by Dr. A. Testelin, "Jour. de méd., chir. et pharm.," Bruxelles, 1859, xxviii, p. 147. The growth was described as tongue-shaped, slightly thickened at its edges, like a cock's comb, about six centimetres in length and about six millimetres in thickness; soft to the touch; nowhere vesicular in appearance, and with no evidence of serous infiltration. Its color grayish-yellow, dotted with minute red spots. It was apparently attached, by a portion about twelve millimetres in length, to the border of one of the turbinated bodies. This growth seems to have been very similar to the largest growth, which was removed in the early part of the treatment, in my case.

Case second, "Papilloma of Septum," by H. T. Butlin, "St. Barth. Hosp. Rep.," 1885, xxi, p. 150. The author found a "warty growth" depending from the upper part of the front of the naris, nearly blocking the passage. He removed it with the galvano-cautery and it did not return. He says: "So far as the diagnosis is concerned it is easy, for the warty character of the tumor is distinctly visible as it lies in the interior of the nostril. It may, of course, be mistaken for a warty epithelioma, a disease even more rare."

I saw a warty growth similar to these in the person of an elderly lady about three years ago. It was about a centimetre in diameter, grew by a comparatively small pedicle from the mucous membrane of the anterior portion of the septum, and had the same genera characteristics as that described by Testelin. I removed it with steel-wire snare, and there has been no recurrence.

These cases seem to be of the nature of the large single warts or moles not infrequently met with on the back and sides. In the case of Mr. X. the growth resembled as closely as possible the apparently contagious ordinary wart known as verruca vulgaris. There were two or three very small warts when the condition was first noticed, but others have grown near these and upon the opposite surface, apparently spreading from the original warts. Many times the growths have seemed to be eradicated, but the warts have appeared again in the same or other places until altogether there must have been twenty-five or thirty, varying in size from three to eight millimetres in diameter.

If any of the members of this association have seen similar cases, I shall feel under great obligations if they will tell me how to cure this so that the growths will not return. It now appears that my present line of treatment may succeed with the efficient aid of time, but I should like to escape obligations to this ancient remedy.

Paper.

DYSPHONIA SPASTICA.

By FREDERICK I. KNIGHT, M. D.

I WOULD like briefly to introduce this important subject, in the hope that, as so little has been published on it, I may perhaps be the means of drawing out some unpublished observations by members of this association, before whom the subject has not been presented in many years.

All of our members are probably familiar with the disturbance of the voice-production which has been variously named aphonia spastica, aphthongia laryngea spastica (Gottstein), stammering of the vocal cords, spasm of the tensors, speaker's cramp, etc.

In this phenomenon there is evidently a spasmodic action of the muscles of phonation or respiration, or both, which gives rise in the majority of cases to a high-pitched, jerky, and feeble voice. There is sometimes a long intermission in the vocal sound, so that the term aphonia spastica might be appropriate, but in the cases which I have seen the term dysphonia spastica seems more suitable.

The fellows of the association who were present at the meeting in Boston in 1882 will remember a patient with this affection well marked, whom I presented to them. Since that time I have seen

only four cases, which leads me to agree with Sir Morell Mackenzie, who considers the affection a very rare one, rather than with Mr. Lennox Browne, who considers it "so far from being rare, in its milder forms one of almost every-day occurrence." We do sometimes see a condition of somewhat similar nature in cases of acute laryngitis, and perhaps such a condition might be easily overlooked when a patient was suffering from acute inflammation of the larynx, and every effort was being made to prevent him from using his voice, but I am sure that as a chronic condition the phenomenon can not be overlooked, and consequently, in my experience, I believe that it is rare.

Three of my cases occurred in men, and one in a young woman of twenty years. One of the men was a physician, one was in mercantile business, and one was superintendent of a factory, where he was obliged to talk to men in the midst of much noise. His mother, moreover, was deaf.

The woman, whom I have recently seen, is a teacher, and the trouble developed while she was forcing herself to talk with a hoarse cold. This is the lightest case I have ever seen, and one in which it might appear that the prognosis was better than usual, though the condition has already existed a year. There is no obstruction in the nasal passages, but, on the contrary, a tendency to an atrophic condition, and a slightly offensive secretion. Under the use of cleansing solutions for the nose, strychnine internally, and cold douches, the spastic symptoms have improved, but they return, especially on conversation with strangers. Massage of the larynx or compressing the wings of the thyreoid improves the voice temporarily. There is nothing especially morbid on laryngoscopic examination, and I was not able in any of the cases to obtain a view of the spastic phenomenon. It seemed as if the simplicity of the required vocal effort prevented nervous excitement.

In the absence of post-mortem examinations it is impossible to say what the lesion is in these cases.

It seems natural in some, with Schech, to call the affection a coordinated neurosis of occupation, like writer's cramp, etc. Cases like that of Heymann * suggest a central lesion, while such cases as E. Hoffman's † and Hering's ‡ suggest a probable reflex origin.

The lesion and mechanism are probably not always the same.

* "Internationales Centralblatt für Laryngologie, etc.," vol. iii, p. 260.

† "Monatsschrift für Ohrenheilkunde, etc.," 1885, p. 428.

‡ "Internationales Centralblatt," vol. ii, p. 571.

My own experience in these cases would lead me to regard the prognosis as very unfavorable, but of course would be favorable in reflex cases dependent on a cause capable of removal, as in Hoffman's patient, who was cured by the removal of the hypertrophied anterior ends of the middle turbinates.

I have nothing to add to the long list of therapeutic measures laid down by Schech and others—viz., absolute rest of the voice, galvanism of the throat and brain, vocal exercises, tonics, and cold douches on the head and neck, which latter remedy cured one of Schech's cases after all other treatment had failed.*

I would like by this communication to draw out from the fellows of this association a report of every case of chronic aphonia or dysphonia spastica which has been cured or modified by treatment.

Discussion.

Dr. G. W. Major, of Montreal: I have had one case of aphonia spastica and two of dysphonia spastica. The case of aphonia occurred in a boy of fourteen years of age with a well-marked history of hereditary syphilis. The two cases of dysphonia spastica were met with in adult young men, and in both Hutchinson's teeth were observed. In the case of aphonia the vocal cords closed spasmodically on phonation, and altogether acted much in the same manner as in defecation. I noticed in this case also a spasmodic action of the diaphragm synchronous with the closure of the cords. Under treatment no satisfactory improvement occurred. The thought has more than once suggested itself to me that there may be some relation between syphilis and spastic aphonia.

Dr. S. W. Langmaid, of Boston: I reported one case fifteen or sixteen years ago, and in that case everything I tried was unsuccessful. The patient always prescribed for himself a little whisky when he had to use the voice, and that answered for the time being. The condition seems to be about the same as at that time.

Dr. D. Bryson Delavan, of New York: In one of the cases referred to by Dr. Knight the same phenomena were observable as in the case mentioned by the last speaker. The patient, after fortifying himself with a stimulant, would talk tolerably well. I had him under treatment for two months, and he seemed to improve under local applications to the larynx and vocal training, especially directed to the management of the breathing, and it seemed that if the training could have been continued long enough the trouble might have been done away with.

Dr. F. I. Knight: I really believe that more cases have been seen than have been reported. I should like to have had some opinion upon the idea of Lennox Browne that these cases are not infrequent.

* "Monatsschrift für Ohrenheilkunde," 1885, p. 1.

Dr. C. E. Bean, of St. Paul: About two years ago a case was referred to me by a physician in St. Paul. The patient was a man, twenty-five years of age, with a syphilitic history, suffering with aphonia spastica. I had him under observation two months, using galvanism, faradism, strychnine, etc., without the slightest benefit. He is now in about the same condition as at that time.

Paper.

SOME OF THE MANIFESTATIONS OF SYPHILIS OF THE UPPER AIR-PASSAGES.

By THOMAS AMORY DE BLOIS, M. D.

IN bringing before you this well-worn subject, it is merely to chronicle a few of the different forms of cases as seen by the laryngologist in his daily practice, perhaps showing what we may do and what we had better leave undone, with a view of preventing some of the horrible deformities which are so often the sequelæ of syphilis in its nasal and buccal lesions.

It would be most natural to divide the subject into three local varieties—according to whether it occurs in the nasal passages, the pharynx, or the larynx; and these in turn according to its attacking the soft or the deeper or hard structures—call it secondary or tertiary if you will.

The "plaque muqueuse" of the nose is rare compared to the occurrence of "patches" in other localities. I have never known it to resist the ordinary astringent treatment. But when the cartilaginous septum of the nose is attacked it is a very different matter; perforation inevitably follows, and it is with great difficulty that the necrosis is arrested, the process creeping along beneath the mucous surface, and it is generally not checked until it reaches the surrounding bony structures. The falling in of the end of the nose does not necessarily follow; I have seen many cases where the nose was to outward appearance intact, but was within a ruin.

The turbinates and vomer frequently die and remain entombed, the nares being too small to allow of their removal whole.

Two years ago, at the Boston City Hospital, I had a case of this kind, the sequestrum being too tough to be cut with the forceps, and it was without sufficient support to allow of being drilled through with the dental engine. It was found necessary to split up the nose, and I then removed the vomer and one turbinate with the forceps.

Long drills will frequently be found convenient for detaching and removing these fragments. Perforations into the antrum are most disastrous in their results, because it is so difficult to properly treat and cleanse these localities and remove what necrosed tissue may exist.

J. W., a fireman by occupation, contracted syphilis six years previous to my seeing him. He had a large perforation into the right antrum. Necrosis was still progressing rapidly; the fœtor was fearful. I removed pieces of dead bone many times, and curetted whenever and wherever possible. He was obliged to leave the fire department on account of the disagreeable odor, and he disappeared unrelieved.

When the destruction of bone extends from the anterior nares down around the incisor teeth, these should be removed, and the necrosed alveolar plates drilled out with the dental burr. It will be found that this operation is an exceedingly bloody one. Iodoform and tannin blown with a great deal of force up into the empty tooth cavities is a good antiseptic dressing.

A. F., an Italian, a Boston Dispensary patient, had syphilis of unknown duration even to himself. One central incisor tooth had come away and one was removed; the drill passed easily up into the nares, through the alveolar processes, which were easily removed, shortening the dental arch considerably. He improved somewhat under large doses of iodide of potassium, the bichloride pill, and cod-liver oil.

The loss of the anterior nasal spine of the superior maxillaries is followed by the frog-like deformity which disfigures so much. If any treatment short of excision of the bone is possible, it certainly should be diligently followed, for the aspect of the face is more repulsive than when the cartilaginous septum is entirely gone.

In the mouth and pharynx we find our most usual field of syphilitic affections, and, although the destruction of the soft parts advances with lightning-like rapidity, yet it seems as if Nature were here more lavish in her restoring processes.

The perforating ulcer of the velum is the ordinary form which the lesion takes, and, as the part is in such constant motion, the healing is rendered doubly difficult.

It is useless to employ any form of local treatment before the patient is fully under the influence of medicines, and, although mercury is necessary, yet the greatest reliance must be placed on the potassic iodide. Its quick effect upon the symptoms of syphilis is certainly the greatest help we have at our command. In most cases

the destructive process may be retarded or checked in twenty-four hours, but sometimes a much longer period is required.

The sketch (A) is from the case of Mr. C., a theatrical manager, who was sent to me, having been under treatment with stillingia for some weeks, during which time the largest single perforation I ever saw had progressed to the size shown in the diagram. After he had been on the iodide for about forty-eight hours I freshened the edges of the ulcer and brought them together with silk sutures; at the end of another day these had completely sloughed out. I attributed my want of success to having been too hasty in my procedures. I then increased the iodide and used the stick nitrate of silver as a caustic and stimulant; under this treatment the perforation closed gradually. I never allowed the edges to harden, and finally, although the opening never closed entirely, it was reduced to such a size that a probe could with difficulty be passed through it, and speech and deglutition were normal.

In a few other cases, where the perforation was not so large, entire closure was effected without suturing.

Mrs. K., a married lady, who had contracted syphilis and concealed it from her husband, and whose palate I was very anxious to save, I had the same experience with. As the transverse perforation was very large, I was afraid one of the two isthmuses would slough, so I sutured very soon after seeing the case. But the sutures sloughed out, and one isthmus also, so that the semi-detached portion hung down on one side, and finally, after causing a great deal of trouble in swallowing, was to a great extent absorbed, and remained as a kind of excrescence at the side of the tonsil. excision having been declined.

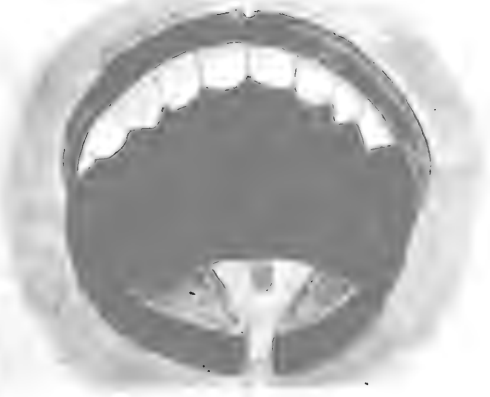
Mrs. R. (sketches B and B′) showed another example of a perforation which did not heal until the isthmus had been cut through, treatment not having been commenced soon enough. The deep ulcer behind the right pillar was prevented from forming cicatricial adhesions by frequently being stretched open with a probang.

Mrs. T. (sketches C and C′), also a married lady. In this case there was a perforation of the soft palate, with one through the anterior pillar, and a third through the mucous membrane and involving the bony palate. In this case the perforations were treated with nitrate of silver, and the denuded and necrosed palate was curetted with a sharp scoop; the openings healed rapidly, except the one near the tonsil, which, although it healed, never closed.

Of three other cases involving the hard palate, in two the opening healed, in one after curetting and in one after being burred out with the dental burr. In one case, after being burred out under ether and once with cocaine, it did not heal, and finally, after a good deal of

A

B



B′

C

C´

D

necrosis had taken place, the palate plate was removed with forceps at the Boston Dispensary by my colleague, Dr. J. W. Farlow.

Miss N. H., an actress, came to my office complaining that a furuncle had ruptured in her mouth. On examination, I found that there were two syphilitic ulcers involving and exposing the bones of the hard palate. The lower surface was cut out with the burr and the edges were stimulated with caustic, and they healed quickly under iodide of potassium and the corrosive chloride of mercury.

Mrs. O. D. B. (sketch D) had had loss of substance of the soft palate, which had adhered to the pharyngeal wall, quite high up. This closed the posterior nares and occasioned great discomfort. In syringing through the nose I found that there was, as is usual in these cases, a very small opening into the mouth. This I carefully stretched until the nozzle of a syringe could be passed through. I refrained from detaching the velum from its new adhesions, for, whereas phonation was almost normal (as is invariably the case where the attachment is high) and deglutition all that could be wished, yet I knew that, if the palate were even successfully detached, neither function would continue, without the use of an obturator plate, on account of the great shortening of the velum.

Passing on to the larynx, we find that the worst results in this locality are from the cicatricial adhesions which so frequently take place.

Mr. G. F. had had a certain loss of substance on the tip of the epiglottis, and also bands of cicatricial tissue binding it down on the left side as far as the arytenoid, which was thus greatly crippled in its action. When I first saw him, ten years after the first infection, he was almost voiceless. Very little effect, except to increase the inflammation, was derived from such operative measures as dilating and stretching the parts. Medication, and the consequent absorption which took place, was of great benefit, and his voice is now quite audible, the motion having been greatly increased and vicarious action from the other side set up.

I might, in conclusion, draw attention to my poor results in any attempt at operative procedures during the activity of the ulcerative lesions of syphilis, for at that time the vitality of the parts seems to be much more feeble. But when, through the action of medicine, the ulceration is apparently arrested, it is the proper time to endeavor to correct or prevent deformities.

In removing necrosed portions of the hard palate with the drill, burr, or trephine, it seems advisable not to perforate the bone, for not only would a fistulous opening be very apt to follow, but, should this not be the case, there would be much more scar contraction than if the outline of the bony parts was left.

Discussion.

Dr. F. H. Bosworth, of New York: I am sorry that the speaker did not touch more upon bone lesions, which I consider the more important feature of the tertiary syphilitic manifestations in this portion of the air-tract. There is still one question undecided, and that an exceedingly important one, and that is, How far is the bone involved in these deep ulcerations of syphilis? Of course the ulcerative process means ultimately a necrosis of the bones to a great degree covered by the original gumma, and the question is not only how far is the bone involved, but also what is the ultimate tendency? My own view is that the syphilitic manifestation in the deep layers of the periosteum of the hard palate expends its virulence in the primary deposit of the gummatous material, and that the morbid process now becomes mainly a local one, which consists in the development of an endarteritis, as has been shown so clearly by Schüster and Sänger, under the action of which localized necrosis or ulceration of the soft parts ensues, purely as the result of a shutting off of the normal blood-supply. As a final result, the nutrition of the bone is interfered with and bony necrosis takes place. The primary deposit of gummatous material limits the extent of the necrosis, so that the idea of the extension of the ulceration is not correct.

Taking this view, I think that the ulceration is not the important thing; it is the bone. Deal with the bone and the ulceration will take care of itself. After the primary breaking down of the gummatous material, the maintenance of the ulceration is dependent upon the necrosis of the bone, so that removal of the diseased bone is an important part of the treatment.

The point which I desire to make here is that the original gummy deposit occurs as the result of the constitutional disease; the ulceration is a local process, the necessary result of the pathological features of the gummatous material causing an endarteritis; furthermore, the ulceration is limited by the original gummy deposits, and no new gummy matter is deposited later, except as a new explosion of the disease, as it were; a gummy deposit occurs suddenly, and is not progressive. Bony necrosis results from the gumma, and, a bony sequestrum being formed, this becomes the prominent feature of the local disease in that it keeps up the ulceration by its mere presence, as of a foreign body.

I indorse Dr. De Blois as regards the treatment in the administration of potassic iodide and not the use of mercury until the lesion has disappeared. After the syphilitic lesion has disappeared, then mercury should be given for the removal of the syphilitic virus. As regards operative treatment, it had better be let alone until the syphilitic virus is thoroughly under control.

Dr. C. C. Rice, of New York: In regard to operation in cases of adhesion of the soft palate to the posterior wall of the pharynx, one point must not be forgotten—viz., that in some of these cases there is

extensive cicatrization and contraction in the post-nasal pharynx above the line of adhesion; consequently, after the lower adhesions have been separated, we do not get the good results, so far as nasal respiration is concerned, that we should expect. The reason of this failure is that the cicatrization in the post-nasal pharynx still remains. This part of the operation should be attended to, and is as important as the freeing of the lower adhesions. It has been said that we should not operate until the "force of the specific disease has spent itself," but it is difficult to determine when this point has been reached. I have had a case within a year where there was complete adhesion and in which there had been no manifestation of a syphilitic process for many years. The patient had taken medicines, and was apparently cured. I separated the adhesions with the galvano-cautery, but the ulceration produced by the operation refused to heal kindly, and extended somewhat, in spite of all that I could do in the way of constitutional and local treatment. I have found that there was less tendency to readhesion where the galvano-cautery was used with a low grade of heat than when cutting instruments were employed. I have lately heard of an operation which has been tried in New York for the relief of these adhesions. An ingenious physician has made a perforation through the line of adhesion with the galvano-cautery, and a ring has been passed through this and worn until cicatrization has taken place, and then he has freed the adhesions in the circle of the ring. This, it is maintained, will prevent readhesion.

Dr. J. N. Mackenzie, of Baltimore: Dr. De Blois has referred to the dangerous symptoms from the extension of the ulceration into the accessory sinuses, principally the antrum. I would like to caution the members of the association, if they have not had a similar experience, against the too vigorous removal of diseased bone from the nasal passages. You frequently pull out more than you want, and from dangerous regions. I have not had this occur in my own practice, but I have seen it in that of others. I have seen a portion of bone drawn out, and some of the brain membranes with it.

I had a very sad case on my hands a few years ago—that of a lady who had acquired or inherited syphilis. I removed nearly everything in the nose—the turbinated bones and the sides of the antrum of Highmore, and finally the perpendicular plate of the ethmoid became so loose that I removed it. The plate of the ethmoid which had been removed had attached to its upper surface a portion of membrane, but I am in doubt as to its nature. I placed her on the use of iodide of potassium and stimulating and nutritive treatment, and she remained well for two years. She was then taken with a violent headache and a profuse fœtid discharge from the nose. This headache passed off in a few days, and she did not consult me until two weeks after the headache had first appeared. I found that the process had broken out again and had invaded both antra. Offensive pus was discharged through the mouth and throat and every possible way of escape. I began vigorous antisyphilitic treatment, and

did everything that I knew of to relieve her, but she finally went into a state of coma, and had general convulsions. Symptoms of meningitis set in, from which she died. I am of the opinion, from my examination and digital exploration of the case, that the process extended to the brain, not through the nasal passages, but that ulceration had penetrated through some other avenue. A post-mortem examination was not allowed, so that I can not prove this point.

I fail to comprehend the point made by Dr. Bosworth. Do you leave the ulceration alone and just pay attention to the bone?

Dr. Bosworth: The original deposit of gummatous material limits the extent of the ulceration. The ulceration does not extend beyond. I do not believe that it invades the antrum unless there has been a primary deposit in the antrum. Of course, the ulcer is to be treated, but it can not be cured until the prominent perpetuating cause has been removed—viz., the necrosed bone.

Dr. Mackenzie: What are the clinical facts to support this view?

Dr. Bosworth: Syphilis shows a tendency not to transgress anatomical boundaries. It extends only so far as the original deposit of gummatous material. The syphilitic ulceration does not extend from one place to another. Furthermore, I believe that clinically the extent of the swelling, tumefaction, and redness indicates the extent of the gummatous deposit.

Dr. Mackenzie: I am not prepared to accept or deny this view, which, if it can be proved, marks a decided advance. It would almost revolutionize our treatment.

Dr. W. H. Daly, of Pittsburgh: I am somewhat surprised at the statement of my friend, Dr. Rice, that he, a man of acknowledged ability, had used the galvano-cautery knife in freeing the adhesions of syphilis. I am very glad that he has brought this up as a warning to others. I should consider it a very bad method of practice to use the galvano-cautery on any adhesions of such low vitality as syphilitic tissues. There is also a great tendency to the readhesion of cauterized tissues. I believe that the galvano-cautery is a very much abused instrument, but abused by its friends. I believe that it is often used by skillful practitioners from an unfounded fear of hæmorrhage in the use of the knife. I feel satisfied that we can always obtain better results in the fauces, in the nose, in the larynx, and, in fact, in any operation anywhere, if we do it with a sharp cutting instrument and allow as free hæmorrhage as is consistent with good judgment and safety. In other words, the freer the hæmorrhage within certain limits, the more certain are we to have immunity from septicæmia and the more certain to have rapid union with satisfactory results. While I think that the galvano-cautery knife is a useful instrument, I think that it is a very much abused instrument. I am glad that my eminent and able friend, Dr. Rice, has made this honest confession. It may be a warning to others less experienced than himself.

Dr. H. L. Swain, of New Haven: I should like to hear if there is

any way of proving the statement that ulceration takes place only in the portion where there has previously been a gummatous deposit. It would seem that we have a contradiction of this view in the secondary ulcerations which occur in the course of treatment where everything is apparently healthy and there is no evidence of gummatous deposit. These new ulcerations come in different places from those in which ulceration first occurred.

Dr. J. C. Mulhall, of St. Louis: I can scarcely let the statement of Dr. Bosworth pass without question. How does he explain the cases of tertiary syphilis in which almost every portion of the bony framework of the nose is involved? Does he say that there are gummatous deposits involving the nasal cavities *en masse?* Every one of us has seen cases of tertiary syphilis where hardly any portion of the boundary of the nose was uninvolved. I therefore take issue with his assertions, first, that gummatous deposit must take place before ulceration; and, second, that the limits of the ulceration will not extend beyond the first deposit of gummatous material.

Dr. F. H. Bosworth: The investigations of various observers have shown the cause of the ulcerations of syphilis. It has been shown to be due to the gummatous deposit. That is the only explanation that we have of the ulceration. The explosion of syphilis consists in the deposit of gummatous material under the mucous membrane, and the explosion exhausts itself in that deposit, but the local process goes on. There is no subsequent deposit until there is another explosion. The thing exhausts itself for the time being. Syphilis involving the whole nasal cavity is not due to extension. I have looked for it, but I have not found it. Ulceration occurs only where the original deposit took place. Subsequent deposits may involve other portions of the nose. I think there is no clinical evidence showing the extension of a syphilitic ulceration of the variety under discussion.

Dr. A. T. De Blois: The discussion has taken so wide a field that it is difficult to touch upon the points that have been brought up. I would only say in regard to the assertion of Dr. Bosworth that we should remove the bony structures and let the ulceration take care of itself, that it is very difficult to say how far the ulcerative process in the bone has extended. I have seen these ulcerations heal after a very slight scraping, while in other cases the whole bone has had to be removed. When ulceration occurs in the soft parts, we can not let it absolutely alone. It will heal, but it will heal open, and you will have all of the distressing results which follow that condition.

Paper.

NOTE ON THE GALVANO-CAUTERY IN THE TREATMENT OF HYPERTROPHIED TONSILS.

By CHARLES H. KNIGHT, M. D.

IN a paper on this subject, read at a meeting of this association two years ago, the following opinion was expressed: "Galvano-cautery should be reserved for a comparatively small proportion of cases, including those in which the hæmorrhagic diathesis is present or suspected, those in which vascular anomalies may be recognized, those in which anatomical conditions prevent a sufficiently complete excision of the organ, and those in which the use of a knife is positively declined." With regard to adults it was recommended that "a patient above the age of twenty years be allowed his option after a fair presentation of the risks and advantages of the two methods" —namely, cauterizing and cutting. During the last two years my experience in eighteen selected cases in hospital and private practice has, on the whole, confirmed my original conclusions. As to cauterizing tonsils in young children, it may be said that it is next to impossible to persuade children under ten years of age to submit to galvano-puncture often enough and to a degree sufficient to accomplish much, and the use of the cautery-loop is in them out of the question, except under general anæsthesia.

The experience of Saint-Germain,* who is a rather extravagant advocate of ignipuncture, has been decidedly different from my own. The ages of his patients, as recorded in twenty observations, range from two to fifteen years, but it is noticeable that in his younger cases a single cauterization sufficed. The inference is natural that he is satisfied with less complete results, especially since he remarks that tonsillotomy should be practiced only *when the tonsils meet in the median line.* It seems to be accepted in this country that tonsils which do not reach this degree of enlargement may be sources of irritation and should be removed. Paul Balme,† who follows the teaching of Ruault, advises the amygdalotome for children of from two to five or six years. After the latter age he finds electro-puncture practicable. He is in the habit of transfixing the tonsil

* "Rev. des mal. de l'enfance," 1884, ii, 520; see, also, "Trans. of the Ninth Internat. Med. Congress," vol. iii, p. 457.

† "De l'hypertrophie des amygdales," Paris, 1888.

at four or five places with an electrode brought to a white heat, the cauterizations being repeated three to six times, at intervals of ten or twelve days. To one who has witnessed the terror of a child who has once felt the heat of the cautery point when it is proposed to repeat the experiment, this statement seems almost incredible. In my opinion the guillotine is far preferable in children, and in those of highly nervous temperament it should be used under nitrous-oxide gas or ether, the anæsthesia with the latter not being profound. For these cases nitrous oxide is the ideal anæsthetic. Its effect is rapid, recovery is prompt, and the period of unconsciousness is ample. Thus, much of the shock attending an excision of the tonsils may be avoided, the bleeding is not appreciably more, and the operation may be done with equal thoroughness. In older children and in adults the galvano-caustic point and knife, and more particularly the cautery-loop, are of service in the treatment of hypertrophied tonsils. My attention has been especially directed to the effect of cocaine, and to a comparison of the degree of pain experienced by the same individual under different methods of operating on either tonsil. It is very difficult to estimate pain. One patient will declare that excision of a tonsil does not hurt at all, while another will make the most vehement demonstrations. But at least an approximate idea of the pain may be formed by adopting a different operation for the second tonsil.

This procedure was resorted to in five of my cases. In every case cocaine in ten-per-cent. solution was applied on a pledget of cotton or sprayed into the fauces. In one the cold-wire snare was used on one side and the galvano-cautery loop on the other. In this case the pain of the cold-wire operation was so intense that, when nine days later the removal of the second tonsil with the cautery loop was undertaken, the patient, a young woman of seventeen, was so nervous and restless that great difficulty was found in applying the loop. Consequently, the cold-wire operation proved to be the more radical. There is no question, however, that in this case the hot wire was less painful, more rapid, and was followed by less inflammatory reaction than the cold snare. After the latter the pain persisted, and for several days the formation of a phlegmon was threatened.

The histories of the four remaining cases, in which the cautery loop and the amygdalotome were used, are very similar. That of my most recent case will answer for all.

The patient was a colored girl, twenty-four years old. The right tonsil was removed completely two weeks ago with the cautery loop. Five

days later, reaction having subsided, the left tonsil was excised with the tonsillotome. The contrast in the behavior of the patient on these two occasions and in the subsequent appearance and action of the wounds was not remarkable. The base of the first tonsil was cut through by the hot wire in less than a minute, the patient offering but very little objection, and not a drop of blood being lost. The soreness and pain in swallowing began to subside at the end of thirty-six hours, the patient meanwhile using a carbolized gargle at short intervals. On the third day there remained a little œdema of the uvula, and there was considerable inflammatory swelling of the pillars of the fauces. Except for the slough, which was beginning to separate and which involved to a slight extent the posterior pillar, the parts presented precisely the appearance expected after an excision of the tonsil. The left tonsil, considerably smaller than the right, was removed with Mackenzie's amygdalotome on the fifth day Hæmorrhage at the time was much less than usual. The patient asserted that the pain was much more than with the preceding operation. In this case there was no subsequent bleeding, the soreness was of rather shorter duration, and the wound healed more quickly, which may be attributed to the relatively smaller dimensions of the second tonsil.

As a general rule, it is impossible to distinguish any marked difference in the sensitiveness of the stump or in the rapidity of the healing process.

These tests have satisfied me that the pain caused by the cautery-loop operation is not so much greater as to constitute a valid objection. Electro-puncture is in the aggregate more painful because of the frequent repetitions required, and is adapted only to cases in which for any reason the snare can not be used. By the use of cocaine it seems to me that but little, if anything, is gained beyond securing more complete rest for the parts and so facilitating the adjustment of the wire loop. In some cases even this effect of cocaine is defeated by the nausea which the drug is apt to produce.

In the technique of the galvano-cautery operation there is but little new. For the purpose of tucking the loop around and behind the tonsil, and holding it in position until the wire can be tightened, a little two-pronged instrument made of copper, so that it may be bent at any desired angle, and held firmly in a handle, will be found very convenient. It is a good plan, the moment the loop is seen to encircle and be in contact with the tonsil, to turn on the current for an instant. The wire adheres and may be tightened at leisure without danger of slipping or being thrown off by the act of gagging. In spite of the utmost care, the pillars of the fauces are in some cases more or less damaged, but the injury is generally superficial. In many cases, owing to the shape of the tonsil, the adhesion of a pillar,

or the intolerance of the patient, it is very difficult to include more than half of the tonsil. These difficulties may be in part overcome by preliminary training of the patient and by thoroughly releasing an adherent pillar.

Additions to the literature of this subject have been rather numerous. The galvano-caustic method has been approved by Dr. F. H. Potter,* of Buffalo, in a paper read before the New York State Medical Association, and in a short communication from Dr. Jonathan Wright,† of Brooklyn. Dr. E. G. Kegley ‡ reports a case of extreme tonsillar hypertrophy in a man forty-three years old, in whom spasmodic attacks resembling hay fever, with the additional symptom of profuse salivation, were entirely relieved upon removal of the tonsils with the galvano-cautery loop. Noquet # reports a case of chronic abscess in the stump of an excised tonsil cured by use of the galvano-caustic point. This author, as well as Heryng and Charazac, expresses a preference for the galvano-cautery in removing enlarged tonsils. On the other hand, Moure prefers the amygdalotome, and he professes to have seen in children the development of retropharyngeal and circumtonsillar abscess after the use of the galvano-cautery. Three cases similar to that of Noquet have been observed by Garel, ‖ who strongly recommends the cautery in hypertrophied tonsils, especially in cases showing a tendency to suppurative inflammation. Kafemann △ recommends the galvano-cautery, while G. Dodart ◊ maintains that amygdalotomy should be employed but rarely, on account of the numerous accidents possible, and that ignipuncture is the operation of choice. Barette ⁑ describes the methods of operating, and expresses a decided preference for the thermo-cautery or the galvano-cautery as compared with the bistoury and the amygdalotome. In a paper by Ouspenski, ⁂ on "The Treatment of Enlarged Tonsils in Children," based on fifty-two observations, the method by galvano-puncture is highly praised;

* "Med. News," Philadelphia, March 10, 1888.

† "Med. News," Philadelphia, March 24, 1888.

‡ "N. Y. Med. Jour.," Sept. 22, 1888.

\# "Arch. de laryngol., de rhinol.," etc., June 15, 1888.

‖ "Ann. des mal. du larynx," etc., January, 1889. See also Ricordeau, "Thèse de Paris," 1886; Gache, "Thèse de Paris," 1888; and Chauveau, "Thèse de Paris," 1888.

△ "Deutsche Med.-Ztg.," No. 23, 1889.

◊ "Thèse de Bordeaux," 1888.

⁑ "Rev. gén. de clin. et de thérap.," Oct. 22, 1888.

⁂ "Ann. des mal de l'oreille, du larynx," etc., July, 1888.

and Valat,* after noticing the fact that hæmorrhage following excision of the tonsils, rare in children, is by no means infrequent in adults, advises the use of the thermo-cautery.

Wilhelm Roth,† of Fluntern, advises the employment, under cocaine in ten- to twenty-per-cent. solution, of the finest point of the thermo-cautery inserted at three or four places in the tonsil, the operation being repeated four or five times at intervals of two or three days. He finds this sufficient to reduce the tonsils to their normal size, with scarcely any pain and without the risk of troublesome hæmorrhage, which, contrary to my own experience, he says is not uncommon, *especially* in young children.

In commenting on the views of Saint-Germain, Delavan‡ expresses his disagreement for three reasons: 1. The process is far more difficult and painful than amygdalotomy. 2. There is not an authentic fatal case of hæmorrhage after tonsillotomy on record. 3. While he has seen and performed hundreds of amygdalotomies without having known diphtheria to occur in the wound in a single instance, he has known four cases in which the disease immediately followed the use of the galvano-cautery. The first objection should be modified to read "*somewhat* more difficult and painful." It is true that the galvano-cautery operations, at least those with the loop, require more time and trouble, possibly more manipulative skill, and somewhat elaborate apparatus. The second point may be admitted, and yet it is not much comfort to a patient who has lost a pint or so of blood, who is just on the verge of syncope, and who is already frightened almost to death, to be told that no one has ever yet bled to death after amygdalotomy, and he probably will not. All the statistics in the world will not reassure him. With regard to diphtheritic infection, it seems to me unreasonable to suppose that the germs of disease are any more likely to invade the system through a wound covered by an eschar than through an open wound left by amygdalotomy. The period of incubation in diphtheria varies from two days to a fortnight,# fresh wounds being earliest affected, and constitutional symptoms often preceding the appearance of the local lesion. It seems perfectly fair to assume that in these cases of immediate diphtheritic development, such as Delavan refers to and as cited by Saint-Germain,‖ the patient was already under the influence

* "Gaz. des hôp.," No. 132, 1888.

† "Lancet," London, Feb. 16, 1889.

‡ "Annual of the Univ. Med. Sci.," 1889, vol. iv, p. 13, E.

Jacobi, "Treatise on Diphtheria," p. 67.

‖ "Rev. des mal. de l'enfance," 1884, ii, 520.

of the disease at the time of the operation. Such an accident has not occurred with either operation in my experience, and, indeed, it seems to me quite as apt to occur in the condition of the tonsils for which their removal is demanded as it is after any operation whatever. An enlarged tonsil, its crypts deepened and distended by inspissated and decomposing secretion, would seem to offer most excellent soil for the lodgment of disease germs.

One of the strongest arguments in favor of the galvano-caustic method is the fact that it insures against hæmorrhage, but a case recently reported by Werner * would seem to show that our contention in this particular must not be too positive. His patient began to bleed five days after treatment with the galvano-cautery, and is said to have been saved by compression of the carotid for ten days. Not having access to the original, I can not give further details. In the case of Capart, mentioned in my former paper, hæmorrhage was undoubtedly provoked by immoderate use of the voice. I suspect that to this cause, and perhaps indiscretion in diet, may be added as possible factors deficiency of heat and excessive traction on the loop during the operation. It is easy to conceive that in such case the resulting eschar might fail to give sufficient protection to the stump of the tonsil. Violent exercise, loud talking or singing, or an irritating particle of food might easily be the exciting cause of hæmorrhage. We can not too closely observe precautions in these particulars, especially when we have reason to mistrust the caustic effect of the wire.

My zeal in advocating this method of treating hypertrophied tonsils is tempered by two facts, which I at least feel obliged to admit. First, burning, if not more painful, is at any rate more disagreeable to most people than cutting; second, the prevalent dread of hæmorrhage after excision of the tonsils is not warranted by clinical experience. I am more firmly convinced that the danger of hæmorrhage after the use of Mackenzie's amygdalotome, which is by far the most convenient, most efficient, and safest cutting instrument, has been unduly magnified. This is especially true of children, and in adults it seems to be the rule that bleeding ceases on the occurrence of syncope, if not before, and seldom recurs to an alarming extent. This statement has been verified by three cases which have come to my notice within the last eighteen months, by the case reported by Fuller,† in which the common carotid was tied without effect, and

* "Würtemberg. med. Corr.-Blatt," No. 31, 1888, in "Jour. of the Resp. Organs," January, 1889.

† "Am. Jour. of the Med. Sci.," Apr., 1888.

by numerous other instances. Excluding hæmatophilia, which is under any circumstances an alarming condition, we are not likely to meet with bleeding after amygdalotomy which need cause any anxiety. Perhaps Mackenzie's estimation of tanno-gallic acid as a hæmostatic is exaggerated. Should it fail, however, without wasting time with other styptics, so justly condemned by Levis, we may confidently resort to the use of the tenaculum as suggested by that writer,* or the loop of the cold-wire snare may be applied, possibly with the aid of a transfixion needle. Cases in which ligation of the external carotid artery will need to be considered should become exceptional. The researches of Zuckerkandl † have proved that the course and relations of the internal carotid artery must protect it from injury at least in guillotine operations. No one should be deterred from securing the relief afforded by amygdalotomy by fear of bleeding to death. Delavan asserts that there is not on record a single case of fatal hæmorrhage after the use of the guillotine for simple hypertrophy. The detrimental effects of enlarged tonsils are too obvious to be ignored. The benefit following their removal is with many of us a matter of almost daily observation. The risk of the operation itself need excite no apprehension.

At the same time the limited class of cases included in my enumeration must in some way be provided for, and for these the galvano-caustic method seems to combine the most desirable with the fewest objectionable features. The removal of a tonsil in this way requires a little more time, but in the majority of my cases the pain has not been excessive, the extirpation has been thorough, and the final result in every respect satisfactory.

Discussion.

Dr. T. A. DeBlois, of Boston: I think that the principal objection to the removal of the tonsil, or rather snipping it off, is the production of a scar in the mouth. I have not cut a tonsil for a great while. I used to cut every one that I could. I have used the cautery point in two cases of enlarged tonsil, with excellent results. I have not heard Dr. Knight refer to the use of the electrolytic needle, which I have employed with satisfactory results. The pain under cocaine is very slight. A very small amount of electricity will produce chemical changes in the fluids of the part. Half a dozen punctures each day will in a short time, in the majority of cases, produce a great diminution in size. I use this only in

* "Med. News," Philadelphia, Dec. 8, 1888.

† "Med. Jahrb.," Wien, 1887, p. 309.

adults. I do not employ it in children, for in them the tonsils are very apt to lessen in size.

I agree with Dr. Knight in regard to the pain and distaste of the cautery point. The smell is very objectionable, particularly in the clinic room, where the smell will last half the morning. These patients do not come back if they can help it. I think even then it is preferable to the use of the guillotine.

Dr. CHARLES E. SAJOUS, of Philadelphia: I have frequently used the galvano-point. I think that in his first paper Dr. Knight stated that eight or ten applications were sufficient to bring down certain tonsils. Such has not been my experience. It has generally taken eighteen or twenty sittings to reduce tonsils of any size. So far as the odor and pain are concerned, I think that after the first or second visit we have very little trouble with the patient on that score. I can lend my voice to that of Dr. Knight in support of the galvano-cautery point in the treatment of enlarged tonsil, especially where the density is not great. In these cases cicatricial contraction assists in reducing their size. I burn as deep as the knife will go—about a third of an inch.

Dr. W. H. DALY, of Pittsburgh: I must say that I have very little patience with methods of treatment of enlarged tonsils which would subject the patient to half a dozen sittings with a plaything like the instrument that my friend Dr. BeBlois speaks of.

I believe that in the normal throat there is no tonsil that you can discover beyond the line of the half arches, and that should be the rule to guide us in abscission—and I mean abscission and not burning with the galvano-cautery knife. We should have one object in view, and that is to restore the abnormal throat to a condition as near anatomically perfect as possible. First use the amygdalotome if you wish to, but this will not do the work completely. Then with a probe-pointed curved bistoury and toothed forceps trim off the remaining portion of the tonsil until the half arches fall where nature intended them to fall—to their proper places. You will then have improved phonation and improved general health, and, if the patient has a predisposition to pulmonary disease, he will not be handicapped by a condition of affairs which should not exist in health at least.

Dr. DEBLOIS: I do not think that the electrolytic needle should be spoken of as a toy, for it does its work. I have seen tonsils atrophy under its use. There is no reason because we do surgery that everything should be cut off, and nothing treated so as to atrophy, if that is possible.

Dr. F. H. BOSWORTH, of New York: I believe that the simplest operation in surgery in the hands of a competent laryngologist is cutting out of the tonsils. I can conceive no possible justification in submitting a patient to eighteen or twenty operations when the whole thing can be done in a moment. The enlarged tonsil requires to be taken out just as much as a fibroid tumor of the uterus, and it should be taken out entire, not in pieces. I do not suppose that any man would say that a

fibroid tumor of the uterus should be partially removed. In the same way there is no justification for removing a part of the tonsil. No one would think of removing a fibroid tumor in eighteen or twenty sittings. There is no case on record of death from hæmorrhage after the operation of cutting out the tonsils, and this is the only danger attendant upon the operation.

Dr. C. C. Rice, of New York: There are a few cases of enlarged tonsils in which the use of the galvano-cautery is the best operation that can be employed. I have in mind a case operated on within the last few weeks—that of a gentleman about forty-five years of age, who has had attacks of suppurative amygdalitis repeatedly; the tonsil was very large, very firm, and filled with blood. One tonsil had been excised by a physician in New York and the man nearly bled to death. He bled, in fact, until syncope took place. I saw him some weeks later, when he was suffering with a fresh attack of amygdalitis. The tonsil which had been removed was excised with the guillotine and the pillars were not injured. I preferred, with such a history, to use the galvano-cautery for the remaining tonsil. I would say to those who think that little can be accomplished with the galvano-cautery, that the whole of a large tonsil in an intelligent adult can be removed at a single sitting. The tonsil was treated with cocaine, and the edge of the galvano-cautery point was inserted into the tonsil at the level of the pillars and the tonsil cut through. The whole of the tonsil down to the pillars was removed at one sitting. There are a few such cases in adults, where there has been a history of hæmorrhage and where frequent attacks of inflammation have left the tonsil immensely congested, where the galvano-cautery used in this manner is efficient. In excising large congested tonsils in adults I have several times proceeded in the following manner: I have employed a dull amygdalotome, and have pushed the blade down very slowly. Cocaine is used so that the patient can easily tolerate the instrument in the mouth for some time. There is little pain. In this way the blood-vessels are compressed before they are cut.

Dr. C. H. Knight, of New York: One object of my paper is to call attention particularly to the loop operation, which in my opinion is superior to ignipuncture. It can be done at one sitting. The portion of tonsil removed does not indicate the extent of the operation. A good deal of the tissue that remains will slough, and contraction takes place. The thoroughness of the cautery-loop operation has been equal to that with cutting instruments. I would not for a moment be suspected of opposing amygdalotomy. Yet we sometimes meet with cases which can not be cut, and it is to these *exceptional* cases that the galvano-cautery is adapted.

Paper.

THE TREATMENT OF DISEASED TONSILS WHEN UNATTENDED WITH HYPERTROPHY.

By JOHN O. ROE, M. D.

IT is my purpose in this short paper to call attention to some chronic diseased conditions of the tonsils not characterized by hypertrophy. Such diseased conditions have frequently proved, in my experience, to be of marked clinical importance and to demand appropriate and thorough treatment.

The group of glands between the pillars of the fauces which constitute the faucial tonsils is, as has been stated by Dr. Bosworth,* so small in size when in their normal condition as to be scarcely perceptible on ordinary inspection. The condition of moderate prominence of the tonsil that is commonly seen is not a normal condition, although the tonsils may not be so much diseased as to give rise to any particular disturbance. It is a fact, however, that the tonsils may be and very often are so extensively diseased as to give rise to well-pronounced and often serious local and general disturbances, while at the same time they retain or may be reduced to about the same size as in health, and it is to this condition that the writer wishes to direct particular attention.

This condition of the tonsils has not only not received the attention it demands, but is not even mentioned by the majority of writers on tonsillary diseases, although it has not remained entirely unrecognized.

In conjunction with "Chronic Follicular Tonsillitis," Dr. Cohen† recognizes the fact that the tonsils may be quite extensively diseased without being in a condition of hypertrophy, and Dr. Harrison Allen‡ has reported five cases of tonsillary disease producing well-marked and persistent symptoms in which the tonsils were small and so hidden behind projecting faucial pillars as to remain unnoticed.

* "The Function of the Tonsils, with some Practical Suggestions in Regard to their Diseases," Congrès périodique international des sciences médicales, Copenhague, "Compte-Rendu," vol. iv, p. 54.

† "Diseases of the Throat and Nasal Passages," 2d edition, p. 222.

‡ "The Tonsils and Follicular Irritation," "Medical News," Philadelphia, vol. xli, p. 31.

A similar condition has been alluded to by Mr. Lennox Browne * in his brief description of "Chronic Lacunar Tonsillitis," and a case is reported by him similar to those reported by Dr. Allen. Dr. Maxwell,† of Jacksonville, Fla., has practically recognized certain conditions of the tonsils that form the subject of this paper, but the title of his paper, "Ablation of Tonsils when Smaller than Natural," is misleading, for the reason that it presupposes or implies that tonsils are normally prominent and well-pronounced bodies.

Wagner,‡ in describing chronic catarrh of the lacunæ in conjunction with atrophy of the tonsils, says: "The cyst-like dilatations of the lacunæ (like comedones) have a clinical importance from the fact that their contents act irritatingly on the contiguous parts, either mechanically or chemically. In this way are produced, and usually repeatedly, the various kinds of tonsillitis, and especially intratonsillar and peritonsillar abscess."

It is interesting to note that for these conditions, which are capable of producing so much mischief, Wagner recommends no treatment whatever, for the reason, he says, that they are seldom detected during life. It is a traditional and a very generally accepted idea that only hypertrophied tonsils require treatment, but the fallacy of this idea will be apparent by a careful consideration of these obscure abnormal conditions of the tonsils, which so often escape observation.

The primary and most common form of disease of the tonsils is hypertrophy. In children it is rare that we find any other than the hypertrophied form of tonsillary disease; but in adults other diseased conditions of the tonsils are of frequent occurrence. It is a recognized fact that hypertrophied tonsils in children become smaller when adolescence is reached; and it is also the common belief that the subsidence of these tonsils indicates a return, not only to their normal size, but to a normal condition. But a careful examination will readily show this belief to be a fallacy; and it is not infrequently the case that these small tonsils will give quite as much annoyance to the patient as he experienced from the tonsils in their enlarged condition. It is almost invariably the case that these small but diseased tonsils in adults follow as a sequel the hypertrophic tonsils of children, and exemplify the importance of

* "The Throat and its Diseases," London, 1887, 2d edition, p. 335.

† "The Medical and Surgical Reporter," Philadelphia, 1889, vol. lx, p. 196.

‡ Von Ziemssen's "Cyclopædia of the Practice of Medicine," American edition, vol. vi, p. 971.

removing from the throats of children all tonsils attended by any considerable degree of hypertrophy. All chronic diseased tonsils in adults almost invariably follow a condition of hypertrophy in childhood or youth; but in exceptional cases hypertrophy may not precede the diseased conditions under consideration.

The two forms of chronic diseased tonsils which remain after the subsidence of hypertrophy, or which may exist independent of hypertrophy, are—

1. A chronic disease of the crypts and lacunæ of the tonsil.

2. A fibroid degeneration of the stroma of the tonsil or a cicatricial formation at the base of the tonsil.

The first condition is the result of chronic follicular inflammation of the tonsil, and is almost invariably associated with chronic follicular pharyngitis. The most common form of this is attended by the destructive degeneration of hypertrophied tonsils in children, and is distinctly a diseased condition of the follicles of the tonsils. This slow but progressive destruction of the follicles of the tonsils is the exciting cause of the frequent attacks of suppurative inflammation, which often attends this condition, and which is easily induced by slight exposures or deranged conditions of the system. These degenerate tonsils often have the appearance of being hypertrophied when the crypts and lacunæ are filled with the *débris* of the degeneration, which frequently has a very offensive odor and causes the person to have a very bad-smelling breath.

It is not uncommon to find the surface of diseased tonsils studded with white spots which mark the openings of the lacunæ. These white spots are caused by the material discharged from the crypts and lacunæ of the tonsils and is the chronic inflammatory exudate resulting from the disease of the tonsil. On squeezing this out, it will be found to be of a soft, cheesy consistence, to resemble very much the contents of comedones, and to have an offensive odor, which may be more fully brought out by crushing it. It is usually the case that much deposit of this material is associated with more or less hypertrophy of the stroma of the tonsil, for when the stroma and follicles have undergone further degeneration, this substance is poured out in a fluid form.

The second condition is also the result of the follicular disease, except that, simultaneously with the degeneration of the lymph follicles, there is a deposit of fibrous material in the stroma. The cicatricial formation at the base of the tonsils is the result of the fre-

quent attacks of suppuration around the base of the tonsils which is induced by the follicular disease.

The reason for these conditions being so frequently overlooked is that they usually give rise to little or no discomfort to the patient which he refers to the tonsils themselves; because the disturbances to which they do give rise are usually located in other parts, and are of a reflex character. Another reason for their being so readily overlooked is that, on examining the throat, the diseased condition of the tonsil generally looked for is hypertrophy. This being absent, the real disease of the tonsil remains unsuspected.

The chronic disease of the interior of the tonsil, even when it is attended with considerable discharge, is frequently undetected for the reason that the discharge is so readily cleared away by swallowing or drinking. In other cases the tonsil may be partially or completely hidden behind large and projecting faucial pillars. In the latter case the free exit of the tonsillar discharge may be prevented by the overlapping pillars, thereby causing a distension and dilatation of the crypts and a bulging of the pillars over the tonsils.

In these cases the anterior pillars should be drawn forward with a blunt hook. For this purpose an aneurysm needle or a plain palate retractor is very conveniently adopted. The act of gagging also assists materially in the examination by throwing the tonsils inward and forward, thus exposing them completely to view.

In all cases of obscure disease of the throat the tonsils should be carefully examined. The enlarged crypts and lacunæ may be explored with a probe for enlarged pouches which are so often filled with muco-purulent discharge; and this discharge can be readily demonstrated by simply squeezing it out with the finger. The formation in the tonsil and around its base of cicatricial tissue, which is very often the exciting cause of throat irritation, can also be readily detected with the probe and finger, and can usually be suspected by simply a careful inspection.

The local irritation produced by the diseased condition above described is manifested in a variety of disturbances about the throat and head. The association of this diseased condition with follicular inflammation of the pharynx renders a removal of the abnormal condition of the tonsils a necessity, before the latter can be cured. Also, disease of the faucial tonsils is frequently the exciting cause of diseased conditions of the other so-called tonsils—the lingual and the pharyngeal tonsils.

It is also frequently manifested in irritation of the larynx and

hoarseness; and it is not infrequent that cicatricial formations in and about the tonsils will produce neuralgia of the face, neck, and more or less frequent or persistent neuralgic affections of the ear.

The necessity of treatment of these diseases is therefore evident, not only from the existence of the disease itself, but from the liability of its becoming aggravated by the slightest causes, and also from the accompanying disturbances which it almost invariably produces. The method of treatment in these cases is always local, except in those conditions of the tonsil that depend upon specific disease, or those conditions of chronic inflammation of the circumcellular tissue of the tonsil that accompany rheumatic conditions.

Local applications of medicinal substances in these conditions of the tonsils are practically useless. The application of caustics, such as the Vienna or London paste, may be used in the first form of the disease described, in which the tonsil itself is soft and flabby. In the case of the fibrous or cicatricial formations, the efficacy of the paste is not so great, as the tissue is not readily destroyed by it. The galvanic cautery, which is sometimes employed for the removal of hypertrophied tonsils, may also be employed in these cases. It is, however, far more efficacious in the treatment of disease of the lacunæ and crypts, for the reason that the application of the galvanic cautery tends further to increase the formation of cicatricial tissue.

The treatment *par excellence* in all cases is that of ablation with the knife. In the case of diseased crypts, they may be laid open with a bistoury, and the interior of the crypt thoroughly cauterized with chromic acid or a solid stick of nitrate of silver, or the silver fused on a platinum probe, as proposed by Dr. Cohen. The best plan, however, in these cases is, according to my experience, that of excision. In such case, however, the amygdalotome can not be employed. The method of removing these tonsils is simply to grasp the tonsil with a double tenaculum, draw it forward from its bed, and remove a portion at a time. It is rarely advisable to attempt to remove the whole mass at one cut, for these tonsils are so often attached to the pillars of the fauces that wounding the pillars is liable to take place if care is not exercised. The plan which I adopt in these cases is, first, to anæsthetize the parts as thoroughly as possible with cocaine. This has a double advantage, in that it not only renders the operation less painful, but decreases the liability to hæmorrhage. Then with a double tenaculum and a curved blunt-pointed tonsil-knife to remove small portions of the tonsil until all the diseased mass is thoroughly extirpated, usually leaving a deep

excavation between the pillars of the fauces. In the case of a cicatricial formation, it should be removed as thoroughly as practicable. In some cases of chronic disease of the crypts of the tonsils it is advisable to remove the outer portion of the tonsil completely, thus exposing the interior of the crypt, which can be cauterized thoroughly.

In all cases, however, the complete extirpation of the gland when possible is far preferable to any other form of treatment, as nothing but a surface of healthy tissue is left, which heals quickly and permanently. In no instance has the writer observed any troublesome hæmorrhage in these operations. This is doubtless due to the fact that in these cases the nutrient vessels going to the tonsils are small or are not so distended as they are when the tonsils are in a condition of hypertrophy.

A large number of cases illustrating the foregoing observations could be cited, but, as the recital of cases is tedious, I will simply state that in every instance excision of these small but diseased tonsils has resulted in a complete cure of the tonsillary disease, and entire relief from all the attendant symptoms of local disturbance and reflected irritation.

Discussion.

Dr. H. L. Swain, of New Haven: I have had an interesting case in which the recurrence of swelling of the lingual tonsil was due to the presence of these hard or caseous masses in the faucial tonsil. I only succeeded in subduing these attacks by treating first these crypts in the faucial tonsil. The treatment which proved successful, and easily so, was the laying open of the crypt with the galvano-cautery knife and thoroughly cauterizing the interior, more by ignipuncture than by any attempt to burn out the whole cavity. The case has been watched for several months and the result remains good.

Dr. J. Solis-Cohen, of Philadelphia: These conditions of the tonsil have given me a great deal of trouble for years. I find that many cases of spasmodic cough are due to nothing else than the presence of these masses in the crypts and lacunæ of the tonsil, sometimes even without any evidence of their presence on the surface. I find these not only in he enlarged tonsil, but also in the apparently contracted tonsil. It is sometimes necessary to produce some gagging so that the posterior surface of the tonsil will present itself before you detect the mass. In obscure cases of spasmodic cough I have for a long time carefully examined the tonsil as a possible source of reflex irritation.

Where the tonsils are enlarged I believe the best treatment to be excision. In those cases where the tonsil is atrophied or apparently atrophied—for even here the tonsil may be as large as a large almond—

I press the matter out with a blunt scoop, and then use a simple astringent consisting of one grain of creasote, one grain of iodine, and five grains of iodide of potassium to the ounce of glycerin. By getting this well down into the lacunæ, you can sometimes cure these cases. Where this does not answer, I have taken a pair of curved serrated scissors, such as were long ago recommended for other purposes by Dr. Benjamin Ward Richardson, to cut the crypts open. One blade is put into the orifice and the part is cut through, and then with a dull scoop the crypts are scraped as thoroughly as possible. Sometimes this leaves ragged edges, but these can readily be snipped off.

I believe that this disease is not so well appreciated by the profession as it should be. I have seen many cases of prolonged cough, extending over a period of five or ten years and longer, completely and permanently relieved by treatment of this condition.

Dr. DELAVAN: My experience is entirely in harmony with the statements of Dr. Lennox Browne upon this subject, and I agree with the reader of the paper. The pathological tonsil is, I think, by no means limited to the one in which hypertrophy alone is present. There are many other conditions of the tonsil which give rise to difficulties both direct and reflex, and which can only be relieved by attention to the tonsil.

Dr. DALY: There is another condition which was not brought out in the paper, and which I have more than once observed in cases where the lacunæ had become filled with cheesy matter, and that is that the patient would become really ill, suffering with headache, loss of appetite, lassitude, and other evidences of disordered secretion; and, before I adopted the method of abscising the tonsil and obliterating the lacunæ, I made sufficient observations to satisfy myself that these accumulations were the cause of the general symptoms by an auto-infection.

There is another point: these accumulations render the breath exceedingly offensive, and to some persons this is especially disagreeable. I am much obliged to Dr. Roe for giving us this excellent paper and dealing with this subject in such a common-sense way. I believe that the treatment should be radical and curative, not tentative.

Dr. F. I. KNIGHT: It seems to be a question whether or not in such cases the underlying condition is not some constitutional fault, or possibly some digestive disturbance. In some typical cases I have seen the follicular exudation not only upon the tonsil, but also upon the tongue, the lingual tonsil, the soft palate, and the back of the pharynx. It seems as though they frequently came in connection with some constitutional disturbances, and we shall not succeed in relieving the patient entirely from this exudation until we modify the constitutional or digestive condition.

I had one notable case, such as Dr. Cohen describes, where the patient for years had an irritative cough, and discomfort always referred to one side of the throat. The cause of the trouble had escaped detection by

several observers, and I did not discover it for several visits. On making her gag and throw out the tonsil, I found the point of one of these exudations. I then passed a probe in as far as possible and scooped out a cretaceous mass as large as a pea or larger. The symptoms were at once relieved.

As far as local treatment is concerned, I would say that I have had satisfaction with the cautery point, or with any destructive agent which I have had the patience to introduce into each one of these follicles after it was emptied.

Dr. S. Johnston, of Baltimore: As bearing upon this condition of the tonsil, I would state that in three cases which have come under my observation the exudation from the follicles, instead of being a soft, cheesy material, resembled little spicules of bone or small crystals of alum. These adhered with great tenacity to the tonsils, to which, however, they were not confined, but were also found on the fauces and the post-pharyngeal wall. They can sometimes be drawn out with great difficulty, and are exceedingly painful to the patient, who often complains of a foreign body in the throat. Two of my cases were in children and the third was a physician from a neighboring county. I tried a great variety of remedies, but the best results were obtained from chromic acid in ten-per-cent. solution. After one application, the parts being previously sprayed with an antiseptic solution of phosphate of sodium and carbolic acid, these crystals could be drawn out with the forceps. The specimens were not examined microscopically. If any of the gentlemen have had similar cases I should be glad to hear of them.

Dr. Rice: I have recently seen a most remarkable case of retained tonsillar secretion—remarkable on account of the large amount of cheesy material present; not only does it fill the lacunæ of the faucial tonsils, but the lymphatic tissue at the back of the tongue is whitened with the deposit. In this case the tonsils are normal; there are no adhesions to the pillars. I have listened with interest to the remarks of Dr. Daly, and I had hoped that some information would have been gained as to the constitutional conditions causing or associated with this retention of tonsillar secretion. I have tried to discover any constitutional peculiarities in my case. The patient has had diphtheria two or three times, and everything in the way of an explanation seems to point toward local causation.

I can bear witness to Dr. Daly's belief that this retention affects the general health. It also causes an offensive breath. While the general condition of my patient is quite good, she suffers with headaches, symptoms of indigestion, and is frequently tired and miserable. The tongue is very much coated. This tonsillar cheesy material has been found by a German investigator to contain putrefactive bacilli.

I am treating my case with the galvano-cautery puncture.

Dr. Daly: I fear that I did not make myself clearly understood. I desire to emphasize the point that the retention of this fœtid filthy ma-

terial in the tonsillar lacunæ is the cause of the general illness of the patient.

Dr. Roe: I am glad to know that the observations of so many of the fellows present have been in accord with those which I have made on these particular diseased conditions of the tonsils. There is one point regarding the ætiology of the first condition of the tonsils described in my paper that has been, I believe, entirely overlooked. It is that this lacunar catarrh and disease of the crypts are the result of hypertrophy of the tonsil, and that the closing up of the lacunæ often results from the attempts that are made to reduce the size of the tonsil during childhood by repeated applications of astringents, which have no other effect than to close the external orifice of the lacunæ and to cause a retention of the secretion which distends the crypts of the tonsils, and the secretion, becoming decomposed, adds to the abundance of the discharge. The tonsils, accordingly, become diseased throughout, and are in appearance, when cut through, much like a honeycomb. I have found the application of remedies thrust into the openings of such tonsils to be of no value, because so few of the crypts can be reached. The only radical treatment is the removal of the diseased portion. This is also the case with the fibrous form, which results from atrophy of the stroma and the deposit of fibrous tissue. In both of these cases the function of the tonsil is practically abolished, and the only way to remove the difficulty is to remove the diseased mass.

Paper.

SOME UNUSUAL MANIFESTATIONS OF TUBERCULOSIS OF THE LARYNX.

By CLARENCE C. RICE, M. D.

THE object of this short paper is simply to cite several cases of laryngeal tuberculosis which have come under my observation during the past year. None of the pathological conditions to be described are entirely unique. In quickly reviewing the vast amount of literature which has been written on laryngeal consumption during the past two years, I have found laryngeal lesions somewhat similar to those observed in my cases described by writers. And these writers are, with few exceptions, members of this association. In fact, it would be difficult to find any subject pertinent to laryngology which can not be found thoroughly treated in the "Transactions" of this society.

It is not altogether an Hibernianism to say that unusual manifestations of laryngeal tuberculosis are rare, because tuberculosis of

the larynx manifests itself with but little variety in pathological conditions. We know where to look for its first appearance; we can predict the mode of its extension; and the stages of its destructive process follow one another with remarkable regularity. It is well to tabulate cases of any disease which present lesions at all unusual, because these are the cases which are somewhat difficult of diagnosis. It would be worse than a waste of time to cite the different opinions and the reasons on account of which they are held at the present time. As to the ætiology and pathology of laryngeal phthisis, we believe that in five years from now there will remain but very few of the minority who to-day think that the name of tuberculous laryngitis does not describe the pathological condition in, we were going to say, all cases of laryngeal disease associated with pulmonary phthisis. The question as to the existence of *primary* tuberculosis has been fully discussed by this association. And we know, too, the opinion of nearly every leading laryngologist as to the curability of laryngeal consumption. In addition to the very truthful description of this disease in Cohen's text-book, published nine years ago, but which requires but little revision to-day, we find in the first volume of the "Transactions" of this association a paper on "Bucco-pharyngeal Tuberculosis," by Bosworth; in the second volume, "Primary Tuberculosis of the Larynx," by Cohen, and "The Therapeutic Value of Rest in Phthisical Laryngitis," by Robinson; while such papers as "Tubercular Ulceration of the Tongue," by Bosworth, "The Progress of Laryngeal Phthisis," by Porter, and "The Laryngeal Affections of Pulmonary Phthisis," by Robinson, are published in the third. In the fifth (1883), "Treatment of Laryngeal Phthisis," by Ingals, and "The Healing of Ulcers in Laryngeal Phthisis," by Jarvis. De Blois cites "Cases of Buccal Tuberculosis" in the sixth report. Robinson contributes a paper on "Alimentation in Laryngeal Phthisis" in the seventh. In the eighth we find a paper by Delavan on "Buccal and Lingual Tuberculosis." At last year's meeting we heard two papers pertinent to the subject—viz., "A Specimen of Stricture of the Larynx with Extensive Cicatrization from a Case of Ulcerative Tuberculosis," by Cohen, and "Residence at Certain High Altitudes as a Means of Cure for Laryngeal Phthisis," by Wagner.

In addition to these, valuable monographs have been published outside the "Transactions" by members of this association. This much and more has this association accomplished in the way of investigating laryngeal tuberculosis. And nothing new can be stated at this meeting.

There is one clinical point relative to laryngeal tuberculosis which I think has received too little attention, and that is the frequency of the active co-existence of tuberculous and syphilitic laryngitis. This is, of course, especially true in hospital and dispensary practice. Many cases of larynx disease which it is difficult by their lesions to classify are combinations of tubercular and syphilitic disease. It is a mistake to try to relegate such cases solely to either one of these diseases. The prognosis will depend upon which one of these two diseases is the more active. Students who expect to find the laryngoscopic illustrations of text-books easily corroborated by the laryngeal mirror should be taught the coexistence of tubercular and syphilitic laryngitis, and should consequently expect to find the characteristic laryngoscopic appearances of either of these diseases marked by a case in point:

Mr. F. Y., aged thirty-five, superintendent of a manufactory, came to me in 1886. He had suffered with throat symptoms for six months. Soreness over larynx and pain in swallowing had been excessive for a few weeks at a time, and had then become much less troublesome. One parent had died of pulmonary phthisis. The history pointing to syphilis was obscure, though he had had venereal disease other than gonorrhœa. He had lost twenty pounds in weight, and had a slight cough. His temperature was about 100° F. Slight dullness over one apex and change in quality of respiration. The appearance of the larynx at his first visit is shown in Fig. 1. I was struck with the extensive destruction of the

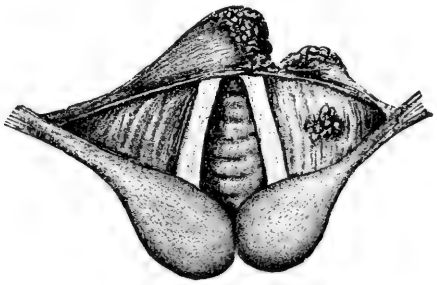


Fig. 1.

epiglottis as compared with the intralaryngeal degeneration. The arytenoids presented the typical semi-œdematous swelling, and there was slight ulceration on both sides of the larynx, but the larynx as a whole presented a much healthier appearance than would have been expected if the destruction of the epiglottis had been occasioned by tubercular infiltration and ulceration. The man, though a little emaciated, seemed to

me to have sufficient vitality to recover. None of the tubercular bacilli were found. He was put on increasing doses of the saturated solution of potas. iodid.; the ulcerated surface of the epiglottis was treated with iodoform in ethereal solution every day. The ulceration of the epiglottis was controlled as if by magic, and complete cicatrization took place. The ulceration in the laryngeal cavity also healed, but the arytenoid remained enlarged. His general health improved. The loss of the epiglottis gave him little discomfort. He regained his weight. He remained in good condition for almost a year, when he caught another cold. His cough increased, and in two months his larynx was the seat of a typical ulcerative tuberculous process. These ulcerations were confined to the cavity of the larynx. He lived about six months. There was also rapid degeneration of the lung tissue.

Here undoubtedly was a case where syphilis and tuberculosis were blended. The epiglottis was destroyed by syphilitic ulceration, but the interior of the larynx was tuberculous. The epiglottis was healed by appropriate treatment, but the club-shaped arytenoids remained.

Had the entire process been tuberculous it would have been impossible to control the extensive ulceration of the epiglottis. Deep contractile scar tissue, so characteristic of syphilitic ulcerations, covered the epiglottis. I think this combination of tuberculosis and syphilis is far more common in the larynx than is supposed. Some of the cases of cure which have been credited to the tuberculous process should, I believe, be placed under the head of syphilis. The results of treatment will in some of these cases of ulcerative laryngitis be the only way of determining the quality of the inflammatory process. A second case, quite similar to the above, I have seen this winter; the same great destruction of the epiglottis was present, but the tubercular indications of the larynx were more marked than in Case I. The effect of appropriate treatment on the syphilitic portion of the lesion is wonderful in these cases, and for a time the physician is almost deceived into the belief that he can heal the larynx, but the tuberculous process soon asserts itself and the end is only shortly delayed.

A second pathological condition which frequently complicates to a small extent the usual laryngoscopic appearances of a tubercular larynx was present in a remarkable degree in a case which I saw one year ago. The pathological condition referred to is the proliferation of the so-called granulation tissue from the bases and edges of the ulcerations of phthisical laryngitis. This condition is fully described

by Dr. John N. Mackenzie,* and is called by him one of granular hyperplasia. I believe that he is correct in the impression that this growth from an ulcerated surface "may be regarded as representative of a connection process—as a natural step toward cicatrization." I would go a step further and say that the degree of vitality remaining in the laryngeal structure may be measured by the amount of this granular tissue which nature is able to construct. The most rapidly destructive cases of laryngeal tuberculosis, and consequently those in which the vitality of the tissues has been more markedly impaired by tubercular infiltration, do not—so far as my experience goes—show much tendency toward the formation of connective tissue. The surfaces melt away without any attempt at repair. The rapidity of the pulmonary and laryngeal process may also be measured somewhat by the presence or absence of this tissue. I cite the following case only because the larynx contained so much of this granular tissue:

W. M., a Hebrew, about forty years old, merchant. Previous or family history of little significance. Though of moderate means, he had denied himself proper food and care, and was in impaired general condition when he contracted the cold some eight months before he came to me. His laryngeal symptoms had come on very slowly—only slight pain and tenderness over larynx. Increasing hoarseness and dyspnœa were his most troublesome symptoms. When I first saw him he did not present the general appearance of a phthisical patient, but the look of a person who had had too little nourishing food, together with the anxious facial expression of one suffering from dyspnœa; a moderate amount of cough was present. Slight rise of temperature. Fig. 2 represents the laryngoscopic appearances of the larynx; they were as follows: Epiglottis slightly reddened and thickened, but not ulcerated. Arytenoids moderately enlarged but not typical. The interarytenoid commissure was filled with a papillomatous outgrowth seen frequently in both tuberculous and syphilitic laryngitis. The dyspnœa was found to be partially due to the lack of abductive power of the vocal bands, but more to the blocking of the laryngeal cavity with both granular tissue and tissue which was papillomatous in appearance. There was little ulcerated surface to be seen, although the sides of the larynx presented the dull-green appearance common to tuberculous ulceration. From the sides of the larynx above the ventricular bands, from the ventricles themselves, and from the vocal bands proper, there could be seen, not only the small, grayish-red, slightly elevated tissue common to ulcerative laryngitis, but tissue much more prolific in appearance like that springing from the interarytenoid depression. This latter tissue did not, I believe, grow from an ulcerated

* Mackenzie, J. N., "Archives of Medicine," vol. viii, p. 108.

surface, but was covered by epithelial elements. The case was demonstrated to a class of students, and I intended to remove portions of the obstructing tissue with forceps, both to relieve the dyspnœa and for examination microscopically. The case fell into other hands at the college two days later, and as a strong solution of nitrate of silver was applied to

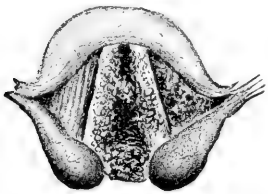


Fig. 2.

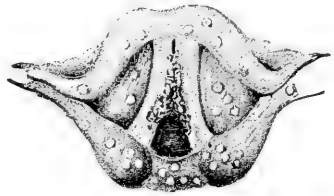


Fig. 3.

the laryngeal cavity, the appearances as described above were never again seen. When I next saw the case some months later, it was found that the degeneration of lungs and larynx had progressed rapidly, and the larynx presented the usual appearance of a tuberculous process. I saw him a few times and he then disappeared, and I dare say he died within a short time.

In this larynx there were, I believe, two conditions present—(1) a granular hyperplasia, ingrafted upon an ulcerated surface, and (2) a proliferation of those papillary excrescences which are eminently characteristic of the tuberculous process when they are found upon the interarytenoid fold, and which spring oftentimes from the posterior wall of the larynx and trachea. The presence of tissue ingrafted upon ulcerated laryngitis oftentimes renders the diagnosis somewhat difficult, and the appearance may very much resemble a true growth of the larynx, either benignant or malignant. It will be necessary to weigh all the evidence before deciding upon the nature of the disease.

3. Another pathological condition, and to me an unusual one, was seen in a tuberculous patient who is at present under my care. The condition is pictured in Fig. 3. It represents the larynx as it was first seen by me a month ago. I need only say a word as to his history. A tailor, aged thirty-five, good family history, emaciated, cough, considerable dyspnœa. Evidences of pulmonary degeneration on both sides. The vocal bands were adherent along their anterior half. There was but slight respiratory movement of the vocal bands. This loss of motion was not due to the adhesion, but probably existed before the adhesion, and was one of the factors which rendered this adhesive inflammation possible. The loss of motion

was due to the enlarged arytenoids, and also to the proliferation of granular tissue, which the figure does not represent, but which existed both above and below the vocal bands. This sprung from the sides of the larynx, and, jutting into the caliber of the glottis, furnished lateral support for the formation of the web of tissue which held together the vocal bands anteriorly. All the conditions were in this case favorable to adhesive inflammation. How long this adhesion had existed I do not know. I found that the tissue was not strong, and could be broken through with an ordinary blunt laryngeal applicator. I have broken it through several times, but the gap soon refills because the vocal bands remain immovable and near together. I have seen and operated upon two cases of syphilitic membranous adhesion of the vocal bands anteriorly. In both the web of tissue was so tough that it could hardly be cut or burned. Cohen * describes and illustrates a somewhat similar case. Speaking of granulations of the larynx, he says that "when occupying both vocal bands, the attrition of the ulcerated surfaces may excite adhesive inflammation, culminating in the formation of an organized web between them." In the particular case cited, he shows the manner of development of that solid web, commencing first from a number of fine membranous bands. And Ingals † speaks of the possibility of adhesive inflammation between the cords resulting from tuberculous ulceration.

This condition must be rare, since phthisical ulcerations show such slight disposition to heal and cicatrize. The very fact that cicatrization is present is a strong argument in favor of a syphilitic process.

Von Ziemssen, ‡ however, treated two cases where the cicatrix could be demonstrated post mortem, but he adds that "it is true that new ulcers generally develop afterward."

Adhesive inflammation in a tuberculous process will rarely if ever be found, unless all the favorable conditions mentioned in my case are present; and even then the bridging across from one vocal band to the other is accomplished more by a filling in of granulation tissue from the sides both above and below the vocal bands, rather than by the formation of a membranous web.

In my case it may become necessary to employ a tracheotomy tube. An O'Dwyer's tube, coated with a gelatinized astringent

* Cohen, "Diseases of the Throat," etc., p. 505.

† Ingals, "Diseases of the Throat," p. 355.

‡ Von Ziemssen, vol. vii, p. 842

remedy, might serve the double purpose of dilating the glottis and healing the ulcerations.

I will speak of but one more pathological condition, which I have lately seen in a tuberculous larynx. This condition can hardly be said to be unusual, as it is frequently associated with the ordinary lesions of tuberculosis; but the case to be mentioned is worthy of remark, because this lesion was the only manifestation of disease of the larynx, and because there was some doubt as to the diagnosis.

I saw the case three times in consultation with Dr. H. M. King, who kindly allowed me to manipulate the larynx fully. I obtained the following history:

P. L., Russian Hebrew, aged twenty-nine. In 1886 he swallowed a fish-bone, which fact added to the doubt of diagnosis. In June, 1888, pain in swallowing commenced, followed by hoarseness, increasing dyspnœa, and cough. When I saw him he was but little emaciated or anæmic. His breathing was noisy, and his chief complaint was difficulty in swallowing. I found the condition of the larynx present represented in Fig. 4. I may add that the swelling involving the left arytenoid was less regularly rounded, somewhat larger, and extended outward more than is pictured by the drawing. The color of the arytenoid indicated that an

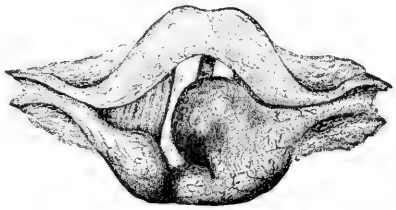


Fig. 4.

active inflammatory condition was going on. I at first thought that it might be an abscess due to the swallowing of the fish-bone. The swelling could be indented deeply by the pressure of a probe. It was somewhat painful to the touch. I punctured the swelling with a laryngeal lancet several times to ascertain if there was pus, but found none. I also scarified it with the object of diminishing the inflammation. All this produced no benefit, but rather increased the pain in swallowing. The size of the swelling remained the same. I had now arrived at the opinion that I was dealing with a tuberculous perichondritis, as syphilis could be excluded, and because there were slight evidences of commencing pulmonary degeneration. As Dr. King left town at this time, the patient visited the various dispensaries, and finally went to the Mount Sinai Hospital, where he was attended by Dr. A. G. Gerster, of New York, who performed a laryngo-pharyngotomy for the removal of the growth. Dr.

Gerster has written an instructive account of the case and the operation, which was read before the February meeting of the Laryngological Section of the New York Academy of Medicine, and published in the April 6th number of the "New York Medical Record." I need not describe the steps of the operation. Dr. Gerster says he decided to operate because of the steady growth of the swelling. Tracheotomy above the isthmus was performed on October 19, 1888, and the tampon cannula employed. The growth, involving the left arytenoid and a portion of the posterior extremity of the left vocal band, was freely excised. The tracheal cannula was removed on October 22d, and the external wound sutured. Union of the soft parts was readily obtained, but not of the thyreoid and cricoid cartilages, and a fistulous opening remained. A plastic operation for its closure was performed on January 4, 1889, with good success, I believe.

The foregoing is obtained from Dr. Gerster's account. I saw the patient next when he was presented at the academy. He was very much emaciated, and gave every appearance of a person in the last stages of consumption. He died shortly after. I believe there was ulcerative degeneration of the larynx during the last few months. Whether Dr. Gerster supposed the swelling was tubercular in character before the operation I do not know. The microscopical examination of the growth was done by Dr. Cunningham, of the Mount Sinai Hospital, and was as follows:

Several sections were made, and they all exhibited a lymphoid structure with giant cells; tubercle bacilli were present in abundance. Dr. Gerster lays special stress on the fact that this was a localized solitary tumor, the sole manifestation of tubercular disease of the larynx. He does not maintain that the tubercular deposit was primary in the larynx. Dr. King, who saw and examined the patient often, could never satisfy himself that there was any pulmonary disease until after the operation, and believes that the laryngeal process was primary. I myself believe that deposition of tuberculous material had already taken place in the lungs.

I can not but believe that this was a case of perichondritis of the crico-arytenoid joint, the exciting cause of which was the deposition of tubercle. It seems to me that it is not to be classified with those rare cases of "solitary tubercular tumors" of which Dr. John N. Mackenzie* mentions two cases, the growth being solitary and in the trachea in one and marked by a formation of submucous nodular growths in the laryngeal cavity in the other. Hennig,† of Königs-

* Mackenzie, Dr. J. N., "Archives of Medicine," vol. viii, p. 109.

† Hennig, "Berliner klinische Wochenschrift," 1888, No. 28.

berg, says that aside from one case of solitary tubercular tumor which he reports, only six additional cases could be found in medical literature. In Hennig's case three tumors, which were afterward found to be tubercular, were removed by the thermo-cautery after laryngotomy. Patient died of pulmonary tuberculosis, as demonstrated by post-mortem examination thirty-seven days after the operation.

The interest in *this* case lies in the obscure manner in which the tubercular infection was received and its strictly localized deposition. I can not believe that extirpation of such growths by external laryngeal operation will add to the patient's comfort or prolong his life. The shock and the exhausting effects of the operation, the annoyance of the tracheal cannula, all hasten the pulmonary degeneration. Skillful endolaryngeal treatment, both medical and surgical, will furnish the most benefit to the patient. Illustrative of what can be accomplished by such treatment, I must before closing cite one case more which the association will, I believe, consider of interest. Figure 4 almost exactly represents the case also, except that the tumor involving the left arytenoid was much larger. It occluded nearly the entire glottis, and the dyspnœa, when the man first called at the office, was so dangerous that I forbade his going home and sent him to the hospital. The air could be seen to suck through the larynx at each inspiration. It was agreed, on consultation, to wait until evening, and then do tracheotomy if the dyspnœa continued as urgent. Moist inhalations acted badly and were discontinued; hot compresses on the outside of the neck gave more benefit than cold. The great relief, however, was obtained by the use of a two-per-cent. solution of cocaine. This was tried with some misgiving, as we feared an increase in the swelling when reaction took place, but there was no reaction, and nearly all the reduction in the size of the swelling obtained by the cocaine was permanent. I learned this clinical point in this case, that it is far safer to employ cocaine in a greatly obstructed larynx, when the swelling is partly œdematous, as it was in this case, than when the swelling is entirely made up of actively congested tissue. In the one the water is driven out not to return, but the expulsion of the blood from the inflamed region can hardly be more than temporary, and the last condition is likely to be worse than the first. The swollen arytenoid was reduced to one third of its size in a week. It was then punctured with the galvano-cautery, and by this means was still further reduced in size. It is at present considerably larger than its fellow, but it is not

troublesome to the patient. What the character of this swelling is I do not know. I excised a portion of it with a snap guillotine for microscopical examination, but the sections showed only normal elements. I can find no evidence of syphilis. The patient is a very large, stout, flabby man weighing more than two hundred and fifty pounds, thirty-two years old, complexion a dirty green; no evidence of pulmonary disease can be found. Patient has been a man about town and has drank and smoked to excess. I do not at all advise extirpation of the growth by external incision, neither do I think removal by cutting forceps would be productive of good results. This case, which may be somewhat irrelevant to the subject of this paper, is cited because it so closely resembles the previous case, which was found to be tubercular. The great size of the swelling, the urgency of the dyspnœa, and the beneficial effects of the cocaine, are its interesting features.

"The unusual manifestations of tuberculosis of the larynx" mentioned in this paper are as follows:

1. In those cases where tuberculosis and syphilis coexist, the lesions of one process mask those of the other. The syphilitic ulcerations, even when combined with a tubercular process, are frequently controlled by appropriate treatment, while the phthisical ulcers defy all efforts to heal them.

2. The typical appearances of a tuberculous larynx are sometimes greatly hidden by the proliferation of two varieties of tissue—the one being ordinary granulation tissue springing from an ulcerated surface, and the second a papillomatous growth made up of normal elements, very much resembling the ordinary papilloma of the larynx—and existing, perhaps, as a mere coincidence, but probably occasioned by the chronic inflammatory condition of the larynx.

3. Adhesive inflammation at the anterior ends of the vocal bands may occasionally take place in a tuberculous larynx, but only when such favorable conditions are present as immovable cords and a general proliferation of tissue.

4. The deposition of tubercle may be localized in one arytenoid, giving none of the typical signs, the larynx as a whole remaining perfectly normal in appearance.

Discussion.

Dr. W. H. Daly, of Pittsburgh: There are two points with reference to tuberculous disease of the larynx which I believe are worth noting. I have demonstrated to my own satisfaction in several cases—three or four

—that tuberculous ulceration of the larynx can be cured. In these cases I could discover no syphilitic complication either inherited or acquired. I have arrived at this belief contrary to the teachings that I had received from men in whom I had confidence as teachers and authors. In so far as the treatment was concerned, it was the most approved constitutional treatment, but I do not believe that the constitutional treatment had as much influence as the persistent careful local treatment. If I were to be denied one or the other in the treatment of tuberculous ulceration of the larynx, I should certainly elect to be deprived of the constitutional treatment. The local treatment resolved itself into a question of cleanliness and antisepsis, and to this end one can use what he pleases. In the cases referred to, recovery took place under the persistent use of alkaline sprays and inhalations followed by the free use of iodoform—not iodoform modified by any medicament to correct the odor, but iodoform pure and simple.

There is another point. It may seem like rank heresy, but I believe that tuberculous ulceration of the larynx occurs as a local disease—that is to say, it may occur in patients with no evidence of tubercular deposit elsewhere. There are in Pittsburgh two such cases; one of them I saw a day or two ago. The patient is a clerk in a jeweler's store, an occupation anything but favorable to the maintenance of a cure. For over a year that young man has been working hard at long hours. The voice is somewhat affected by the diseased action and changes in laryngeal structure which took place before he came under my care, and a part of the epiglottis is gone. After he was placed under treatment there was little further destruction. He is now ten or twelve pounds heavier than before his illness and twenty or twenty-five pounds heavier than when he came under my care. I regard the case as a cure. The diagnosis was confirmed by the microscopical examination made by a competent young gentleman after the method of Koch. There was no evidence of lung disease. Being a strong believer in the theory that tuberculous, strumous, and scrofulous diseases are the offspring of syphilis, I investigated this point very closely in this case to place it where it belonged.

Dr. J. C. Mulhall, of St Louis: I am glad to congratulate Dr. Daly on having cured laryngeal phthisis. I, however, think that his position is a hard one to maintain, for this reason: It is easy enough to get microscopical proof of phthisis in the presence of the bacillus without phthisis existing, for in the secretions of the mouth and throat of even healthy individuals this bacillus is sometimes found. Again, I do not doubt that there is such a thing as catarrhal ulceration of the larynx. If we take these two facts into consideration with the fact that catarrhal ulceration can be cured, we can understand how one might readily fall into error.

That laryngeal phthisis is ever primary is also difficult to prove. That it is sometimes the first sign of the condition there can be no doubt. We also know very well that tubercular disease may exist in the lungs and not be accessible to physical examination. Post-mortem examinations

have proved this. Post-mortem examinations have also proved that in every case of laryngeal phthisis there is pulmonary phthisis. It is said by experts in lung disease that unless the lung is diseased in a portion of the size of a silver dollar, its presence is readily overlooked. It is therefore easy to be deceived.

That laryngeal phthisical ulceration can be healed I have no doubt, but that it can be cured I do doubt. After our attention was called to the value of lactic acid I at once made use of it in tubercular ulceration of the larynx, and I have seen the ulceration heal on one side and appear on the other side. I went one step further than the one who recommended this agent, Krause, and applied the pure lactic acid after spraying with cocaine. Clinically I know that laryngeal ulcerations of a phthisical character will heal under the influence of pure lactic acid. I have seen them heal in the pharynx in a dying patient. I, however, can not say that I have ever seen life prolonged to any appreciable extent.

I was once a firm believer in the theory that ulceration never occurred in chronic catarrhal disease. I have had two physicians under my care. One had a terrible cough for two years, his health had run down, and he had quite a large ulceration in the larynx, which rapidly healed in the course of a month under lactic acid. The cough lessened and he improved in weight and constitutional condition and was entirely cured. This was not a tubercular ulceration.

Dr. F. I. Knight: How do you know that it was not tubercular?

Dr. W. H. Daly: What are the characteristics of catarrhal ulceration?

Dr. J. C. Mulhall: Catarrhal ulcers occur usually in some part of the larynx where there is a great deal of friction and come on after a distinct history of severe laryngitis. The ulcer has clean-cut edges and not the creeping edges of the tubercular ulcer; is single and unaccompanied by other familiar signs of laryngeal tuberculosis.

Dr. F. I. Knight: The first point raised by Dr. Rice is certainly interesting. I have had a great deal of trouble in the diagnosis of these cases. It is hard enough to make an accurate diagnosis where we have only one disease to deal with. In some cases where I have been almost sure enough of my diagnosis of tuberculous disease of the larynx to let the patient go without constitutional treatment, I have been happily disappointed in seeing the ulceration disappear under specific treatment. These mixed cases are certainly annoying, and the only thing that we can do in endeavoring to make a prognosis is to find out if we can which disease predominates, for, although there may be evidences of tubercular disease elsewhere, the effect of specific treatment may be very satisfactory if that element has entered into the case.

In regard to the possibility of tubercular ulceration being cured, I have not the slightest doubt that such ulceration in the larynx has got well just as in other parts. That it will heal under mild treatment I have proved by the effect of alkaline applications and iodoform. I have

no question that lactic acid will heal tubercular ulcerations more quickly and certainly than anything yet proposed, but after we have them healed they do not stay healed, unless we happen upon the time when the patient is ready to recover and the ulcer of the larynx is the last point to be cured. If the pulmonary disease is in a quiescent condition and the digestion is good, and there is this one lesion in the throat which is the particular thorn, I believe that in some cases, if we heal that, we get what is practically a cure. If the disease in the lung is active and the patient is miserable in other ways, the cure of the ulcer in the throat is not going to do much good.

I have seen what I suppose Dr. Mulhall calls catarrhal ulcerations. They are catarrhal. I should call them abrasions occurring in acute inflammatory conditions; but where there is loss of substance, as in the case referred to by Dr. Daly, I should, in considering the diagnosis, rule catarrhal ulceration out of consideration.

In regard to the occurrence of tubercular ulceration as a primary affection in the larynx, I see no reason why we should doubt that it may occur there as well as anywhere else. I think, however, that all who are familiar with this class of cases and are tolerably competent in physical diagnosis will agree that in the vast majority of cases careful examination will prove that there is disease in the lung, and in other cases, where we do not get positive physical evidence, we find rational symptoms which would lead us to infer that there is pulmonary disease. I have had many cases brought to me as illustrations of primary tubercular disease of the larynx, but, on careful examination, I have found good evidences of disease at the apices of the lungs. In other cases I have failed to get physical signs, perhaps because they did not exist. Sometimes a condition of glottic rigidity prevents us from getting the signs that may be present.

The earliest signs of tuberculosis of the lungs are by no means changes in resonance on percussion and in the respiratory murmur which many seek for, but they are localized râles which are only obtained upon coughing, and a cough properly made. In my experience this is an early sign. Many physicians examine a patient without asking him to cough. I once saw a distinguished professor of Vienna make this mistake. He examined a patient in my presence and said there was no phthisis. I asked him to try the cough, and he found an abundance of localized high-pitched râles, and corrected his diagnosis. Most patients when asked to cough take a deep inspiration, cough, and at once breathe. The deep breath which they take before may spoil the râle, or, if they breathe too soon after the cough, the râle may not be heard. The patient should cough from a rest and not breathe immediately before or immediately after he coughs. In that way in many cases we get an explosion of râles, which we should not otherwise hear. I have seen very few cases in which it seemed to me that the tubercular disease was primary in the larynx. If we get a case where the disease is primary and localized, and cure the ulceration, I do

not see why it should not remain cured, unless there is subsequent infection.

The other points in the paper are interesting. I have seen anterior adhesions occur from other causes, but not from tubercular ulceration. I had recently a notable case—one of cut throat.

I have not seen an isolated tubercular tumor such as Dr. Rice describes.

Dr. W. E. Casselberry, of Chicago: I wish to support the position of Dr. Mulhall with reference to catarrhal ulceration. A year or so ago I saw a physician of Chicago who had suffered from recurrent attacks of laryngitis, suspected to point toward tuberculosis, for which reason he had spent three winters in the South, much to the detriment of his affairs. At this time he had an elongated uvula, occasioning a good deal of cough, and the larynx and naso-pharynx were in a catarrhal state. I first excised the uvula. There were no ulcers at this time. A few weeks later he appeared with a small but pronounced superficial ulcer on the epiglottis, not much more than an abrasion, but still with distinct loss of substance, and a smaller ulcerated spot on the false vocal cord. I told him that these were catarrhal ulcers, and did nothing for them beyond keeping the parts clean, and in a week or ten days they disappeared. He has since been perfectly well.

I am glad that Dr. Rice called attention to the rather common coexistence of tuberculosis and syphilis. It has been my conviction that the existence of either one of these diseases predisposed to the other; that one of the dyscrasiæ having attacked the larynx, a favorite site for the manifestations of either, predisposed that organ more than ever to the invasion of the other disease.

Dr. J. N. Mackenzie, of Baltimore: I fully indorse the statements of Dr. Knight concerning the presence of localized râles as indicative of incipient tuberculosis, and I have found that where they can not be heard over the apices they can often be heard behind the scapula. By this means I have often been able to make a very early diagnosis of tuberculosis.

The question of the existence of primary tuberculosis of the larynx has been raised. This is a question which can only be determined by the scalpel. Dr. Orth, professor of pathological anatomy in the University of Berlin, in a work published some years ago, describes such a case. All the organs of the body were examined, but the larynx was the only one in which tubercles were found. I think the patient died of the tuberculosis. Primary tuberculosis of the larynx has been demonstrated in the same way by other observers.

Dr. Mulhall has already stated what I was about to say, that while undoubtedly tubercular ulceration of the larynx will heal, yet the healing of the tubercular ulcer in the larynx by no means indicates the cure of the disease. The same thing may be said of tubercular ulcers of this

region as was said of syphilis by Vidius, "They make many truces, but never peace."

As regards isolated tubercular tumors, which were first brought to the notice of the profession by myself, I should like to refer to one of the cases in which death occurred from carcinoma of the stomach and liver. At the post-mortem examination tubercular cavities were found in the lung. In the trachea there was a small tumor, which I described, and which I took to be an isolated carcinomatous nodule in the trachea, of which only a few cases had been reported. I removed the nodule carefully and submitted it to microscopical examination, and was astonished to find that it was of a tubercular nature. It presented distinct miliary tubercles in all stages of degeneration, set in a dense network of fibrous connective tissue. In this case a nodule, resembling in structure the tracheal growth, was found in the pericardium. The patient died, not of tuberculosis but of the carcinoma. The tuberculous process in the lung was, however, well marked.

I have several times seen the coexistence of syphilis and tuberculosis of the larynx, and the diagnosis is one of great difficulty. In all such cases we have to resort to the test of treatment.

With reference to catarrhal ulceration of the larynx, while I should not like to absolutely deny the existence of such a condition, I have never seen it. By ulcer I do not mean the erosion or abrasion of the larynx which results from coughing or the application of an instrument, but I mean a well-marked, distinctly excavated ulcer—a true ulcer. In my experience such an ulcer is indicative of some constitutional trouble, whether it be syphilis, tubercle, or what nót; it is generally indicative of a dyscrasia.

In regard to the treatment of laryngeal tubercular ulcers by harsh methods—such as the application of lactic acid, which is, perhaps, less harsh than some others, the application of the galvano-cautery, and the treatment of Schmidt, of Frankfort-on-the-Main, by incision of the infiltrated tissues—I am glad to say that the common-sense, conservative element of American laryngology is decidedly opposed to such measures, which I believe do more harm than good. I have never had a patient in private practice who would have allowed me to resort to such measures, even had I desired to do so.

There is a form of ulceration which occurs in the later periods of tubercular disease which is found principally in the lower part of the trachea and near its bifurcation and in the bronchi, but which may be found higher up in the larynx and in the pyriform sinus. In 1881 I published a paper in Berlin in which I dealt in an elaborate way with this question. These ulcers resemble the so-called aphthous ulceration of the old Rokitansky school, and the so-called diphtheritic ulcer. The tissue becomes invaded with a rapid cell proliferation, necrosis occurs, a slough follows, and ulceration is the result, but it presents none of the characteristics of the true tubercular ulcer. I mean by a true tubercular ulcer one

that is formed by the breaking down of myriads of miliary tubercles. These ulcers may or may not contain bacilli. Orth speaks doubtfully upon the subject, but seems to regard them as tubercular. Dr. Osler has found the same ulceration in the rectum, and has been at work upon the subject, but I do not know what conclusions he has reached. It is, however, readily conceivable that these ulcers may easily heal. I have no doubt that many of the so-called healed tubercular ulcers are nothing more than healed aphthous erosions which have been produced by the corrosive action of the sputa in the later stages of the disease.

Dr. William C. Glasgow, of St. Louis: A good many years ago I stated my belief that tubercular ulceration of the larynx was never healed. My experience since then confirms me in that belief. I have heard a great deal and read a great deal about tubercular ulcerations being healed. There is a common belief that any ulceration in the larynx, not syphilitic or lupoid, is tubercular. I have seen many ulcers of the larynx heal. I have seen them heal in cases of pronounced phthisis where the physical signs demonstrated phthisis, and I have seen them heal where there were few or no physical signs of this disease. I do not consider these ulcers tubercular. They heal under the simple treatment of which Dr. Daly speaks and which I have used for fifteen years—that is, iodoform and morphine by insufflation. I recall one case in which a man in the last stages of phthisis, with large cavities in the lungs, hectic, etc., was unable to swallow on account of a large ulcer on the posterior portion of the larynx. Under the use of iodoform he was able to swallow, but died in a short time. I did not consider this a case of tubercular ulceration. I have used lactic acid, but have not found it as useful as others claim. I think that iodoform has given me better results.

One remedy that I have used with great success in the last two years is peroxide of hydrogen. I have seen these ulcers heal almost miraculously under a simple spray of peroxide of hydrogen. A case came to me last spring with two thirds of the epiglottis destroyed. The lungs were examined with negative result; no bacilli were found. Under the use of peroxide of hydrogen the ulceration or seeming ulceration, for I do not think that it was true ulceration, entirely disappeared, and the patient was able to swallow. The destructive process took a fresh start on the ventricular bands—first on one side and then on the other—and this continued until death. Repeated examination of the lungs and of the sputa developed nothing until September, when bacilli began to appear. This man died of marasmus, and at the time of his death the râles of which Dr. Knight spoke were appreciable at the apex of one lung. His death occurred within a month of their development.

I do not believe in primary tubercular disease in the larynx. In all the cases that I have seen there has been more or less disease of the lung. In addition to true tubercular ulcers, I have seen catarrhal ulcers and others which I have not been able to define, but I do not consider them tubercular. Some of these ulcers occur in the condition of septic œdema

described in my paper. In true miliary tuberculosis of the larynx I have always found some evidence of disease in the lungs, and these cases have never recovered.

Dr. W. H. Daly: What is the value of the tubercle bacillus as a means of diagnosis? Dr. Glasgow states that it was present in one of the cases to which he has referred.

Dr. Glasgow: Its presence demonstrates tuberculosis. Its absence does not demonstrate anything.

Dr. C. C. Rice: The different points in the discussion have been thoroughly covered. I have been particularly impressed with one thing, and that is the radical change in the opinion expressed to-day as compared with that expressed by this association four or five years ago. If the gentlemen will take the pains to compare this discussion with that on the same subject four years ago, they will find that there has been a radical change in the opinion of this association in regard to the curability of tubercular ulceration. I refer to the discussion on Dr. Cohen's paper. The opinion expressed at that time was to the effect that these ulcerations were rarely if ever cured. The prognosis, so far as the laryngeal manifestations were concerned, was exceedingly bad. I have been surprised during this discussion to hear of the number of cases of laryngeal ulceration that have been cured. I am at a loss to understand the character of the large number of ulcerative cases referred to by Dr. Glasgow which he believes to be neither syphilitic nor tubercular. Ulcerations which belong to neither of these affections are exceedingly rare in my opinion. The catarrhal ulceration spoken of is a very uncommon manifestation. I do not refer to slight erosions. I do not believe that a catarrhal ulcer can occur unless, in addition to the acute inflammatory condition, there is a direct traumatic cause, such as friction and an explosive cough. We often see erosions. They occur on the tip of the epiglottis where it comes in contact with the tongue. They occur on the vocal bands where they rub against each other. I do not believe that catarrhal ulcers are seen on the sides of the larynx. If ulcerations of any size are found in that location, I should look upon them with suspicion. We know that primary tuberculosis of the larynx is very rare. In the treatment of laryngeal tuberculosis I think that more reliance is to be placed on milder drugs than upon the use of acids and surgical measures, etc. Cleanliness and the use of cocaine to allay irritability of the larynx is important. This, with iodoform, seems to me to furnish the best means of benefiting these patients.

Paper.

REPORT OF TWO CASES OF BUCCAL TUBERCULOSIS.

By C. E. BEAN, M. D.

I AM aware that during the past two years a great deal has been written on this subject and quite a number of cases reported, but I wish to add these recorded cases, for only by additional notes and evidence can data satisfactory and conclusive be obtained.

One of these cases is of especial interest, not only from the extent of the ulceration, but from the fact that it was developed in a female, this being, so far as I can learn, only the third case of the kind on record.

Case I.—Henry B., farmer, aged thirty-two, was seen in May, 1887, and gave the following history:

Up to four years before this time he was entirely healthy, with the exception of a slight cough. After working hard all of one afternoon, drawing water from a well with a bucket, he expectorated a slight amount of blood. This had continued at intervals ever since, though at no time was there any severe hæmorrhage. Up to a year ago he had not lost any flesh. In the fall of 1886, whenever he smoked or chewed tobacco, his tongue would sting and burn and get very red. This troubled him to such a degree that he was forced to give up the use of tobacco altogether.

Four months ago (January, 1887) a sore appeared on the right side of the end of the tongue, commencing like a crack. Two months ago (March, 1887) it began to grow larger, and has gradually grown ever since. At this time the tongue began to swell, and is now (May, 1887) about twice its normal size, while an ulceration extends on the right side from the tip back as far as the middle, three sixteenths of an inch deep, with shelving edges. On the 4th of July, 1886, he caught a severe cold, and, following that, his voice was a trifle hoarse. In the middle of March, 1887, his throat began to get sore, and his voice grew gradually worse until, about ten days after, his voice had entirely disappeared.

Two years ago his weight was one hundred and fifty-five pounds; one year ago, one hundred and forty-five pounds; now only one hundred pounds. Unable to swallow any solid food, and only a small quantity of liquids.

Examination of the Larynx showed thickening and ulceration of the right free edge of the epiglottis and ulceration of both vocal bands their entire length.

Examination of the Chest.—Dullness on percussion over entire right lung, with moist râles. Bronchial breathing and dullness in apex of left lung.

Family history: Both parents living, and over seventy years of age. Father's sister died of phthisis. His three brothers and two sisters are healthy.

Temperature, 101·2° F.; pulse, 124; respirations, 34.

As the patient resided at a distance and it was plainly evident that he had only a few days to live, I sent him home and advised morphine hypodermically and cocaine locally to ease his intense suffering.

Case II.—Mrs. S. was seen in August, 1887. Her history was as follows:

Family history: Mother died of consumption, aged forty-five, and a maternal aunt with the same disease, age unknown.

Patient's history: Up to three years before the time I saw her her health had been comparatively good. At that time, following a cold, she had protracted cough, with slight frothy expectoration. This continued for six months, when cough and expectoration almost entirely ceased, the cough being only in the morning and at night. About one year after the first symptoms she had, without any premonitory symptoms, a severe hæmorrhage; slight hæmorrhages followed, at intervals of from three to six months, up to the time I saw her. During the last two years the expectoration had been thick, firm, and yellowish-green in color.

Some time in the spring of 1887 (the patient thought in February or March) her tongue began to feel sore and stiff, with occasional severe pains, but mostly a dull aching.

About June there appeared, near the tip of the tongue on the right side, a small ulceration, which grew rapidly until, in August when I saw her, it had extended along the right side of the tongue, involving the lower portion of the tonsil and back wall of the pharynx on the corresponding side. The tongue was thickened, and the act of deglutition was accompanied by excruciating pain. The voice was thick and muffled, and it was only by an effort that any words could be articulated.

The ulceration was irregular in shape, with for the most part clean-cut edges. The floor of the ulceration was bathed in pus.

Examination of the larynx showed only a superficial inflammation.

Examination of the lungs showed extensive destruction of the right lung and consolidation of the upper lobe of the left lung. Temperature, 100°; pulse, 110; respirations, 28.

The following line of treatment was advised to the consulting physician:

Internally, cod-liver oil.

Locally, applications of oleate of cocaine (5 per cent.) made to the entire ulceration, and afterward lactic acid to be carefully applied.

This patient lived two months, but at no time was there any improvement in the appearance of the ulceration or relief from the pain.

Tuberculosis of the tongue is to be especially distinguished from carcinoma and syphilis. When it is secondary it is not a difficult question; but the development of it primarily has been so frequently demonstrated, although it is in a large proportion of cases secondary, as to render its existence no longer a question.

It is distinguished from carcinoma by the absence of the glandular enlargement and the sharp lancinating pains characteristic of the latter disease.

From syphilis, outside of a positive specific history, the internal administration of antisyphilitic remedies alone can settle the diagnosis.

Treatment.—In neither of the two cases reported was there any opportunity for personal attention to treatment; indeed, both cases were so far advanced that no amount of treatment could have been of any permanent benefit.

The three plans of treatment most advocated are curetting, with subsequent applications of the cautery, excision of the tongue, and lactic acid.

In a paper on this subject read before this association in 1886, Dr. Delavan reports a case cured by excision.

Lactic acid has been very much vaunted, and one or two cases are reported as having been cured by means of this remedy, well rubbed into the ulceration; but the numerous failures to even afford temporary relief seem to demonstrate the fact that it is no more to be depended upon when the disease is situated in the tongue than when it has been developed in the larynx; and the result of treatment in that location has been disappointing.

Thorough and deep curetting, with careful and repeated applications of the Paquelin or galvano-cautery, offers the most efficient plan of treatment yet suggested for the primary manifestation.

When it is secondary to lung complications we are as powerless to arrest its progress as we have ever been.

Discussion.

Dr. D. Bryson Delavan, of New York: As Dr. Bean referred to a case which I reported, it may interest the fellows to know that the patient is still living. I heard from him three months ago, and there has been no recurrence of the tubercular disease. I reported my experience in the paper referred to. In regard to lactic acid I can only substantiate the statements made by Dr. Knight—that it does have a marked influence in certain of the milder ulcerations, which are neither deep nor extensive.

It heals them for a time. In the more severe ulcers, while it improves, cleanses, and enlivens them for a time, it is not curative. In a case recently seen there was what appeared to be a large tubercular ulcer at the tip of the tongue of the size of a ten-cent piece. The unusual feature of this case was that pain was entirely absent. Syphilis was carefully looked for, but there was no evidence of its presence, while there was extensive pulmonary disease. Microscopic examination proved that the ulcer was not tuberculous, but epitheliomatous, thus illustrating the difficulty of making a positive diagnosis in ulcerative lesions of the tongue.

Dr. C. E. Bean: There is nothing more to be said. The subject has been thoroughly gone into in the previous discussion. The treatment, aside from the use of the curette, is in no wise different from the treatment of tuberculosis of the larynx.

Paper.

NOTE ON THE OCCASIONAL TOPICAL USE OF SOLUTIONS OF SILVER NITRATE IN THE TREATMENT OF CHRONIC LARYNGITIS.

By SOLOMON SOLIS-COHEN, M. D.

THERE are many subjects of greater scientific interest than the treatment of chronic laryngitis, yet very few of more practical importance to a large number of our patients.

The general questions of therapeutics, systemic and topical, of this affection have been so ably and thoroughly discussed in text-books and special articles by so many distinguished members of this body, that further elaboration now would be superfluous; and I simply desire to briefly communicate the results of personal experience during the last three or four years with a single agent, for the purpose of eliciting an expression of opinion from the competent observers present as to the real value of that agent—once over-used, now over-neglected.

There is no necessity to report cases in detail. They have not been due to nasal disease or obstruction, nor have they been those in which all topical treatment is unnecessary. Where indigestion, constitutional disease, or diathesis have been present, these have, of course, received due attention—hygienic, dietetic, and medicinal. It is thus simply of topical applications for the relief of local conditions that I speak. We have all encountered cases of chronic laryngitis, especially in singers, clergymen, lawyers, traveling salesmen, public speakers, etc., in which, after all discoverable sources of

irritation, local or general, have been removed, and approved topical treatment suited to the individual case has been faithfully employed for a longer or shorter time, improvement would take place up to a certain point and there stop. Perhaps all visible evidence of disease, except an irregular pinkish striping of the vocal bands, would have disappeared; or perhaps there would be a uniform faint coloration, or may be only a loss of luster; but something there would be that persisted and that prevented the patient from resuming with comfort full use of the voice in singing or speaking, or perhaps even in ordinary conversation for social or business purposes.

It is in such conditions as this, the last obstinate remnants of the disease, that I have derived considerable satisfaction from the topical use by sponge, cotton-wad, or brush of weak solutions of silver nitrate, about ten grains to the ounce, applications being made every day for two or three days until some congestive reaction was produced; after that at longer intervals. In the course of treatment, too, in some cases, before reaching the last stage above described, I have found recovery apparently hastened by occasionally substituting stronger solutions of silver nitrate, forty to sixty grains to the ounce, for the iodized glycerin, tannin, tar, or other routine application. A visible increase in congestion immediately follows the use of the silver solution; but this passes off quickly, and at the next visit great improvement is usually manifested. These applications are made once in about two or three weeks, according to circumstances. By thus using solutions of silver nitrate, not as a routine measure, but occasionally in the course of other treatment, as a topical stimulant —the strength of the solution being in inverse ratio to the progress of the case toward recovery—I believe that in very many of the cases in which topical treatment is indicated recovery may be hastened; and in particular that the troublesome final stage may be managed with greater ease than by the use of any other agent with which I am acquainted.

Paper.

LOCAL TREATMENT OF DIPHTHERIA.

By J. C. MULHALL, M. D.

THERE is hardly a familiar disease concerning which the evidence of witnesses is more conflicting than in diphtheria, no matter from what standpoint it may be viewed.

Statistics based on mistakes in diagnosis, on the varying nature of epidemics, on faulty reports as to anatomical regions invaded, and on our general ignorance as to its method of diffusion, its ætiology and pathology, no doubt account for this confusion.

A vast number of agents have been employed in the local treatment of the disease with the usual conflicting testimony as to value.

It is, however, chiefly concerning the method used in their application that I desire to draw attention to a plan which for four years has yielded me gratifying results. When I originated this plan I took for granted several propositions commonly accepted by observers:

First, that the disease is a germ disease.

Second, that in the vast majority of cases the specific microbe selected the tonsils as their initial culture soil.

Third, that, unless checked by germicides, their colonization usually resulted in local putrefactive changes with general secondary septicæmia.

Fourth, that implication of the laryngeal or nasal chambers largely increased the mortality.

Fifth, that the disease is acutely adynamic.

It occurred to me, therefore, that, as was already largely practiced, the local treatment should be chiefly antiseptic, and that, as the disease spread rapidly and the salutary effect of antiseptic solutions in the upper air-passages, from anatomical reasons, could be of but short duration, this antisepsis should be, if possible, continuous. It will be readily admitted that it is of the utmost importance to maintain the patient's strength, and that, therefore, an element in ideal local treatment is, other things being equal, the employment of agent and method which least harass the child and which permit the recumbent attitude throughout. It suggested itself that a method which washed out from the throat the perverted secretions was preferable to that which invited a subject too young to expectorate to swallow them, and which permitted the larynx to be bathed in them, as must occur in the use of a spray. The instrument with which these requirements can best be met is one which is found in nearly every domicile—namely, the common household syringe. It is a fact not generally known that if the end of such an instrument is introduced into the pharynx or into the back part of the mouth of a young child, the throat can be boldly flushed out without causing gagging, vomiting, coughing, or strangulation. Reflexly, the tongue immediately retracts and pushes the epiglottis down, making a water-tight glottis,

and the child involuntarily ceases to breathe while the pharyngeal irrigation goes on. The first treatment, like any other first local treatment, in a young child is met with repulses, but even very young children soon learn to appreciate the agreeable effect of clearing the throat of foul and adhesive secretions, and soon quietly submit. With badly trained children, some of whom even repulse the nurse when she smears the nostrils and lips with a soothing ointment, I commonly use the rectal tip, or, better, a pewter tip which can be curved so as to be insinuated behind the last molars; but ordinarily I use no tip, simply the rubber hose, which is soft and has the further advantage of providing a larger stream. The physician himself carries out the first treatment as a demonstration to the nurse.

The child lies in a crib, one side of which is open; a rubber cloth conducts fluids into a vessel. The child's head is brought to the edge, the face turned toward the vessel, and the flushing is rapidly accomplished. The exertion, even of sitting up, is usually avoided. I direct the washing to be done every hour in the waking state, and to never permit the child to sleep three hours without it. I have used various antiseptics. I prefer a mixture of carbolic acid and compound solution of iodine properly diluted with warm water, which frequently, in addition, is saturated with boric acid. An ordinary water tumbler of fluid is consumed at each irrigation.

This plan is so far imperfect, since it does not provide for disinfection of the post-nasal region, and there are few cases of diphtheria which do not more or less implicate this region, rich in lymphatics and probably, next to the tonsils, most frequently the line of poison march to the system at large.

I have been amazed in consulting practice to observe the frequency with which the nose had been neglected until serious nasal signs—such as hæmorrhage, fœtor, or total obstruction—had compelled some kind of attention, very often too late, for this triad of symptoms is most commonly the harbinger of death.

If we consider that the general practitioner is usually unacquainted with rhinoscopy, that even the expert has often failed in illuminating and seeing the nasal cavities of a young child, that the nose which the evening before seemed uninvaded is found in the morning to be seriously affected, it can hardly be gainsaid that prophylactic treatment of the nasal cavities in pharyngeal diphtheria is a wise therapeutic measure. Antisepsis of the nasal cavities can do no harm, while it may prevent or render mild invasion from the throat. Moreover, since for many reasons we can not in these cases treat the

pharyngeal vault from the mouth, the anterior nasal cavities form ready avenues of approach for the disinfection of this region, and this is an integral part of my plan of continuous antisepsis. Let me repeat that, apart from this being a channel for the antiseptic treatment of the throat, I desire to strongly recommend to the profession that in every case of diphtheria, whether the nose be affected or not, the nasal cavities be kept sterile from the first. The method of accomplishing this varies. When it is clear that neither the post-nasal nor nasal chambers are attacked, the frequent insufflation of a non-irritating antiseptic powder may be sufficient. When uncertainty exists, or it is apparent that invasion has taken place, the nurse is instructed to wash out the nasal cavities with the same antiseptic solution as that employed in the throat, except that it should be far weaker, so as to irritate the nose as little as possible, and should seldom exceed in amount more than two teaspoonfuls for each nostril. The child, if possible, clears the nose and the antiseptic powder is at once forcibly insufflated. This, as the child lies on its back, gradually trickles into the pharynx and assists in the plan of continuous antisepsis. I commonly use finely powdered sulphur, or iodoform, or salicylic acid highly diluted with a trifle of cocaine, to prevent irritation.

This cleansing of the nose should not be done with the household syringe, for it throws a stream too small in diameter, and one far too forcible in careless or unskillful hands; nor does it permit of the regulation of the amount of fluid to be injected. The point of the ordinary glass syringe introduced into the nostrils of an impatient child is apt to produce an undesirable wound of the septum. Moreover, the caliber of the nozzle is far too small, permitting a slender, swift, painful, and inefficient stream.

The syringe which I show you is made for me by Mr. J. M. Good, a druggist of St. Louis, and fulfills, I believe, the ideal requirements of a syringe for anterior nasal medication in young children. Its capacity is about two drachms. It terminates in a bulbous enlargement which prevents a forcible stream, forms a shoulder to rest against the margins of the nostrils, and, since it terminates abruptly in the nozzle, can not enter the nose and abrade the mucous membrane. The diameter of the outlet is one fourth of an inch, thus permitting a large yet gentle stream. Before I invented this syringe I was in the habit of filing through a small glass syringe at its neck, where the diameter was large, thus avoiding the objections of the tip. The nozzle thus altered should be held in an alcohol flame to smooth

away irregularities. The frequency with which the nasal cavities should be irrigated is a matter of individual judgment. Gently and quickly done with agents that are not painful, children readily submit to it—an important matter, for, whatever the plan of local treatment be on the adynamic diseases of childhood, that plan is best which, other things being equal, meets with least resistance. The rapid dissolution of the membrane is undoubtedly an element of successful local treatment, and I frequently make use of solvent remedies immediately succeeding the cleansing of the diseased surface. I have best succeeded with papoid.

There is but one method of local medicinal treatment which can be efficiently pursued in the laryngeal diphtheria of children—that by vapors. At appropriate stages, the inhalation of the fumes of slaking lime deserves always to be remembered.

I beg leave to call your attention to a modification of the plan of Delthil, which I have hitherto employed in seven cases, with a final result of four recoveries and three deaths.

A small apartment in the house is selected, the carpet and other belongings removed; the room is thoroughly fumigated with sulphur, and a sheet saturated with a disinfectant spread across the doorway.

A gas-stove is introduced which will support two vessels. Into each is poured a half-gallon of water. Into each of these a half-pint of pine tar is stirred, and a tablespoonful of oil of turpentine. As steam is generated, water is occasionally added, so that the half-gallon mark is maintained. The amount of tar will be sufficient for the entire treatment, but to each vessel there is added every hour a tablespoonful of the oil of turpentine. I have not as yet observed strangury or the characteristic odor of the drug in the urine.

The air from outside should be admitted several times daily. The heat from the gas precludes this method in warm weather.

In three of my cases, with one death and two recoveries, I have been able to demonstrate membrane with the laryngoscope. The four children safely passed the laryngeal crisis with but little cough and no glottic spasm. In a boy aged four, seen with Dr. Holland and Dr. Frazer, of St. Louis, who died on the seventeenth day from exhaustion, not the slightest dyspnœa was at any time observable, though total aphonia existed, and I was able to demonstrate to these gentlemen the presence of membrane in the larynx. The steam is generated day and night, and in one of my cases was continually done for six days.

In diseases in other parts of the body whose natural termination is in putrescence the surgeon, in anticipation of this event or on its actual arrival, thinks first of antiseptic measures. It is therefore probable that analogous measures are the best that can be employed in diphtheria. I have endeavored to describe a reasonable method of their execution.

Discussion.

Dr. William C. Glasgow, of St. Louis: I am one of those who believe that diphtheria is a blood disease rather than a local affection, and the only objects of local treatment that I see are cleanliness, disinfection, and the loosening of the membrane. There is one remedy which I have found valuable in loosening the membrane. It is the peroxide of hydrogen used as a spray. Last winter I was called in consultation to see a young girl where the membrane had invaded the larynx. The symptoms were so urgent that I advised the gentleman in charge to stay all night, and stated that I thought tracheotomy would be needed. As a preliminary, I recommended the use of the peroxide of hydrogen by the atomizer. After a few applications a large piece of membrane was thrown out. The next day the larynx was much clearer, although there were still portions left. That was the only local treatment employed in this case. Every hour a gush of the peroxide was thrown into the larynx. It produced a veil of foam, as it always does, and it seemed to lift up the membrane by the formation of gas. This patient entirely recovered. I look upon the local treatment simply as an adjuvant. I think that the constitutional treatment is the main thing. The constitutional treatment that I have found most successful is that by bichloride of mercury and benzoate of sodium. This is combined with very simple local treatment. There are cases of diphtheria where more local treatment is necessary. In these cases the method which Dr. Mulhall has described would be of value.

Dr. D. Bryson Delavan, of New York: I think that not only the general practitioner but also a great many specialists can not receive too much warning as to the importance of the early detection of the extension of diphtheria to the nasal passages. I have seen case after case in the hands of well-known specialists where any chance that the patient may have had was lost by the neglect of reasonable precautions.

During the past ten years I have used the bichloride and the cyanide of mercury in the treatment of diphtheria, with increasing confidence in the value of these drugs. As is now well established, the bichloride of mercury is the most active destroyer of the streptococcus known.

Dr. W. H. Daly, of Pittsburgh: I do not know that I should transgress the bounds of this discussion if I were to allude to the treatment that I brought to the notice of this association in Philadelphia in 1887.* I think

* "The Simplest and Most Efficient Treatment of Diphtheria," "Transactions of the Amer. Laryng. Assoc.," 1887, read at the Philadelphia meeting.

that it is probably as active and efficient as a local remedy as it is active and efficient as a constitutional remedy. Of its constitutional action I shall not speak. I refer to large and oft-repeated doses of calomel, untriturated, unmixed with sugar. I have in my possession large numbers of personal letters, from general practitioners from distant and near parts of this country and abroad, thanking me for having given to the profession my experience in the use of calomel in the treatment of diphtheria, and I take the liberty of again bringing it to your notice in connection with this paper more especially with reference to its local effect. I believe that a large part of the valuable therapeutic effect of calomel administered as I recommend it—that is, two, three, four, or five grains every two hours to a child one and a half or two years old—is due to the local action of the drug upon the diphtheria poison in the fauces. I feel sure that the gentlemen who try that treatment will not be disappointed. I presume that it is your experience, as it is my own, that many cases of diphtheria that come under our observation are in an advanced stage and are in the hands of the general practitioner, and we do not have that full control of the case that we should if it were in our own hands; but if you will investigate this treatment and try it, I promise you that you will not be disappointed. The treatment is very simple and easy—simply floating the calomel on a teaspoonful of ice-water and opening the child's mouth and putting it in. If it is swallowed, well and good; if a portion remains in the mouth and fauces, well and good. I hope that you will pardon me for again bringing this to your notice. This is a valuable and tried therapeutic measure and not a new one.

Dr. Harrison Allen, of Philadelphia: I have found trypsin useful in removing the membrane. It is purely a local agent. I apply it directly to the membrane, and it is best used where you can see the membrane, but I have not hesitated to carry it by curved probes to the lower part of the pharynx and to the larynx. It is of a pasty nature when mixed with mucus and readily adheres. A piece of absorbent cotton is put on an ordinary holder, slightly moistened, and dipped in the trypsin, lying on a watch glass. A large portion adheres, and this is then carried to the affected surface. The ordinary act of deglutition will not dislodge it.

A lady, the wife of a physician, was under my care last winter. She appeared to have had an ordinary tonsillitis. I plunged a lancet into the mass but found no pus. At my next visit I found the whole tonsil covered with diphtheritic membrane. The lady was extremely ill. In this case I had the happiest effect from trypsin, and I believe that it saved her life. The membrane did not extend beyond the point first affected.

Dr. S. Johnston, of Baltimore: In the discussion on Dr. Daly's paper I called attention to trypsin and stated how valuable it had been in the cases in which I had used it. I then predicted that it would be used universally as a local measure in this disease. Since then, in several instances, I have found it a most useful solvent of diphtheritic membrane. I am glad to hear Dr. Allen's remarks.

Dr. J. C. MULHALL: I am sorry that the main object of my paper has been overlooked, and that was the method of carrying out the application, not of using any particular remedy. I may therefore presume that my method is peculiar to myself.

I purposely omitted to touch upon the constitutional treatment of the disease. I surmise that the effect obtained by Dr. Daly from calomel is a constitutional effect. Looking into the throat when the membrane is beginning to separate, we find a good deal of catarrhal secretion, and I do not see how the application of any powder can affect the tissues underneath without first the complete removal of the secretions.

Peroxide of hydrogen is certainly a valuable local agent. I have used it as well as trypsin and other solvents extensively, but I think that I get more rapid solvent effects from papoid.

I am sorry that more was not said about getting rid of the poison in the throat. This was the prime object of the paper.

Paper.

SOME MANIFESTATIONS OF LITHÆMIA IN THE UPPER AIR-PASSAGES.

BY F. WHITEHILL HINKEL, A. M., M. D.

THE influence of lithæmia and allied conditions upon the mucous membrane of the upper air-passages appears in a general way to be recognized by the profession, but an examination of the "Index Catalogue of the Surgeon-General's Library" fails to show any indication of this recognition by title or reference. Harrison Allen,* in the past year, has reported five cases of gouty sore throat, with a description of the general characteristics of such cases. His brief *résumé* of the literature extant upon the subject shows that it has received slight consideration in laryngology. That the existence of an influence so obvious in its effects upon the upper air-passages in a limited class of cases should have escaped more general description in laryngological text-books and in current literature is apparently due to the great advance made in recent years in improved methods of topical application and to the increased interest in nasal surgical pathology and appreciation of its influence upon laryngeal disease, which have led to a perhaps too strictly local and surgical view of some diseased conditions of this region.

In addition to the sore throat found in distinctly gouty subjects described by Allen,† there is a less well defined form of inflamma-

* "Medical News," June 16, 1888. † *Loc. cit.*

tion—of which his second case appears to be an example—that presents certain appearances and symptoms which, while not at all pathognomonic, yet, taken with the history and general symptoms, and, above all, with the results of therapeusis, are clearly indicative of their dependence upon a lithæmic or allied condition. These local manifestations of lithæmia are of necessity not clearly definable, for the general condition upon which they supervene is one of whose underlying pathological conditions we know but little. The term lithæmia, tentative in character, is based solely on clinical manifestations, and is applied with considerable latitude of meaning. Some even speak of an acute so-called "bilious attack" as an attack of lithæmia. The term is here used to express the now well-recognized conditions to which Murchison * applied the name, not to conditions brought about in an individual with fairly normal digestive and assimilative functions by temporary excess, or even by constant irregularities of diet of a gross character, but to that condition of suboxidation and overcharging of the blood and excretions with excretory matter in a state of faulty elaboration due to inherent and hereditary abnormity of function, or to prolonged exposure to depressing environment.

As S. Solis-Cohen well says, in a recent article on the "Therapeutics of the Gouty Diathesis: † "It is not a disease—not a sudden or gradual departure from the usually normal action of the organism —that we are dealing with, but it is, if I may be permitted the expression, an abnormal normality—that is to say, an inherent departure of the individual organism from the typical action of like organisms."

Individuals of this diathesis are prone to digestive disturbance from the most ordinary articles of diet, particularly the starches and sugars and acid fruits. Simple and regular habits of diet are not sufficient to prevent recurring exacerbations of the characteristic symptoms, if unusual mental or nervous strain is undergone in a sedentary pursuit. There is a tendency to form uric acid in excess, from which the condition is named, and to a waste of phosphates —conditions most easily detected in the urine—along with digestive, mental, and nervous phenomena of depression familiar to all. While this condition is found in those of gouty antecedents or of distinctly gouty tendencies, so that the term lithæmia or the gouty diathesis may be used interchangeably to describe it in some cases, yet its subjects may never have true gout, or even distinct irregular manifesta-

* "Clinical Lectures on Diseases of the Liver."

† "Medical News," May 18, 1889.

tions of it. Indeed, under the environment of most Americans, the development of local attacks of gout is rare, while the nervous and digestive arrangements under consideration are not unusual. From this it appears that a distinction must be drawn, as pointed out by Allen,* between cases of gouty sore throat—where the throat lesions accompany or follow distinctly local manifestations of gout in other parts of the body—and cases where, with no distinct personal or family history of gout, there are throat symptoms referable to a general lithæmic or allied condition, and relieved by treatment directed against such condition.

I have qualified the definition of these cases as lithæmic because the term is of necessity somewhat vague and elastic in its application to conditions that vary from typical and unmistakable clinical manifestations to almost normal health. It includes many cases of "muscular rheumatism" so called, and the tendency to affections of fibrous structures seen in sufferers from torticollis, lumbago, etc., is more allied to lithiasis than to the acute affection from which it borrows its name. The same may be said of certain forms of chronic rheumatic sore throat described by Ingals.† Some of his cases appear to me as expressions of a lithic rather than a true rheumatic state.

The manifestations of lithæmia in the upper air-passages do not fall uniformly under any one type, nor are they sharply distinguished as being of lithæmic origin by the local conditions they present, but there are certain appearances or symptoms that are more or less constantly connected with lithiasis, and at least suggest the presence of that element and the need of general therapeusis on that line, whatever local measures may be indicated.

An appearance occasionally seen in cases of irritable throat associated with lithæmia is a patchy congestion of the laryngeal face of the epiglottis extending along the aryepiglottic folds and over the posterior aspect of the ventricular bands. This is associated with a harsh, dry, explosive cough, and sense of extreme irritation about the larynx. My friend, Dr. Roswell Park, has informed me that he has seen with the cystoscope the same patchy congestion of the mucous membrane of the bladder in a case of inflammation of that organ in a markedly lithæmic subject. A case illustrating this form of laryngitis, associated with lithæmia, is the following: Male, aged about thirty-eight years, of sedentary habits. Is subject to attacks of constant irritable and explosive cough, with some impairment of strength of voice. The attack at time of first consultation had lasted about

* *Loc. cit.* † "Am. Jour. of the Med. Sci.," January, 1888.

one week. Laryngoscopic examination showed irregular patches of deep congestion on the margins of the epiglottis and on its laryngeal surface. The upper larynx generally showed more congestion than in the plane of the glottis. Warm aromatic inhalations and subsequently mild astringent sprays failed to give material relief. A solution of sulphate of zinc or of nitrate of silver, of a strength usually non-irritant, caused much discomfort and aggravated the symptoms. A urinary examination showed high acidity, with uric acid and oxalate of lime in excess. He informed me that he was accustomed to take alkalies at intervals, by medical advice. The administration of alkalies and antifermentatives, with regulation of the diet and the inhalation of dilute lime-water, gave prompt relief. The extreme sensitiveness of the mucous membrane to astringent or stimulant applications here noted is common to these cases, as mentioned by Allen concerning gouty sore throat. I regard it as a point of diagnostic significance, suggesting a careful examination as to the presence of a lithic diathesis.

A similar form of patchy inflammation of the pharynx is seen in some cases, the congestion extending in streaks usually along the postero-lateral walls. It is accompanied by an ill-defined sensation of "sore throat," with perhaps some laryngeal irritation. A sense of uneasiness or even positive pain on swallowing is at times referred to one or other side of the larynx externally, often opposite the superior cornu of the thyreoid, as noted by Ingals.* This referred sensation occurs more often, in my experience, from inflammation of the pharynx or peritonsillar region than from inflammation of the laryngeal mucous membrane. A case in point is the following:

Mrs. G., aged about thirty-five years, subject to sore throats, referred especially to the sides of the throat, with occasional darting pains into one or other ear. There is some dry and painful cough; no marked pharyngeal secretion. The lateral walls of the pharynx present deep congestion extending above the free margin of the soft palate and below the plane of the superior margin of the epiglottis. The median posterior wall of the pharynx is but slightly congested. Her attacks are preceded and accompanied by muscular lameness, especially in the muscles of the neck and upper back. Gentle pressure upon the regions of lateral congestion causes them to swell slightly and produces pain darting into the ear and lower pharynx. There is a history of an attack of acute rheumatism in one member of her family. The urine is scanty and high-colored. She is subject to headache, indisposed to exercise, feels often heavy and dull, and lives upon rich diet. Stimulating applications cause distress and

* *Loc. cit.*

aggravate the symptoms. She has improved much by regulation of diet, exercise, and the administration of alkalies and antifermentatives. She has frequent relapses owing to her unwillingness to regulate her habits as directed. These exacerbations are improved by general antilithic medication more than by any local treatment applied.

I have noted a few cases in individuals of lithæmic tendencies in which their lithic storms were accompanied by a marked naso-pharyngeal catarrh, not present in any appreciable degree during the intervals. This symptom is noticed for several days before the digestive and other derangements make themselves manifest. In one case it is so marked that the appearance of the pharyngeal catarrh is regarded as a signal for appropriate general medication and hygiene, with the effect of checking both the catarrh and the general attack. In these cases the use of the various solutions of iodine is extremely irritant, and all stimulant applications are ill received.

I have observed a condition of obstinate relaxation of the venous plexus of the turbinated bodies in some individuals coincident with general indisposition of a lithæmic character and apparently dependent upon it. Caustic applications are badly borne and fail to accomplish their desired effect on account of too great inflammatory reaction. The use of soothing local applications and diluents and alkalies internally, with general hygiene, gives improvement in some cases. In others, the time of year marked by damp, cold winds, invariably finds them from time to time attacked by symptoms of inflammation and occlusion of the nasal chambers, not necessarily severe, but sufficient to annoy. This resistance to appropriate local measures I have been led to attribute in some cases to intractable lithæmic tendencies.

In conclusion, I desire to repeat what has been stated above—that the manifestations of lithæmia here described are not regarded as typical; but they have so often been found associated with more or less pronounced lithæmic or allied conditions, and so responsive to therapeusis adapted to this state, that their presence should at least lead to a careful examination of the personal and family history and general condition to discover what influence lithiasis may have in the case under consideration.

Discussion.

Dr. William C. Glasgow, of St. Louis: I have listened with pleasure to this paper, and I think that such papers are what we particularly need in directing attention to the constitutional origin of local troubles. There

is no doubt that a great deal of local trouble is due to constitutional changes. I have seen the cases referred to, but I have not looked upon them as lithæmic. I have not been able fully to explain them. I have understood them so far as not to use local treatment. The success that has attended remedies directed to the constitutional condition and to the stomach and digestive organs has been sufficient. These cases I have called gastric, from the occasional eructations of gas and fullness after meals; but in some of them there have been slight evidences of dyspepsia. An abnormal fermentation may be the provoking cause. In all of them I have found the use of bichloride of mercury in minute doses with bismuth and bicarbonate of sodium efficient. An old lady, who had suffered for two weeks with a trouble of this kind, recovered in a few days under this simple treatment. I have seen many such cases. Perhaps they are lithæmic, but I have looked upon them as due to a disorder of the stomach or viscera. The paper is valuable in drawing attention to the possible constitutional nature of these local disorders.

Dr. Harrison Allen, of Philadelphia: This is certainly a most excellent paper. There is need of defining this notion of lithæmia more accurately. In the paper referred to as written by myself, I attempted to separate the signs by which lithæmic sore throat could be separated from the gouty. There is one phase of the subject which has not been alluded to; that is, that in adolescents you get a type of throat which is very puzzling. Young, vigorous people, especially young men, will have a lithæmic sore throat which is very puzzling. These cases resist local treatment. Reverting to the discussion of yesterday on Dr. Roe's paper, suppose such a condition existed and you used the bistoury or cautery, you would at once excite a traumatic pharyngitis. The throat is of the color of a boiled lobster. I find this condition generally in those living in luxurious homes; I believe that they are over-fed and under-exercised. In Philadelphia we have a great deal of luxury, and there is a large class that eat too much. This is a matter of common comment among school-teachers. The testimony of teachers is that many of these young persons do not get along in their studies as well as they should on account of foolish luxury in their homes. If this is the case, we can understand that in its crude form this added material is useless if not injurious. It seems to me that the use of too much sugar, starch, and rich wine would produce the condition of which Dr. Hinkel speaks. We, however, can not prove this position, for it is impossible to control the habits of these patients.

Dr. D. Bryson Delavan, of New York: These cases are commonly met with among the over-indulged children of wealthy and injudicious parents. The average child will not select the most wholesome varieties of food if allowed to choose for himself, so that sweets must be interdicted. Unless we can control the diet, the management of these patients is difficult. It is valuable to have attention called to it, so that a senti-

ment may be excited against this over-indulgence which we find among the richer classes. Among people of more moderate means such troubles are not so common. Until these cases can be put upon a proper regimen, which it is easy to suggest but difficult to carry out, I do not think that medicine or local treatment will be of much avail.

Dr. F. I. KNIGHT, of Boston: This class of cases is familiar to most of us now. It is only recently that the peculiar irritability under the topical measures struck me very forcibly. Within the past year I have noted it particularly in a number of cases. The gentlemen may remember that a number of years ago there appeared an article in the "Popular Science Monthly" by, I think, a layman, in which catarrh was attributed to the disproportion between the amount of food ingested and the amount of exercise taken. Although the views were exaggerated, there was a good deal of truth in the article. I can say that where I have been able to make patients carry out the proper treatment I have usually been rewarded by very good results. The treatment has consisted in cutting down the diet at once, the cutting off of the excess of sugars and starch, the almost complete elimination of pastry and potatoes, and, in addition, the free use of alkaline drinks. In cases where the urine has shown a good deal of oxalate of lime, particularly where there is irritative cough, I have several times seen extraordinary results from the administration of hydrochloric acid. I have in several cases seen a cough which had persisted for several months cease in a few days under this treatment. The exercise is a part of the treatment which it is hard to induce the patient to carry out; unless you lay down some definite means, unless you insist upon a man buying a horse or a young man going to the gymnasium, it will not be done. In most large cities there are men who will take charge of such discipline. We have now a Swedish gentleman of good education who is doing a great service for some of our patients in this way.

Dr. W. H. DALY, of Pittsburgh: This question has been brought to our notice before by Dr. Allen and, I believe, by Dr. Ingalls, and to-day, in a very instructive manner, by Dr. Hinkel. It makes one rather proud of being a laryngologist to see these practical and substantial lines of thought branching out in various directions. It certainly promises well for the future of medicine, and especially for laryngology. I confess that my attention was first called to it by Dr. Allen's paper, and I have since read his paper once or twice, and I must further confess that I am very much at sea as to any definite belief as to the pathology of these cases, whether they are primarily a digestive disorder, or a liver disorder, or whatever else it may be.

In this connection I wish to say a word with reference to Murchison, and there never lived a higher authority on questions connected with disease of the liver and some forms of lithæmia and gout; but a man who wrote so much and taught so much could not avoid making some errors. Of these I do not intend to speak. It is not safe to follow Murchison through all the mazes of his theories. I say this with all due respect, for

I enjoyed a personal acquaintance with Murchison during his life, and feel proud to have known him.

As we are, in a practical way, more interested in dealing with these patients in a curative way than any other, it may be well for me to refer to a simple method which I have resorted to with probably more satisfaction than any other. In my experience with salicylate of sodium I have never been able to get patients outside of hospitals to take it longer than twenty-four hours at a time within the past year in such cases as have been referred to by Dr. Allen and Dr. Hinkel. I have ordered equal parts of salicylic acid and bicarbonate of sodium to be mixed, and of this the patient takes from a half to a whole teaspoonful, in a small, strong lemonade, half an hour before each meal. Patients will take the drug in that way longer than in any other. I do not continue it more than four or five days at the furthest. Good results are obtained in a fair proportion of cases very quickly.

Dr. F. W. Hinkel: I am glad to receive the corroboration of the gentlemen present. I knew that they had all seen this condition in some form. I wanted particularly to point out the fact that there are some cases in which the digestive disturbance is not due to great excesses on the part of the patient, and also that there are a few symptoms—such as a patchy appearance of the mucous membrane—which I have seen associated with the general condition frequently enough to think that it is a local sign of some significance, and might lead one to suspect lithæmic complications where the appearance of the patient might not suggest it. As Dr. Glasgow has said, there is frequently gastric derangement. Frequently there is a chronic gastric catarrh, which must be relieved by the physician before the laryngologist can hope to relieve the condition in the upper air-passage. Whether this gastric condition is not due to the underlying constitutional condition is a question.

When we give bicarbonate of sodium and salicylate of sodium, we are really making use of remedies which will check the fermentative action which goes on in the intestinal tract, and prevent that acidity which I am perfectly sure frequently stands in a causative relation to the nerve storms which sweep over such individuals. In this way the local conditions are relieved by removing the source of irritation from the intestinal tract.

Paper.

HÆMORRHAGE FROM THE LARYNX.

By WILLIAM PORTER, M. D.

MANY objections have been urged against the use of the term laryngitis hæmorrhagica, and it is probably well to begin with a few definite statements which I believe are supported by facts.

Hæmorrhage from the larynx is seldom if ever unaccompanied by other symptoms or evidence of laryngeal disease, though sometimes these may have been previously unnoticed. It is rare, yet frequent enough to have been accurately observed and described. In most cases it is slight and, unless as a symptom of serious disease, is unimportant, yet in a few instances it has been profuse and alarming. Granting its frequency and the fact that it is generally in itself of little importance, it is still an interesting study, as an indication of pathological conditions and also because it is often erroneously credited to pulmonary lesions.

In examining the recent literature upon this subject, I can not but feel that careful observation will give it a more important place in the catalogue of symptoms of laryngeal disease. That it is not so is doubtless due to the fact that it has generally been found to be, when severe, but a symptom of some grave and definite morbid process, as of malignant, tubercular, or syphilitic character, and, when slight, to be of little importance.

Reasoning in the abstract, we might probably conclude that the larynx would be a favorite site for such local lesions as would result in hæmorrhage. The parts have free vascular supply, as has the pharynx or naso-pharynx, where hæmorrhages are not infrequent. The functions of the larynx require almost constant movement, and this is favorable to rupture of blood-vessels already weakened by disease. Such would be a reasonable hypothesis aside from recorded facts.

Against this supposition is the almost unanimous verdict of the members of the Section in Laryngology and Rhinology of the British Medical Association of last year. The president, in summing up the discussion, pointed out that there was an evident opinion among those present that hæmorrhages from the previously healthy larynx and pharynx were extremely rare—far rarer than was supposed by the profession at large—and that in any case of hæmorrhage into the upper air-passages of obscure origin it was probable that the hæmorrhage was due to pulmonary tuberculosis, even in the absence of physical signs of that condition.

I would not thoughtlessly dispute the conclusions of such high authority, and yet I must confess a doubt as to its entire accuracy. There might of course be on the part of some a disposition to hide behind technicalities. For instance, no one would oppose the statement: hæmorrhages from a previously healthy larynx are infrequent, for without previous lesion, small though it be, there could not well

be hæmorrhage, which is a symptom of lesion. The thought intended to be conveyed, however, is plain enough, and while I grant that well-marked laryngeal hæmorrhage is rare, yet, as I have already intimated, I believe enough cases have been observed to make it worthy of study.

It seems to have been the experience of many observers that most of the cases of so-called laryngeal hæmorrhage are of pulmonary origin, or that pulmonary disease becomes evident sooner or later. It is generally true that bleeding through the mouth denotes pulmonary disease and is suggestive of grave conditions, but it is in some cases of this kind that the laryngologist is able to say that the hæmorrhage is not from the lungs, that it is purely local, and does not indicate a progressive course and fatal termination.

In twenty-two cases reported by six observers, most of whom are members of this association, phthisis followed in but three. The general tenor of replies to Gleitsmann's circular letter of interrogation upon this subject was "that hæmorrhage from the larynx can be regarded as a precursor of phthisis in exceptional cases only. The data furnished further tend to sustain the assertion made in this paper that many, if not the majority, of cases are not published, and that they are by no means so rare an occurrence as generally supposed." Regarding the first statement, I can say that three of the four cases of which I have notes have given no evidence of pulmonary disease, and am not sure but that in the fourth (No. 3 in the series) the pulmonary involvement has been the result of the hæmorrhage, as will be mentioned hereafter.

In this paper I will not attempt to present a full bibliography upon the subject, as this has been given by Dr. Gleitsmann in the "American Journal of the Medical Sciences" for April, 1885, with an additional series of cases compiled by the same author in the "Medical Record" for October 29, 1887.

Permit me, however, before mentioning several cases in my own practice, to recall a few well-marked ones which have been recorded by others.

Ten years ago Dr. J. H. Hartman, at the first annual meeting of this association, reported a case of laryngeal hæmorrhage from the rupture of a large capillary vessel upon the surface and about the middle of the left ventricular band. The patient had been singing, the hæmorrhage came on suddenly, several ounces of blood were expectorated, the next morning a recurrence, and two or three ounces

of blood were again lost. The application of a strong solution of ferric alum was sufficient to stop the bleeding.

An interesting case was reported by Fraenkel in 1874 in which the patient, a woman in the fourth month of pregnancy, had repeated and severe hæmorrhage continuing at intervals for four weeks. As soon as the blood crusts which had formed on the laryngeal mucous membrane were removed, parenchymatous bleeding from the cords and posterior wall could be distinctly seen.

During the past ten years a score of writers have contributed the history of cases to the literature on this subject, and of these I will mention but one which seems to me to be in every way typical. In the Section in Laryngology of the Ninth International Congress, Dr. Stockton, of Chicago, presented the history of a young lady, an opera singer, who suddenly lost her voice while practicing, and in a few minutes coughed up some bright frothy blood. The larynx was found coated with blood, and when it was removed, a small pulsating vessel was seen, and from it came the hæmorrhage, which was controlled by the galvano-cautery.

In my own experience I have records of but four cases of hæmorrhage from the larynx, not associated at the beginning with serious local disease or pulmonary tuberculosis. Elsewhere I have reported cases of pharyngeal hæmorrhage which were ascribed to pulmonary sources; but of necessity these are excluded here, though of the same general class as those under consideration and giving rise oftentimes to the same errors in diagnosis.

Case I.—Miss K., aged eighteen, with good family history, had repeated hæmorrhages with some hoarseness, and at times soreness in the glottic region. After failing the first time to find any chest complication and nothing to indicate laryngeal bleeding except a chronic laryngitis, I saw her a second time while she was expectorating blood. The site of the hæmorrhage was seen to be a small perforating ulcer of the right ventricular band. The bleeding was, after several recurrences, finally controlled, and the laryngitis has under treatment been relieved. It is two years since I first saw Miss K., and there has been no return of the bleeding and no evidence of pulmonary disease. This case is also reported in the proceedings of the last Medical Congress, vol. iv, p. 45.

Case II.—In January of the present year I saw Mr. G., a Government inspector, whose duties frequently required him to be in the holds of boats which are often damp and foul. He was forty-two years old, robust, and with a good family record. He said that for a year he had had recurrent hæmorrhages which he feared were from the lungs. He was slightly hoarse and was expectorating blood when I saw him. I found nothing to

indicate lung disease, but in the larynx discovered the bleeding to come from the posterior part of the right vocal cord, which was red and swollen. I believe that all the hæmorrhage came from this part of the larynx, because it was entirely controlled by the direct application of iron, and the local inflammation has improved under the usual treatment.

Case III.—Miss L., a pale, delicate-looking little lady of about thirty-five years of age, consulted me three months ago on account of almost constant cough and repeated though slight hæmorrhages existing for six weeks. There was no expectoration other than the blood and a little mucus, half a degree of fever, pulse slightly quickened, but no loss of flesh, and fair appetite. The family history was free from any trace of so-called hereditary disease. A careful examination of the chest gave negative results. The larynx was red and the mucous membrane over the left arytenoid cartilage, and indeed the whole left side of the larynx, including to some extent the vocal cord, appeared swollen. There was at this time some hoarseness, but no bleeding. Although the circumstantial evidence was in favor of laryngeal hæmorrhage, it was not until her third visit that I could affirm it. While waiting in my office the bleeding returned. At once making an examination, I found that the hæmorrhage came from the suspected region of the larynx, especially from near the posterior attachment of the left cord. After this the bleeding returned a number of times, but has not appeared during the last two months.

A fortnight since, or nearly four months from the first hæmorrhage, I found evidence of pulmonary consumption, not at the apex, where phthisis as a rule begins, but in the right lung at the third intercostal space anteriorly. There was and is now slight dullness, diminished vesicular murmur, and prolonged expiration.

It has been shown by Dr. Alexander Hodgkinson ("British Medical Journal," September 15, 1888) that blood may pass from the pharynx into the larynx and down the trachea with the utmost facility. After an operation upon the pharynx he found the blood trickling over the interarytenoid fold, and apparently giving rise to no laryngeal irritation.

In discussing this subject before the Section in Laryngology and Rhinology of the British Medical Association, 1888, Dr. David Newman, of Glasgow, raised the interesting question as to whether or not hæmorrhages from the upper air-passages might act as a predisposing cause to tubercular disease. He reported a case which is so suggestive, taken in connection with Miss L.'s history, that I quote it. There was a "papilloma attached to the posterior pharyngeal wall from which repeated and sometimes copious hæmorrhage took place. The blood escaped by the nose and mouth, but on several occasions it flowed into the trachea and was subsequently coughed up. For six

months these hæmorrhages were observed to occur at irregular intervals, and no symptoms developed nor could physical signs be discovered to support a suspicion of pulmonary disease, the patient being in perfect health with the exception of the growth in the pharynx. At the beginning of last year, however, the condition of the upper lobe became suspicious, and within three months marked signs of consolidation developed."

In the case of Miss L., it is true that the general condition pointed to something more than a recurrent hæmorrhage that was never very severe, but, sustained by Dr. Newman's experience, I can not but believe that this is one of those instances of "phthisis ab hæmoptoe," for it is a pathological fact that tubercular disease may follow a pulmonary hæmorrhage. "The inhaled blood is simply dead organic matter, offering no resistance to the action of specific micro-organisms, and, when it becomes infected, induces changes in the surrounding tissues which result in consolidation and terminate in tubercular phthisis." It may be that in this case the laryngeal hæmorrhage was but one of several factors in the development of the pulmonary condition, yet the bleeding was distinctly laryngeal and the pulmonary symptoms were not evident until some months after the hæmorrhage began.

Case IV.—Mrs. R. was brought to me by her husband, himself a physician, on account of two slight hæmorrhages ten days apart. She was expectorating blood in small quantities when I saw her. Here there could be no doubt as to the nature or location of the lesions for the veins at the base of the tongue were distinctly varicose and one, and perhaps more, ruptured.

This case can scarcely be cited as one of laryngeal hæmorrhage, but I mention it for the sake of completeness. Mr. Lennox Browne believes these conditions to be associated with varix in other parts of the body, and often manifested to such an extent as to constitute a "truly hæmorrhoidal state of affairs." In confirmation I can add that there is a varicose condition of the veins of the left lower extremity in the case just reported.

Fortunately, I have not seen a case of marked submucous infiltration of blood in the larynx as described by Ingals, Schnitzler, Lewin, and others.

The subject is so interesting that any attempt at completeness or to include the study of laryngeal hæmorrhage from well-defined general disease, or those of traumatic origin, would extend this paper far beyond its limit.

I beg to offer the following conclusions:

1. Laryngeal hæmorrhage may occur from simple local conditions.

2. Unless associated with other and more positive symptoms, it is not indicative of pulmonary lesion.

3. It is possible, through the passing of blood from the larynx into the lungs, that pulmonary disease may be incited.

4. Care should be taken to distinguish between pulmonary and laryngeal hæmorrhages, not only for the sake of more exact treatment, but especially because of the more favorable prognosis that may be given in many cases of the latter condition.

Paper.

REPORT OF THE EVULSION OF A LARYNGEAL TUMOR WHICH RETURNED TWENTY-TWO YEARS AFTER REMOVAL BY LARYNGOTOMY. WITH AN ILLUSTRATION OF THE ORIGINAL TUMOR AND PHOTOGRAPHS OF THE NEW GROWTH AND OF THE LARYNX AFTER ITS REMOVAL.

By RUFUS P. LINCOLN, M. D.

THE reappearance of a growth in the larynx on the site of one removed twenty-two years previously is a phenomenon of sufficient interest to workers in our specialty to warrant the appearance in our records of the following brief notes:

An additional interest is assured by my good fortune in being enabled to exhibit a lithograph of the original tumor *in situ* (Fig. 1), together with a photograph of the larynx showing the new growth as it appeared when I first saw it last March (Fig. 2); and also a second photograph exhibiting a picture of the larynx immediately after the removal of the tumor (Fig. 3).

I am fortunate in being able to refer to a very full report of the early history and treatment of the original growth made by our late fellow, Dr. Louis Elsberg, embodied in his prize essay, to which the American Medical Association awarded the gold medal for 1865.

A colored lithograph made by a portrait artist, who bestowed great care and effort at accuracy in his work, accompanies this report. It is to the kind and skillful labor of our fellow, Dr. French, that I am indebted for the photographs that are submitted herewith. An examination of the lithograph and photographs illustrates the ac-

curacy of the camera over the ability of an artist to delineate correctly, no matter how conscientious the latter. These pictures I now submit to your inspection.

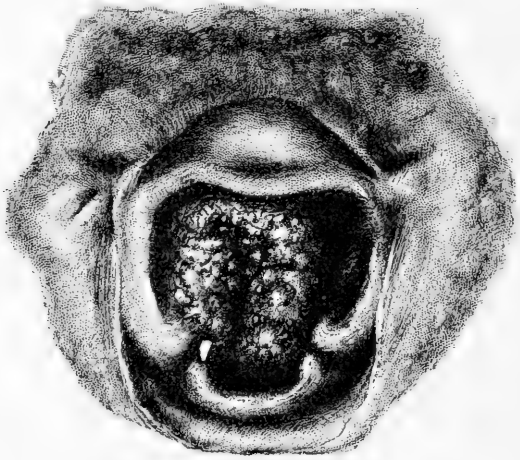


FIG. 1.

The history of the first growth and the account of his efforts at removal *per vias naturales*, together with its microscopical appear-

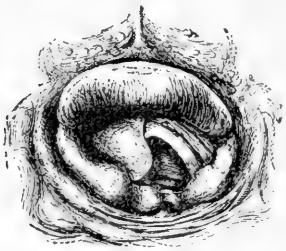


FIG. 2.—March 12, 1889. The larynx with the tumor *in situ*.

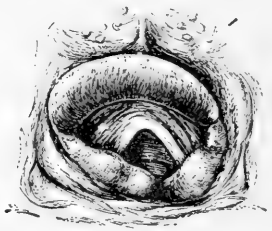


FIG. 3.—May 28, 1889. The same after removal of the tumor. The distorted appearance of the interior of the larynx resulting from the laryngotomy is correctly represented.

(After photographs taken by Dr. Thomas R. French.)

ance, I abstract from Dr. Elsberg's essay without further acknowledgment.

The patient, a lady, in June, 1862, when twenty-three years of age, first experienced persistent hoarseness, which was followed by complete loss of voice the following August. Cough and dyspnœa soon succeeded

aphonia, but it was not till January, 1864, when Dr. Elsberg first saw her, that a correct diagnosis was made. He says: On introducing the laryngeal mirror I immediately saw a tumor hanging down on the left side, covering the posterior attachment of the vocal cords. The epiglottis was in a state of unconquerable pendence, and the fauces so irritable that the laryngoscopic examination could not long be endured.

Four months were consumed in educating the parts by almost daily manipulation to secure tolerance of instruments, during which period the seat of the tumor was defined. It was of large size, passing to a considerable depth below the vocal cords and hanging with its lower portions, either free or attached, into the trachea. It was attached in front along a line across the whole of the epiglottis, half an inch below its crest, and laterally it seemed to issue from the ventricles of Morgagni. Not alone along its peripheral line, but also centrically in every portion, except the most depending, the tumor was attached to parts below. Its consistence was semi-soft, and it had the appearance of cauliflower excrescence or irregular strawberry formation.

With reference to the colored lithograph which is herewith submitted, Dr. Elsberg says: It was the studied result of the efforts of two portrait artists, who made many examinations of the tumors, and were it not for its immobility it would perfectly give to the beholder the image as to form which the living larynx of this young lady presented to the examiner with the laryngoscope.

Extending over a period of two weeks, by means of scissors, cutting forceps, and polypus forceps, there was removed in bulk as much as a small, ordinary egg. He finally cauterized the remnant with acid nitrate of mercury. As a result of this treatment, the patient's respiration was deemed unimpeded; her whisper, more distinct, more audible, gave less trouble and required less effort.

The microscopical appearance of the tumor is of special interest. On section, it had a more or less fibrous look, with an indefinite cell structure. It was composed of areolar, fibrous or connective tissue, having interspersed throughout its substance numerous fusiform bodies. Approaching the surface of the tumor, the fusiform cells resembled the so-called fibro-plastic cells of Hebert. These cells seemed gradually to change their shape and become more and more globular until they resembled epithelium.

Its starting point being in the connective tissue, the tumor unquestionably has a right to the title connective-tissue tumor, or "fibroma," but every pathologist examining its superficial portions would as unquestionably call it a true and typical "epithelioma"; and as to seriousness of prognosis it approximates the latter, or at all events a "sarcoma."

Unfortunately, the hope of a satisfactory result from this treatment by evulsion was not realized. The voice was not restored and the growth reproduced itself until further interference was imperative to save the patient's life. Therefore, laryngotomy without tracheotomy was performed by Dr. Elsberg in the month of November, 1867, and the interior of the larynx freed from every vestige of the growth. A good recovery was made, and, according to the patient's statement, the voice became fairly good in about three months.

Nothing to suggest any return of the trouble occurred till the summer of 1888. This led the patient to seek a laryngoscopic examination, when another growth was discovered last October.

I first saw the patient two months ago, and found a tumor of about the size of a large kernel of corn growing from the posterior third of the right vocal cord.

The tumor yielded readily to the pressure of a probe, was of a light-pink color, and resembled in appearance an ordinary papilloma. An idea of its shape and situation is best illustrated by the photograph of the larynx and its contents made by Dr. French, March 12, 1889.

On May 24th, the condition seeming opportune, I made my first effort to remove the tumor, and succeeded at one sitting in evulsing the whole of the growth with a Cuzco's laryngeal forceps. By free use of a solution of cocaine the operation was much facilitated. The bleeding was insignificant. There was some immediate improvement in the voice.

I propose in a few days to apply the galvano-cautery to the seat of the tumor.

Dr. F. Ferguson, pathologist to the New York Hospital, has sent me the following report, the result of his examination of a specimen of the tumor:

The fragments which you sent me are a papilloma without anything unusual in its structure. The epithelium follows the normal type of mucous membrane epithelium, and in its complete removal I believe this kind of tumor to be the least likely of all the epithelial varieties to return.

Presentation of Instruments.

A NEW ŒSOPHAGEAL BOUGIE.—AN IMPROVED POWDER-BLOWER.—A NASAL BOW-SAW.

By JOHN O. ROE, M. D.

"At the meeting of this association last year I reported a case of internal œsophagotomy, and also described a new œsophageal bougie. I should now like to present, not only an improved form of the bougie then described, but also certain other instruments I have devised and have found exceedingly useful.

"*A New Œsophageal Bougie.*—The bougie which I described last year was made by attaching the tip of a conical gum-elastic bougie about three inches in length to the end of a hard-rubber bougie by means of a plug and screw. Since that time I have made this improved œsophageal bougie, which I now show you (Fig. 1). This is made all in one piece by simply governing the vulcanizing process so that one end of the bougie is vulcanized as hard rubber while the other is vulcanized as soft rubber.

Fig. 1.

"It is well known that caoutchouc when mixed with 25 per cent. of sulphur and vulcanized at about 250° F. becomes soft rubber, whereas if the caoutchouc is mixed with 50 per cent. of sulphur and vulcanized at about 300° F. it becomes hard rubber. By carefully considering these principles in the manufacture, the bougie is made with one end of hard rubber and the other end of soft rubber, as is represented by *c* and *d*, Fig. 1.

"These bougies are made in a series of six or more of different sizes. I have each one of mine attached firmly to a whalebone stem, although the bougie can be so made that one stem can answer for the set by attaching it to them with a screw. The advantage of this form of bougie over both the long gum-elastic bougie and the bulbous hard-rubber bougie is that it combines the advantages of both and overcomes the objectionable features that both possess. The flexible soft-rubber tip facilitates the passage of the bougie through the throat and readily directs it into the stricture, and is thereby more easily introduced than is the hard-rubber bulbous bougie; and the slender, flexible whalebone stem causes much less irritation of the throat and gagging, and does not fill up the throat as does the long gum-elastic bougie.

"The advantage of combining the hard and soft rubber instead of making the instrument entirely of soft rubber is that the hard-rubber portion is unyielding and far better for the purpose of dilating œsophageal strictures than it would be if the instrument were made entirely of soft rubber.

"*An Improved Powder-blower.*—The next instrument is an improved powder-blower. Nearly every powder-blower has its objectionable features. Some have to be recharged each time they are used. Some are used with a bottle as a reservoir

for the powder, and are necessarily bulky and clumsy and easily broken, or the powder is liable to spill out in handling or to find its way back into the rubber bulb that is used for blowing. I think you will agree with me that nearly all these objectionable features are overcome in this powder-blower, which I now show you (Fig. 2).

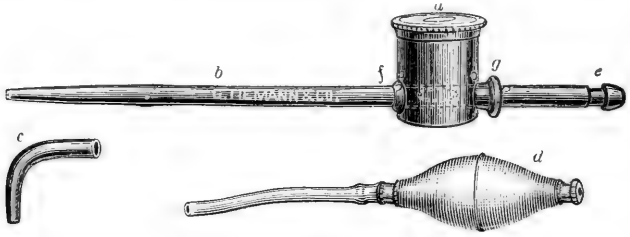


Fig. 2.

The stem of the instrument passes through the bottom of the reservoir. A hole is made in the bottom of the reservoir to correspond with a hole that is made in one side of the stem of the instrument. It will therefore be seen that if the hole in the side of the stem, *b*, is turned upward so as to be directly under the hole in the bottom of the reservoir, *a*, the powder will fall into the stem or barrel of the instrument; and by giving it a half turn the powder in the reservoir is completely cut off. The position of the hole in the stem is indicated by an ivory guide, *f*, placed on the stem. When the stem is charged, only the powder that has fallen into it can be blown out. The stem is secured in the reservoir by the binding nut, *g*, which can be removed and the stem taken out for cleansing. The instrument can be used for throwing the powder not only straight, but also in any direction that is desired, by attaching, in the latter case, the curved tip, *c*, to the point of the stem. A flexible rubber tube can be attached to the stem at *e*, by which the powder can be blown out by the operator's breath, or by the rubber bulb, *d*, as shown in the cut. The different parts of the instrument are so nicely adjusted as entirely to prevent the escape of any powder from the reservoir, and it is thus admirable for the use of iodoform.

"The only objectionable feature is that this instrument is not so well adapted to the use of a variety of powders as an instrument made without the reservoir; but the surgeon can readily provide himself with several of the powder-blowers, as their cost is not great, and keep them filled with the powders which he most frequently uses. The facility with which this instrument is used and the saving of time otherwise required for charging the plain powder-blower can at once be appreciated by those who do a large amount of office work.*

"*A Nasal Bow-saw.*—I have one other instrument to show you which I have recently devised, and that is a new form of nasal hand-saw. At the meeting of this society last year I showed you my latest improved electric nasal saw, but as

* Since I described and exhibited this instrument before the Laryngological Association on May 28th last, the idea has been appropriated by a certain instrument-maker, who has published a similar cut of the instrument without giving any credit to the originator of the idea.

an instrument of this kind is not always at hand, the most simple and most nearly perfect hand-saw is therefore a desideratum.

"This form of saw, as you see (Fig. 3), consists of a blade of a jeweler's saw held by a bow similar to a bow-saw, but made very light and delicate.

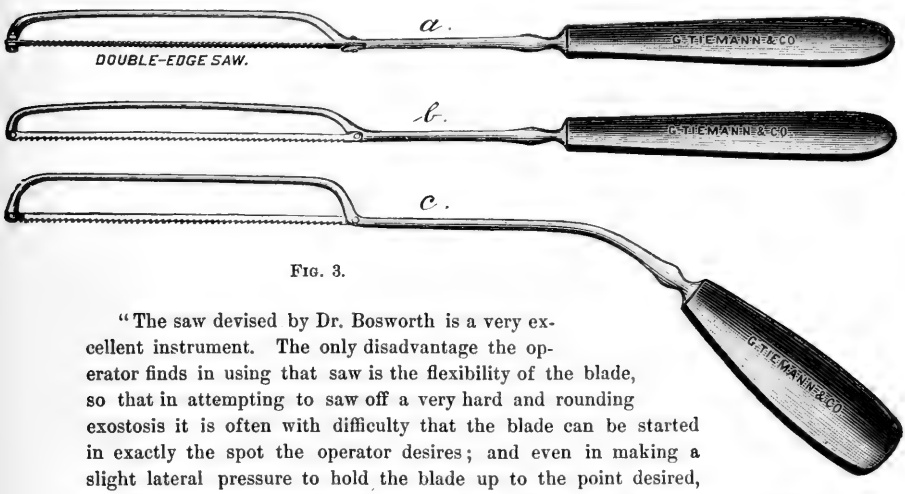


FIG. 3.

"The saw devised by Dr. Bosworth is a very excellent instrument. The only disadvantage the operator finds in using that saw is the flexibility of the blade, so that in attempting to saw off a very hard and rounding exostosis it is often with difficulty that the blade can be started in exactly the spot the operator desires; and even in making a slight lateral pressure to hold the blade up to the point desired, the saw is very apt to make a curved cut. With this little bow-saw these objections are entirely done away with. A very much thinner and finer blade can be used in these saws than in the case where the blade must be sufficiently thick to carry itself. By using the same thin and highly tempered blades that jewelers use for sawing metal, an exostosis of any degree of hardness can be very easily and quickly cut through. These saws I have had made for me in various sizes and shapes. The only disadvantage attached to the saw is that the blade can only be made to cut as deep as the distance of the saw from the back. This objection is obviated by having a saw with the blade placed at right angles to the bow, and with the bow sufficiently high to allow it to pass over the obstruction. In other cases where the bow may interfere with the completion of the operation, the first incision may be made with this saw at exactly the spot desired and the operation completed with the Bosworth saw. The latter saw will then have the perfectly straight groove to run in which has been made with the bow-saw. One of the special advantages of this little bow-saw with the blade set at right angles is in sawing out exostoses in the floor of the nostrils. The very narrow blade will permit the sawing to be done on the exact curve of the floor of the nostril. The saw is also admirably adapted to remove small angular projections and irregularities of the septum. The very fine teeth of this little saw also give it an advantage over saws with coarser teeth, in that they leave a very smooth surface over which the soft parts more quickly spread, and the wound more readily heals.

"Some of these saws I have had made with the handle straight, on the line with the blade of the saw, while in others I have had the handle placed at about the same angle as in the Bosworth saw (see *a*, *b*, and *c*, Fig. 3). In many instances

the little straight handle is much more conveniently used than the bent handle, especially when in sawing it is desired to deviate from a straight line.

"The saw with the plane of the blade placed at right angles to the back is represented by *a*, Fig. 3. The blade of this saw is made with teeth on both edges, so as to saw in either direction. In order to prevent the blade from cutting under, when sawing close to the septum, the blade should be placed entirely on the side of the bow, as shown by *b*, Fig. 3. The blade can be put on either side of the bow for sawing upon either side of the septum.

"All these instruments have been made for me in the most admirable manner by Messrs. Tiemann & Co., 107 Park Row, New York.

A PHARYNGEAL DOUCHE.

By SAMUEL JOHNSTON, M. D.

This simple apparatus consists of an ordinary soda-water siphon charged in the usual way, with a soft-rubber tube twelve inches long attached to the nozzle.

The method of using it is as follows:

A bib of water-proof cloth or oiled silk large enough to protect the clothing is first fastened around the neck of the patient, the free end of the bib resting in a basin to receive the return current. The tube is then inserted into the mouth to

Fig. 4

a convenient distance, and the pressure turned on by the attendant; the contents of the bottle will then flow with force into the mouth and out again, varying, of course, with the amount of pressure exerted on the stop-cock.

The quantity of tenacious mucous expelled by this means in some cases is

enormous, and the relief afforded can only be appreciated by those who have had experience with this process of cleansing the oral cavity.

We have all, doubtless, used the syringe with a flexible rubber tube attached to the tip for washing out the mouth and nasal passages in cases of acute amygdalitis, diphtheria, scarlatina, etc., but I believe we have in this simple apparatus an agent which will give greater ease to those suffering with the class of affections before mentioned than any other local treatment yet employed.

Thus far I have only used soda water; the contents of the siphon can, however, be carbolized or otherwise medicated to suit special cases. A lady, recently under my care with quinsy, for several days used six to eight siphons daily in this way, greatly to her comfort and relief, and it is to her that I am indebted for the suggestion of this novel application of the soda-water siphon.

A MODIFICATION OF VOLTOLINI'S PALATE RETRACTOR.

By ETHELBERT CARROLL MORGAN, M. D.

This instrument is intended to draw the velum forcibly forward while operating on the bursa pharyngea. The handle is so bent as to allow the hand of the

Fig. 5.

assistant, who retracts the velum, to be entirely out of the line of vision of the operator. Truax & Co., of Chicago, make the instrument.

BUSINESS MEETINGS.

The Eleventh Annual Congress of the American Laryngological Association was formally opened, at ten o'clock on the morning of Thursday, May 30, 1889, by the President, Dr. E. Carroll Morgan, who occupied the chair.

The Secretary proceeded to call the roll, the following Fellows being present during the meeting:

E. Carroll Morgan, Washington, President.
W. C. Glasgow, St. Louis, First Vice-President.
Charles E. Sajous, Philadelphia, Second Vice-President.
D. Bryson Delavan, New York, Secretary and Treasurer.
J. Solis-Cohen, Philadelphia, Member of Council.
Franklin H. Hooper, Boston, Member of Council.
Frederick I. Knight, Boston, Member of Council.

Harrison Allen, Philadelphia.
Charles E. Bean, St. Paul.
Francke H. Bosworth, New York.
S. H. Chapman, New Haven.
William H. Daly, Pittsburgh.
T. Amory De Blois, Boston.
J. H. Hartman, Baltimore.
F. Whitehill Hinkel, Buffalo.
Samuel Johnston, Baltimore.
Charles H. Knight, New York.
Samuel W. Langmaid, Boston.
John N. Mackenzie, Baltimore.
George W. Major, Montreal.
H. Clinton McSherry, Baltimore.
J. C. Mulhall, St. Louis.
Clarence C. Rice, New York.
John O. Roe, Rochester.

Among the guests of the Association present during its proceedings were Surgeon John S. Billings, U. S. Army, and Drs. T. Morris Murray, N. S. Lincoln, Frank Hyatt, Charles E. Hagner, W. M. Gray, J. M. Toner, Samuel C. Busey, G. L. Magruder, Robert Edes, J. H. Bryan, J. Dudley Morgan, J. W. Lovejoy, and J. W. Bayne, of Washington, and George A. Richards, of New York.

The President, Dr. E. Carroll Morgan, then delivered his address, which was followed by the reading of papers.

At the close of the morning programme the Association went into executive session.

The following-named gentlemen, on recommendation of the Council, were unanimously elected active Fellows of the Association: W. E. Casselberry, Chicago, who presented a paper on "A New and Improved Method of Feeding in Intubation of the Larynx," and H. L. Swain, New Haven, whose paper was entitled "Gargles and Gargling."

The President appointed the following committees:

Nominating Committee.—Dr. F. I. Knight, Dr. Roe, and Dr. Major.

Auditing Committee.—Dr. Hartman, Dr. De Blois, and Dr. C. H. Knight.

The Association then adjourned to the afternoon session, which was devoted to the reading of papers.

On the morning of the second day the meeting was called to order by the President, Dr. Morgan, at 10.20 o'clock. The minutes of the last regular meeting, together with those of the Council for 1888-'89, were read and approved.

Secretary's Report.—The Secretary reported that satisfactory progress was being made in the publication of the Tenth Annual Volume of Transactions. He called attention to the rapid increase in the sale of the Transactions, and urged greater enterprise on the part of the members

of the Association in distributing and advertising them. He stated that D. Appleton & Co. had offered to publish the eleventh volume on terms similar to those which they had made in previous years. During the year, by unanimous vote of the Council, the name of Dr. W. F. Duncan had been dropped from the list of active Fellows of the Association.

Treasurer's Report.—The report of the Treasurer was then read and approved, as follows:

THE AMERICAN LARYNGOLOGICAL ASSOCIATION, MAY 30, 1889.

In Account with D. Bryson Delavan, Treasurer.

By balance, 1888	$114 34	
Annual dues, 1889—46 by $15	690 00	
Sale of "Transactions"	60 62	
		$864 96
To stenographer	$100 00	
Printing	45 50	
Rent of hall	20 00	
Printing	11 75	
Electrotypes	7 63	
		$184 88
Balance on hand		$680 08

Audited and found correct.

J. H. HARTMAN,
CHARLES H. KNIGHT,
THOMAS AMORY DE BLOIS.

The *Librarian's Report* was then read by the Secretary:

The Librarian regrets to be obliged to report that a marked decline in interest in the library of the Association has been shown during the past year. No better proof is needed than the statement that only one book and seventeen pamphlets have been contributed since the last report was presented. Of these, the book and four of the pamphlets were American publications.

The library was transferred to the present incumbent in December, 1883. It then contained 12 bound volumes and 133 pamphlets. It now contains 58 bound and unbound books and 899 pamphlets—an increase in six years of 46 books and 766 pamphlets. Most of these were contributed between 1883 and 1886, during which time a lively interest was shown in this department. In 1887 the interest began to decline, and, though circular-letters were sent to every laryngologist known to your Librarian in this country and in Europe and attention called to the fact in the annual reports, the decline continued. The failure to maintain interest in the library may in part be explained by the fact that circular-letters were not sent out often enough to keep possible contributors in mind of the existence of the library. Your Librarian, however,

did not think it proper to issue a begging letter oftener than once in two or three years. The increase in the library depended entirely upon voluntary contributions, and an occasional reminder of the fact that the library was in existence and donations to it would be welcomed seemed to him to be the extent of his privilege within the bounds of propriety. Had he been in a more independent position as Librarian he would occasionally have been able to make proposals which would, no doubt, have resulted in a material increase in the number and value of books and reprints. The library has now almost ceased to attract contributions, and is not of sufficient size to be of much value.

It is possible that new life might be infused into the department by placing it in the hands of one who would beg more actively and perhaps send a postal to every writer as soon as his article is published.

Your Librarian is of the opinion that without funds the library can never be made a success, and, unless a fund is established, it would be wisest to present the whole collection to some such repository as the Library of the Surgeon-General's Office, where it would be of much greater value than it can ever be under existing conditions.

It is probable that the library contains but few writings which can not be found in the large medical libraries in this country.

The library has ceased to reflect credit upon the Association; therefore your Librarian is unwilling to accept a renomination should it be offered him.

In taking leave of the office he desires to express his sincere thanks to the Fellows of the Association for the many courtesies which they have extended to him, and for the confidence which they have shown by repeatedly honoring him with re-election.

Respectfully submitted,

THOMAS R. FRENCH, *Librarian.*

Dr. BOSWORTH moved that the suggestions of Dr. French be adopted, and that the library be transferred to the Surgeon-General's Office on terms to be agreed upon by the Council and Dr. Billings.

Dr. HARTMAN asked if such action would not necessitate an amendment to the constitution relative to the office of Librarian.

The PRESIDENT announced that he had the assurance of Dr. Billings that the library should be kept intact as far as possible, that it should retain its present title, and that it should be at the disposal of the members of the Association under rules ordinarily governing the management of such collections.

Dr. BOSWORTH moved that the matter be referred to the Council with power. Seconded by Dr. JOHNSTON and carried.

Dr. RICE moved that $25 be appropriated for the use of the Librarian the ensuing year. This motion was withdrawn on the understanding that the Council should make an appropriation for this purpose at their discretion.

On motion of Dr. BOSWORTH, it was voted that Dr. French be requested to withdraw his resignation as Librarian.

The *Nominating Committee* reported as follows:

For President.—Dr. J. N. MACKENZIE, Baltimore.

For First Vice-President.—Dr. EDGAR HOLDEN, Newark.

For Second Vice-President.—Dr. C. E. BEAN, St. Paul.

For Secretary and Treasurer.—Dr. C. H. KNIGHT, New York.

For Librarian.—Dr. T. R. FRENCH, Brooklyn.

For Member of Council.—Dr. D. BRYSON DELAVAN, New York.

For Representative to Congress of American Physicians and Surgeons.—Dr. HARRISON ALLEN, Philadelphia.

Place of meeting, Baltimore; time to be determined by Council.

[Signed.] F. I. KNIGHT,
J. O. ROE,
G. W. MAJOR,
Committee on Nominations.

The Auditing Committee reported that they had found the Treasurer's accounts correct.

The amendment to the constitution, proposed by Dr. J. Solis-Cohen, striking out Section 2, Article III, referring to limit of membership, then came up for consideration. After much discussion, a vote was taken, and the amendment was defeated.

The executive session was then dissolved.

At a business meeting held at the close of the proceedings on the third day, Dr. DALY gave notice of an amendment to Section 3, Article V, of the constitution, which he proposed to offer, as follows: "The nomination and election of officers shall take place by ballot on the last day of the meeting."

A letter was read from Dr. W. H. Carmalt, Secretary, regarding the cost of publishing the Transactions of the Congress of American Physicians and Surgeons.

The Association then proceeded to the election of officers for the ensuing year, and, on motion of Dr. DALY, the Secretary was instructed to cast a ballot for the candidates proposed by the Nominating Committee.

The retiring President, Dr. E. CARROLL MORGAN, then introduced the President-elect. "In retiring from the presidency of the American Laryngological Association—a trust which I have endeavored to fill to the extent of my ability—I embrace the opportunity to thank you for the assistance which one and all have freely extended me in expediting the business of this session.

"We have accomplished much work, the scientific discussions have been long and interesting, and our business meeting, I must admit, somewhat complicated. Nevertheless, the questions presented were considered in a candid manner, and the results are more than satisfactory.

"It now becomes my pleasant duty to welcome your President-elect,

Dr. John N. Mackenzie, and to congratulate him and you upon the well-merited honor which has fallen to his lot.

"I would appoint Drs. Daly and Delavan a committee to escort the President-elect to the chair."

On taking the chair, Dr. MACKENZIE spoke as follows:

GENTLEMEN: The distinguished honor which this Association has seen fit to confer upon me is now more than ever gratefully appreciated since the kind words of Dr. Morgan, the retiring President. As I take the place which he so faithfully, so gracefully occupied, I can say, without the slightest shadow of affectation, that I do so with genuine embarrassment. By his unflinching courage, by his ability, and by his unswerving love for the interests of this Association, he has battled against odds before which most, if not all of us, would have fallen. I repeat it that the place of such a man is hard to fill. Long may he live to be with us, to show us by his example what courageous manhood can accomplish.

To you, one and all, fellow-members, I shall offer no set address. I shall try to do the best I can and to do my duty, and I hope you will be satisfied with what I do. I believe that, with perhaps one or two exceptions, I am the youngest member of this Association, and I can not but believe that in selecting me for your President you were guided by motives other than a mere desire to visit the city of Baltimore and participate in its hospitality, and for this kind evidence of friendly esteem I thank you from the bottom of my heart.

I now declare the Eleventh Annual Congress of the American Laryngological Association adjourned.