overhang varies greatly. In extreme cases the overhang in front is great. In many cases of frontal sinuitis the antrum is already infected. One also runs the risk of infecting it by taking off the unciform process, as the inner wall of the antrum is opened as soon as this is removed.

Dr. Otto T. Freer: Quite a number of years ago Holbrook Curtis gave a description of an intra-nasal antrum operation in which he used trephine and burr. I modified this operation. In the course of ten years I have had unvarying success in opening with the trephine and burr. I have had complete recovery in some sixty cases of antral suppuration. Most of them got well as soon as there was an opening in the lower meatus. It is not always necessary to resect the anterior turbinated body. The trouble with the Ingals operation is that you get a beautiful opening at first, with a tendency to contraction. Whether I use the Ingals burr or another method, I think his tube may be a valuable aid in keeping an opening. Referring to Hajek's operation, it cannot be denied that he has done a large amount of work since 1905. He has enough cases now to speak authoritatively. He has another flap operation which should be studied. He objects to the rasp on account of the danger of breaking down everything and inducing meningitis. He works with a burr which I have used, and have found to be a safe instrument. Hajek is absolutely right in regard to his burr. The cutting forward is apt to be followed by contraction. I did not object to the term "agger nasi cell," but I did object to the term "uncinate cell."

George E. Shambaugh: The question raised by Dr. Casselberry with reference to the danger of setting up meningitis holds if the wrong method is followed in operating upon the ethmoid. Taking the whole mesial plate of the ethmoid, and pulling and tearing off pieces, will lead to extension which will eventuate in meningitis. That should be left alone, and work be confined to the labyrinth. The labyrinth itself has no communication with the intradural space. As to the use of the rasp: I do not push and pull down, but use it gently. Used properly, it is not a dangerous instrument. It is unfortunate when everybody tries to use different terms for the same anatomical structure. Most anatomical terms are fixed by the anatomical nomenclature. The term "infundibulum" is used incorrectly. "Infundibulum ethmoidale" is the term used by the Nomenclature Congress at Basle. Another term which we have been using wrongly throughout this discussion is the synonym for inflammation of the sinus—"sinuitis," which has been incorrectly called "sinusitis." We might as well get into the habit of using correct terms.

THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY.

Meeting at Chicago, June 15 and 16, 1915.

Technique of Suspension Laryngoscopy, with Lantern Slides and New Instruments.—Robert Clyde Lynch.—Dr. Lynch presented his modification of the suspension apparatus of Killian, with the latest improvements which he has devised to overcome difficulties encountered with the older models. He described the technique as now employed by

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him. The chief modifications in the apparatus concern the travelling crane, the limited motion of which is overcome by his table top; the Killian hook, which he has so modified as greatly to increase its feasibility; the spatula, which was made of tool steel, so that it is perfectly rigid under the greatest strain.

With the table top with crane attached, arranged so that the base of the crane will be about four inches in advance of the shoulders, with a suction apparatus at hand to care for the secretions, and with the patient quiet and relaxed by a proper anæsthesia, in other words, with the patient properly suspended, the operator has both hands perfectly free for the most accurate work upon the larynx. Instead of pulling, or pinching, or biting at a tumour mass, one can pick it out accurately and carefully. The laryngologist, with this method, can work in the larynx as the general surgeon works upon the skin, or the gynæcologist works in the vagina Gagging or other motion of the patient is practically impossible, for the larynx is immovably fixed.

Dr. Robert Levy had been particularly interested in the tongue depressor, because at first this had been one of the difficulties, and to keep the tongue out of the way was one of the problems. The object of the original tongue spatula was to keep the tongue in the median line, to press it out of place, and at the same time to prevent the overlapping of the margins of the tongue. Dr. Lynch's instrument had entirely met these requirements.

Dr. Wolff Freudenthal mentioned two cases which had come under his observation during the last two weeks, and which demonstrated the necessity for some form of suspension apparatus. The first patient was suffering from tuberculosis of the right lung, was very much run down, and could not swallow at all. His physician wrote that unless the epiglottis, which was very much inflamed, could be removed, the end was near. The man's pulse was so weak that when he was carried to the operating room it was necessary to stimulate him for half an hour. Local anæsthesia was employed, he was put under suspension, and the operation performed in the shortest time possible. The whole process healed within two weeks, the patient returned to the mountains, and was able to swallow food. His ultimate recovery, of course, was uncertain. The second case was that of a woman who had swallowed a fish bone. She went to a clinic near by and the young intern sent her to the operating room, but failed to locate the foreign body, thought it was out, and dismissed the patient. Ten days later she consulted the speaker, at which time the entire left side was swollen, especially in the region of the arytenoid. Thinking she had an abscess, he made an incision, but got no pus. He put her under suspension, under general anæsthesia, and removed the entire mass. The foreign body was not found, but the infiltration was extensive. When she recovered from the narcosis she became cyanotic from the blood running down, but this was removed, with some clots, and she recovered quickly.

Dr. William B. Chamberlin mentioned a case operated upon by him last winter. The patient was a child, aged eight months, and had swallowed an open safety-pin, which was removed without difficulty by the suspension method. He had had a second case in a child eleven months old, in which he had operated successfully by the same method. A third case was a baby two weeks old. The infant had just been removed from the maternity hospital, when the father came in and found the child choking. On looking into its mouth a large pin could be seen

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in the hypopharynx. When the speaker was called in he thought he was going to see a child two months old, and was discouraged when he learned it was only two weeks old. However, the pin, which was a very large one, was easily removed by turning under suspension. By any other method its removal would have been exceedingly difficult.

Dr. JOHN W. MURPHY mentioned the case of a boy, aged twelve, with a papillomatous growth which almost occluded the larynx. It was necessary to resort to tracheotomy and the removal of a sufficiently large portion of the papilloma to enable the boy to breathe. Several weeks later Dr. Lynch succeeded, by his method, in cleaning out the rest of the papilloma. It was interesting to note the number of onlookers who could see almost every manipulation which the operator made in this larynx. In a week's time this boy was up and able to return to his occupation as a jockey.

Dr. LYNCH, in closing the discussion, referring to the question of anæsthesia, said he preferred general anæsthesia with ether. Warmed ether vapour, as delivered by one of the new methods, had proved very satisfactory. On a recent visit to New York City he had had the pleasure of operating upon a patient under rectal anæsthesia, administered by Dr. Gwathmey. He had had no other experience, but in this case the method worked admirably. There was complete muscular relaxation, the amount of mucus was less than usual, and the exhalation of ether from the lungs was hardly perceptible. He liked to work under cocaine analgesia in patients who were not afraid. Morphine and scopolamin were given first, then a solution of twenty-five per cent. cocaine in fifty per cent. alcohol was employed. One or two drops of this solution in the hypopharynx and on the laryngeal face of the tongue, then one or two drops of an aqueous solution of cocaine into the larynx, had given good results in his experience, enabling him to work for an hour or an hour and a half without difficulty. The suction apparatus which he used was a dental vacuum apparatus on an ordinary turbine pump, with a long tube which could be run down into the larynx and trachea for the purpose of removing clots of blood or anything else. After the patient had been under suspension for twenty minutes or half an hour, thick, ropy mucus accumulated in the pharynx, and this should be removed before the patient was taken from the suspension apparatus; otherwise this mucus would drop down into the larynx and choke the patient. He had never had vomiting under suspension.

The Tonsil Operation: an Inquiry into the Actual Results observed in a Series of Cases. — **D. J. Gibb Wishart.** — Not feeling comfortable in permitting the enucleation of the tonsil in every child where operation appears to be called for, and yet not having been able to glean anything from the abundant literature provided upon the question, which would show him the proper course to pursue, the author set out upon the examination of cases which had been operated upon since he adopted the enucleation method, ten years ago. He hoped thus to arrive at some data which would enable him to act with greater confidence, both with regard to his private *clientèle* and in the instruction of students. Letters were sent to each patient on the history cards, just as they came, and with no omissions or selections. All cases which presented themselves were tabulated. The results were noted under the following heads: (1) Occupation; (2) Sex; (3) Age at the time of operation; (4) Years since operation; (5) Previous operations, if any;

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(6) Symptoms complained of; (7) Effect of operation upon these; (8) Anatomical conditions resulting from operation; (9) Effect of operation upon voice; (10) Effect of operation on general well-being; (11) Symptoms unrelieved; (12) Remarks.

The records compiled were from: Private patients, twenty-eight cases in all, of which five were obtained by correspondence, and twenty-three examined personally; those obtained from the Hospital Clinic, by Dr. McKelvey, seventeen in number. Because of faulty histories or the stupidity of parents, the records in the latter division were incomplete.

Sex and Age.—Three to fifty-two years, the cases being about equally divided between the sexes up to fifteen; after puberty, in the proportion of two males to eleven females.

Time since Operation.—Average five to seven years; no instance less than two years; in seventeen cases eight years and over.

Effect of Operation upon Symptoms Complained of.—Not only were the symptoms (tonsillitis, 10 cases: frequent colds, 14 cases; enlarged glands, 3 cases; voice defects, 11 cases; swelling and aching throat, 12 cases; ear affections, 10 cases; rheumatic symptoms, 4 cases; and headache, cough, enuresis, neuralgia, iritis, debility, restlessness, chorea, endocarditis, quinsy, dulness, etc., in 1 or more instances) complained of relieved, but it was notable that in 19 cases the health was decidedly improved, and in no case was it deteriorated. The results of operation upon the symptoms actually present at the time when consultation took place were so uniformly good that the operation itself was justified. It was to be noted that, in hospital cases, where portions of the tonsil remained *in situ*, the effect upon symptoms was no better, if as good, as in private patients where enucleation was complete. It was not apparent that leaving a portion of the tonsils resulted in any benefit whatever to the patient, nor did the complete removal exert any deleterious effect.

Anatomical results.—In patients from three to eleven years of age the results were apparently perfect in seven cases, the position of the palate normal in eleven cases, and in three cases there were minor variations which might or might not be considered as defects. In one private case a small patch of tonsil in the lower left sinus gave rise, seven years after operation, to swollen glands. In six clinical cases there were defects, chiefly the presence of small tags. In cases from twelve to fifteen years of age, results were apparently perfect in two cases; in one there was a marked variation in the curve of the palate arch; in one there was obliteration of the pillars, and in three there were scars.

In cases from twenty-one to fifty-seven years of age, the results were apparently perfect in five cases. In three there were minor variations, not necessarily to be considered as defects. In four cases there were real defects. In the most seriously deformed of these last four, the voice was definitely improved, and in one a good singing voice had been developed. In the cases in which the tonsil was extirpated in its entirety the anatomical results were undoubtedly best. In ten cases the notes failed to show whether there were adventitious bands of adhesion due to repeated attacks of inflammation in the tonsils, but the lesions of the pillars found present after operation could undoubtedly be ascribed to such a condition. The patients who had suffered from repeated attacks of tonsillitis were those in whom scars and malpositions were most numerous.

The effect upon the voice was carefully inquired into in all cases. Careful analysis of the results led to the deduction that the effect of extra-

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capsular enucleation upon the singing voice or fatigued voice was not prejudicial, but might be considered beneficial.

General Well-being.—Practically every case was singularly corroborative of the view, long held, that the removal of diseased tonsils is attended by marked improvement in the general health of the patient.

Symptoms Unrelieved.—In fifteen cases these were mentioned. In three the nose was the seat of the trouble; in five the symptom complained of was aside from the question. In two endocarditis was noted, once as a new symptom, once as recurring in a post-operative attack. In one case nervousness and choreic tendency were thought to be independent of the original throat condition.

Remarks.—Under this head the author directed special attention to certain features of individual cases. The results of his investigation were presented in tabular form.

Partial Paralysis of the Soft Palate following Removal of Tonsils and Adenoids.—Observations on the Tonsil and Adenoid Operation.—Dunbar Roy.—The patient, in the case reported, was a male, aged four and a half, operated upon in the hospital May 20, 1913, for removal of tonsils and adenoid tissue in the naso-pharynx. Complete removal was accomplished without trouble and with less traumatism than usual. Two days later the patient was out playing, with no signs of bad after-effects. The throat was not painful on deglutition, and there was but a slight amount of exudate in the tonsillar cavities. Ten days after the operation the child was taken to the writer's office with the history of having, two days before, a temperature of 101° F., some malaise, and some inability to articulate distinctly. In attempting to swallow liquids some of the fluid came back through the nose. Two days before noticing these symptoms the child had been allowed to eat an excessive dinner.

Examination showed the pharynx and naso-pharynx to be in good condition, with only slight signs of inflammation. The tonsils had been thoroughly extirpated, and both pillars appeared normal. There was no pain. The tongue was white and coated. When the patient talked there were all the signs of paresis of the soft palate, just as is frequently seen after diphtheria. The family physician expressed the opinion that the paresis was due to intestinal toxæmia. Laxatives, strychnine, light diet, and irrigation of the naso-pharynx with alkaline solutions, followed by touching with a solution of argyrol, brought about prompt improvement in the local and general condition, and the child was soon apparently perfectly well, except for the voice and a leathery appearance of the soft palate. The patient continued to improve, but it was nearly two months after the operation before the voice was practically normal.

Ill-effects upon the throat following the radical removal of the tonsils and adenoids have been commented upon by many observers, but the author had encountered no mention, in the literature of the last few years, of the sequela of partial paralysis of the soft palate. Inexperienced operators, obsessed with the idea of radicalism, have caused much damage to throats which would otherwise have been better had they never been touched. Operations for the removal of tonsils and adenoids should not be looked upon as a simple procedure, but should have the same thought as any other major surgical operation. The operator should find the one technique which gives him the best results —that which leaves the throat in as normal a condition as possible—and should adhere to this in all his operations.

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In the case reported, the only one the author had ever seen, the fact that tonsillectomy and adenectomy were both performed, it was impossible to say which operation was the cause of the paresis. On the other hand, it might be argued that the paresis was accidental and entirely independent of the operation, especially since cases of paresis of the soft palate had been reported as being one type of chorea. The fact that the paresis occurred ten days after operation did not entirely exclude the condition as standing in the light of a *propter hoc*. His own opinion was that the paresis followed the adenoid portion of the operation, and that infection was the result of a traumatism on the posterior surface of the soft palate, which was manifested by the thick leathery condition found ten days after operation.

In the light of this experience he was convinced that operators too frequently use an unnecessary amount of force and traumatism in the removal of adenoids, especially in very young subjects, in whom the naso-pharynx is very small. In the case reported he used small-sized Brandage forceps for the removal of the adenoids. Since that time he had abandoned the forceps in this operation, because of the danger, in opening the forceps in the naso-pharynx of small children, of traumatism of the soft palate. The La Force adenectome, without the large anterior bulbous portion, followed by the use of small Gottstein curettes, was, to him, the ideal operation.

The author gives the replies to the inquiry: "Have you ever seen a total or partial paralysis of the soft palate following the removal of the faucial tonsils, naso-pharyngeal adenoids, or both?" which he directed to fifty members of the Society.[1]

Dr. GEORGE L. RICHARDS gave briefly a review of 188 cases in children operated upon by himself and his assistants during the last two years. It was found that the result was good in 144 cases, or 77 per cent. By *good* he meant that the anterior pillar was there as a folded-over pillar, and not as a narrow line. The result was fair in thirty-eight cases, or 20 per cent. By *fair* he meant that there remained some scars. There were six cases, or 3 per cent., in which the results were poor. The voice was very bad in two cases, in which the uvula was caught and in which there was a distinct scar. He thought these would have a nasal tone, but they sang the scale perfectly well. He had reports of some of the children covering two years. It was a curious fact that if the anterior pillar alone was injured and the posterior pillar was not, the child had a good voice. Of the 188 cases, twenty, or 9 per cent., had scars. By *scars* he meant contractions in which a little line could be seen. There was a tendency on the part of Nature to replace more or less lymphoid tissue, and this manifested itself in granulations in the pharynx. Many patients complained of this, which gave a "scrapy" sensation, especially in winter. There were forty-five cases, or 25 per cent., in which these granulations could be seen. The pillars were injured in twenty-three cases, or 12 per cent., some sort of a little nick or injury having been inflicted. It was very easy to leave some remnant of the tonsil; this had been done in sixteen cases, or 8 per cent. There was no hæmorrhage. The patients, operated upon in the morning, were kept in the hospital until afternoon and then allowed to go home. Whether complete mouth-breathers or not, sixteen, or 8 per cent., breathed through the mouth where a part of the adenoids had been left. In order to be

[1] There is no indication of any examination having been made for the Klebs-Loeffler bacillus.—ED., JOURN. OF LARYNGOL., RHINOL., AND OTOL.

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absolutely accurate as to results with reference to the voice, one must make records of this before the operation. Five, or 2 per cent., of his cases already lisped. Dr. Richards presented a plaster model of the pharynx, upon which he demonstrated the relationship of the tonsils and the pillars. After a perfectly satisfactory operation the anterior and posterior pillars should be distinct, and not fused together.

Dr. WILLIAM B. CHAMBERLIN considered any method of tonsillectomy good which removed the tonsil and nothing else. The structure most easily injured was the posterior pillar at the junction with the uvula. The posterior pillar, which was extremely delicate, could be torn, just as could a piece of cloth. A quadrilateral palate might result. In his experience, as doubtless in that of others, disappointing results had been obtained in cases in which he thought the operative procedure absolutely perfect. This was due to the contraction of the scar tissue. He had never had an unsatisfactory result so far as the voice was concerned, not even for its finer uses, as by singers and public speakers. Sometimes, in the removal of the adenoids after the tonsil operation, laceration of the posterior pillar was noted. This was the result of the gagging of the patient, plus the traction of the curette, thus causing injury to the pillar. It was important, after the adenoid operation, to palpate the naso-pharynx to see that every portion of adenoid tissue had been removed. Injury to the posterior pillar might result from rough handling in the examination by the finger. If, with the adenoid curette, one continued the sweep too far downward, it was easily possible to strip off the entire mucosa of the posterior pharyngeal wall, leaving cicatricial tissue instead of healthy mucosa.

Dr. J. A. STUCKY: In his section of the country tonsillectomy was being performed not only by general practitioners but by general surgeons. In his college town there were several thousand students, and many teachers were constantly referring pupils to him for some defect in speech and vocalisation. The Society should go on record as advocating that the tonsil operation is not a minor operation, and that it is underestimated and under-paid. It should be considered as a hospital operation. Those who teach students should see that every step of the operation is seen by them. The point made by Dr. Chamberlin was a very important one. It should be done gently, however. The fingers of many operators were too large for this, and for that reason he advocated the use of a postnasal sponge-holder, with which one could go in and swab out the pharyngeal vault as carefully as the gynæcologist would swab the fundus of the uterus.

Dr. WENDELL C. PHILLIPS, referring to Dr. Wishart's statement concerning Case 12 of the series, that operation was probably done too late in life to be useful so far as hearing was concerned, said if seven years were added to the patient's age it would then be time for otosclerosis to appear; besides, the mother had deafness. Earlier operation would have had the same result. So much had been said from time to time about the danger of removing the tonsils from singers that he had become very careful in this regard. He had not had an extensive experience in operating on singers, but in every case in which he had removed the tonsils not only had the voice not been injured but it had been improved by the procedure. Within the last few months he had advised the removal of the tonsils from a man, a singer, a patient of Dr. Babbitt's, who had typical cheesy masses in the crypts of the tonsils. After being told that if he were to read the literature of the subject he would be dis-

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couraged as to the possible effect of the operation upon his voice, the patient said the effect of the tonsillitis on his voice was so bad that he might as well have the operation, as he would not sing much otherwise. Dr. Babbitt removed the tonsils, and the man's voice was very much improved.

Dr. JOHN F. BARNHILL said it should be regarded as a settled fact that tonsils should be removed completely. He had been particularly impressed by Dr. Wishart's statement to the effect that imperfect operations were done abroad, that he had seen many of these cases done in America, and had had to do the work over. The speaker had never regretted taking out tonsils completely whenever it was necessary to take them out at all, and he had always regretted imperfect work. He thought some of the symptoms mentioned following tonsillectomy were not due to the tonsils at all, but to some of the structures not removed. For instance, if any diseased portion of Waldeyer's ring were not removed it would continue to become inflamed. The adenoid ring in its effects might be confused with the old trouble. The lingual tonsil became inflamed over and over again. There was an attempt on the part of Nature to restore some of the tissue which had been removed, and there might be soreness of the lingual tonsil which did not exist or was not noticed before. He had seen paralysis of the soft palate following these operations, as suggested by Dr. Roy, and had considered it due, in some cases, to infiltration, and in some to traumatism caused by the finger in the vault of the pharynx, together with marked contraction of the soft palate. He had seen sloughing of the uvula in some of these cases. He cited one case in which the uvula, which had apparently not been injured, sloughed away ten days later. No harm resulted from it.

Dr. SIDNEY YANKAUER agreed with the other speakers with reference to the importance of avoiding roughness in handling the tissues in tonsil and adenoid operations. Undoubtedly many of the bad results reported from time to time were due to this error of technique. It was not difficult to imagine the amount of injury that might be done by an inexperienced operator with a rough gauze sponge rubbed about in the pharynx. For a number of years he had used a suction apparatus for the removal of blood and mucus from the throat, thus eliminating all traumatism. He had discarded gauze sponges entirely; whenever it was necessary to use any sponges, he employed soft sea-sponges. In this way he had been able to avoid all traumatism, and the patient could take a full meal in from twenty-four to forty-eight hours.

Dr. JAMES F. MCCAW cited a case called to mind by Dr. Roy's paper. The patient, a little girl, aged five, had paralysis of the soft palate immediately following the adenoid and tonsil operation. He had attributed it to his over-zealousness in attempting to rid the child of every vestige of adenoid tissue, by using an over-large adenotome. The paralysis lasted seven or eight months.

Dr. G. HUDSON MAKUEN wished to say a word in his own defence, inasmuch as referenee had been made to something he had written bearing on this subject. One thing upon which he had ceased to speculate concerning the tonsil operation was the idea that the mere removal of the faucial tonsil injures the voice. When the removal of the faucial tonsil was absolutely indicated, and when it was properly removed, no injury could result. When its removal was indicated, the tonsil itself was a menace to the voice. The thing that injured the voice was the faulty removal of the faucial tonsil or the adenoids. An operation which tended to paralyse or to mutilate the soft palate must of necessity injure

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the voice. An important thing in this connection was what might be called the musical instinct. If a singer had a musical ear and a musical brain he would sing fairly well even with a damaged pharynx. Just as a good violinist could make good music on a poor instrument, so a good singer could have a good voice with an indifferent vocal instrument.

Dr. GEORGE F. KEIPER had had two cases of paralysis of the soft palate following the tonsil and adenoid operation, due, he thought, to the use of the palate retractor. If, in inserting the finger, one would hug the posterior pharyngeal wall, one would not be apt to injure the soft palate, even if the patient gagged. He had abandoned the use of the retractor.

DR. CLIFTON M. MILLER emphasised the importance of warning patients who sing not to begin to use the voice in the higher registers too soon after the tonsil and adenoid operation. He cited the case of a young lady whose tonsils he removed, warning her not to use the voice in the higher registers for six weeks, but to confine her use to the middle or normal registers. At the end of three weeks she felt so well that she began to sing in the high registers, and her voice broke. The mental effect was so profound that instead of being able to use the upper registers in six weeks it was six months before she could do so. The psychic effect on these patients, with their highly organised nervous systems, was apt to be very profound, and for this reason they should be emphatically warned.

Dr. GREENFIELD SLUDER emphasised the point made by Dr. Richards in reference to Nature's attempts to reproduce lymphoid tissue after tonsillectomy. He called attention to the fact that the lingual tonsil gives rise to a lymphoid growth, which extends into the tonsillar fossa, and at times reproduces what is anatomically perfectly corresponding to the original tonsil and clinically takes on all of its pernicious activities. He mentioned also that in many cases pharyngitis lateralis was developed, also being at times clinically pernicious. Whether these reproductions of lymphoid masses be a part of Nature's effort in healing, or whether they be a manifestation of continued diseased activities, is a question that he had not been able to solve. In the *Archiv für Laryngologie* for 1913, Dr. Oswald Levinstein described what he termed a new pathological tonsil which developed in the lateral aspect of the tongue just anterior to the palatoglossal fold. The speaker had confirmed Dr. Levinstein's observations, finding this hypertrophy of lymphoid follicles massed together in such a way as to resemble a tonsil in cases of "painful tongue," the condition described by Sir Henry Butlin in his monograph, "Diseases of the Tongue," in which the lymphoid follicles at the junction of the palatoglossal fold with the tongue proper were the only demonstrative lesions. Levinstein attributes this tonsillar development to irritation in the lymphoid tissue. This surely seems to be a development in a pathological line. He had also been interested in the question of the production of scars in the throat, and had frequently noted the quadrilateral palate mentioned by Dr. Chamberlin. This might occur regardless of the method employed for the tonsillectomy, and comes to pass because of the fact that the operator cannot control the fixing or focussing of the scar which must needs develop. He thought it advantageous to focus the scar anterior and below by drawing the palate downward and forward, which pulls it away from the Eustachian tube above. He thought this to be a definite help in cases where the tonsil is removed because of the Eustachian tube irritation. He did not believe, from an extensive observation, that this interfered in any way with speech or the artistic use of the voice. He mentioned that he had

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dwelt upon this point (drawing the palate downward and forward) in his paper to the American Medical Association in 1910, in which he described a "Method of Tonsillectomy by means of the Alveolar Eminence of the Mandible and the Guillotine." Answering a question by Dr. Richards regarding his earlier cases, Dr. Sluder explained that he had formerly considered the plica tonsillaris as a part of the pillar. It was with this idea in mind that he made the statement that he always removed a portion of the anterior pillar which tended to fix or focus the scar downward and forward, and that usually a few muscle-fibres were attached to it. The careful examination of hundreds of tonsils reveals that very seldom is much muscle-fibre attached, and that with a little attention to this point the entire palatoglossus may be pushed aside, and the plica, with the membrane covering it, removed, in no sense and in no degree injuring the pillar proper. His ideas concerning the pillar and the plica are gained from the work of Dr. George Fetterolf on the "Anatomy of the Tonsil and its Capsule," published in the *American Journal of Medical Sciences* in 1912. Fetterolf's conception is that the plica tonsillaris is a fold of the capsule of the tonsil pushed inward over the tonsillar mass, carrying a layer of mucous membrane with it, and that the pillar proper is constituted by the palatoglossus muscle. In other words, the statement made in the speaker's paper of 1910 was a confusion in the nomenclature.

Dr. WISHART, in closing the discussion, said he had not met with any continued paralysis of the soft palate after operation, and he had used the finger very largely—never, however, while the patient was retching. He always saw to it that the patient was in the proper condition of anæsthesia before he attempted to remove adenoids. He would rather give a little more anæsthetic than run the risk of over-stretching the soft palate. Many of the bad after-effects were caused by too much sponging. The assistant should stand in the right position with reference to the patient, so that he could see the parts, and the sponge should never be turned round. He had merely cited Dr. Makuen's article, and had presented these cases as notes upon it, not as a criticism.

Dr. ROY, in closing the discussion, said it had seemed to him important to bring the subject before the Society, inasmuch as he had never heard of anyone, in the literature or otherwise, who had encountered a case of this kind, and that, in writing to members of the profession, he had found it much more common than he had imagined. He did not want to go into the matter of technique, or to advocate this or that method; he did say, however, that one should not change from a well-recognised technique, which one had used and knew how to use successfully, to a new method. In the majority of cases the operation was performed too hurriedly, often without stopping or waiting for the oozing, which frequently occurred, to cease, and without seeing just where the instrument was going. The correction of these errors in technique would lessen the number of traumatic and unsatisfactory after-results. He had never employed a suction apparatus, which, it seemed to him, sucked the blood out of the arterioles and veins, and tended to keep up the bleeding. He operated slowly in doing tonsillectomy, and had very few drops of blood. A sponge put into the cavity and allowed to remain for a while would prevent bleeding. If, as Dr. Stucky had suggested, the operation were considered a major operation, always to be performed in a hospital, and if the operator were always careful to see the entire field to know just where his instrument is going, better results would be obtained than had been previously accomplished.

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