JOINT MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION AND THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOTOLOGICAL SOCIETY.

The joint meeting began with a Symposium on Bronchoscopy, the first paper of which was one entitled "Localization of the Tracheobronchial Tree; Preliminary Report of a New Method," by Dr. Chevalier Jackson, Philadelphia, Pa.

The Bronchial Tube: Its Study by Insufflation of Opaque Substances in the Living. CHEVALIER JACKSON, M. D., Philadelphia.

1. In intrabronchial insufflation with opaque substances, in the living, we have a measure of the greatest usefulness in mapping out the tracheobronchial tree in foreign body cases in which a foreign body is far in the upper lobe bronchi or in other small bronchi that cannot be entered by the bronchoscope. A stereoscopic pair of radiographs will show the bronchi in situ in the living, and the bronchi can be followed in the fluoroscope.

2. The intrabronchial insufflation of dry bismuth subcarbonate, through the bronchoscope, in sufficient quantities to cast a shadow did not produce any untoward symptoms, and the bismuth totally disappeared from the lung by expectoration in twenty-four hours.

3. The insufflation of dry powders and the injection of opaque fluid mixtures through the larynx gives a degree of visibility of the trachea and larger bronchi in the radiograph; but the results are not as good as when the insufflation of a dry powder is done through the bronchoscope.

4. The method is available for an enormous field for investigation of the action of the living cilia, in health and disease, the lymphatic drainage of the lung, the mapping out of bronchiectatic and abscess cavities, etc.

Suspension as I Use It Today. ROBERT C. LYNCH, M. D., New Orleans.

The patient lies flat upon the table with the head extended; the crane is attached as far back on the table as is possible, allowing only sufficient room to turn the handle which moves horizontally; the vertical position of the crane will now be on a line with the patient's shoulders. The mouth is open wide by placing an ordinary mouth gag in the left angle of the mouth, and this is steadied by the assistant, who has only to keep the head extended in the middle line, there being no need for support, since the head is resting on the table. The hook is the same in its every detail as presented to you before, and we have done away with the long tooth plates and dental spoons. The gag of the hook, instead of being closed, is now introduced sufficiently open to permit a view of the tip of the spatula.

Instead of passing the spatula along the postpharyngeal wall, he now follows down along the base of the tongue until the epiglottis is seen, then it is lifted with the spatula just as one does in bronchoscopy, and by this time the short tooth plates will fall behind the teeth, when the gag is opened wide to fix the tongue and epiglottis. Now the hook is placed upon the crane and the worm gear joint turned to bend the hook slightly to an obtuse angle. The crane is lifted in the vertical to flatten the base of the tongue, and this will raise the epiglottis so that the larynx will come into view. If the view in this position is not already sufficient, then moving the horizontal crane toward the head of the table will bring the anterior commissure into view far better and much easier than the old method.

This differs from the older technic in that the head is flat upon the table, and any untrained assistant can hold it steady, and the patient is not dragged over the top of the table as before, and the mouth is wide open with a gag giving plenty of room for the introduction. There is no

necessity for the table to be cut, as has been described, nor for the projecting platform, since the crane is attached far back on the table behind the patient rather than ahead of him. There is no danger of dropping the patient from the crane or from the spatula, since the head is not lifted from the table, or, if so, just enough to procure sufficient tension to flatten the tongue.

The view is much more natural, and, if anything, clearer and less distorted, since there is much less tension at the region of the hyoid bone and the base of the tongue. The vocal cords, instead of being stretched anteroposteriorly, are now more relaxed, as shown by the respiratory movement under ether, and by the tones emitted under cocaine. This, of course, permits of more accurate dissection, especially when removing small tumors, such as vocal nodules. One looks now down the spatula along the line of the trachea and can usually see the bifurcation, as is shown by the possibility of introducing a bronchoscope deep into either bronchus.

In the old way, one looked from below up along the spatula, and it was impossible to get the bronchoscope further down than the fourth ring of the trachea. Consequently, in this new position, there is really no need for a table that can be elevated, though it is always a comfort for any operative procedure. Finally, the patient will complain much less of after pain about the angles of the jaw, back of the neck and of headache. There is much less danger of pinching the tongue between the spatula and the teeth of the lower jaw, and it is much easier, more rapid and more accurate to introduce in this way than the old way.

Some Original Methods of Treatment of Laryngeal Stenosis. SAMUEL LAUER, M. D., Cincinnati.

For patients who are wearing a tracheal canula, the author follows the same principle which underlies the use of rubber tubes in laryngotomy, which has the advantage of being employed without the necessity of splitting the larynx.

The methods used are:

1. Dilatation by means of a rubber tube doubled upon itself. The length of the tube when doubled should approximate, as nearly as possible, the distance from the arytenoid to the upper margin of the tracheotomy. A string is fastened to the rubber tube, which is wrapped clockwise about the stem of the tracheal canula, and then fastened to the patient's neck with adhesive plaster. This is to prevent the tube gliding past the tracheal canula.

Another string is allowed to protrude from the patient's mouth to serve as an extractor when the tube is to be changed. This method permits a certain amount of pneumatic pressure because of the air in the tubing.

The second method is the insertion of a single rubber tube from below. The third is intubating by traction.

In the latter two small holes are bored in the lower end of an intubation tube, one in its anterior and the other in the posterior surface of the tube. A stout silk cord is then passed through both these openings, while the head of the intubation tube is threaded in the usual manner.

Removing the tracheal canula, a cord is introduced through the tracheal opening until it presents into the mouth. This string is fastened to that attached to the lower end of the intubation tube. Traction is made with a guiding finger in the larynx, the intubation tube drawn down in position.

The diameter of these intubation tubes may be increased by stretching rubber over the tubes.

Finally, clamped Rogers intubation tubes may be employed.

DISCUSSION ON SYMPOSIUM.

DR. EMIL MAYER, New York City: While I have not tried the method Dr. Lynch described, it appeals to me in every way. Whereas in our old method we have hung up the patient and practically held the weight of his body on the teeth and the tip of the epiglottis, today that patient can, thanks to this method, rest on his back. Instead of hanging the patient

up, we are really only opening his jaws. We are getting much closer to his larynx, and are able to go in further. I have only words of praise to say of the method. I can understand that with the mouth wide open you are nearer and can see better to handle the patient with the fewest number of assistants.

I was particularly interested in the paper of Dr. Iglauder, as I had reported at the meeting yesterday the case of a boy who had worn an intubation tube for five years before I was able to do away with it. I want again to call attention to the fact of the extreme tolerance of the larynx to manipulations of various sorts. I rather feel that I should disagree with Dr. Iglauder in regard to doing a dissection and making an open wound in the larynx, if you can divulse it in any other way. I have always been able, after a comparatively short time, to have the opening wide enough in the cases that I have seen, to put in the ordinary uterine dilator, either from above or from below, and perferably the latter, and dilate the parts without making any wound.

Again I should object to the leaving of any cord in the patient's mouth and fastening it to the cheek. Those who lived in the early days of intubation thought that they could help O'Dwyer by leaving the cord fastened to the intubation tube in the mouth, but the cord was either bitten through or pulled out by the child, and the attempt was abandoned. My experience is that a piece of rubber tubing fastened at the upper and lower ends acts as a balloon and can be introduced in the manner described, which is quite the manner that I use.

One other thing: I prefer to keep the rubber tube in situ, leaving a double end of cord and tying it around the neck, rather than fastening it to the tracheotomy tube.

The ingenious method of holding an intubation tube in position by drawing it down is one that I think is extremely valuable. The speaker described a method of slow intubation successfully used. During the Spanish-American war he was asked to look after a soldier who had been in the battle of El Caney. Lying on his face, he had been shot by a sharpshooter who was in a tree. When picked up the injured man was bleeding from the mouth, a piece of tissue was hanging from the mouth, and there was an abrasion over the eye. The diagnosis made at the field hospital was that it was a glancing shot and that the eye was not injured. He was put on the transport and sent to Bellevue Hospital, where a tracheotomy was performed. He was walking around wearing a tube, and some ladies asked Dr. Asch and myself to see what could be done. As soon as I looked into the throat I saw a hole punched in the soft palate, as though I had put in a punch and taken out a piece. I learned that the man had been shot from above, the bullet going down through the maxillary bone, cutting the soft palate, smashing the thyroid cartilage, entering the esophagus, and passing out into the stomach spent, and finally passing per rectum.

I began slow dilation, and finally got the larynx dilated so much that I thought I could introduce an intubation tube, but as soon as I put it in, the man got blue. I had an intubation tube made of the same external size, but with a larger opening and with an introducer that was hollow, so that the minute it got in, the man breathed through the handle, and I could intubate him for any length of time. In that slow way I could get the intubation tube into the larynx. I mention this method because some things might arise in this present war.

DR. HUBERT ARROWSMITH, Brooklyn: I cannot see how, referring to Dr. Jackson's method, in view of the fact of the little harm that was done in the old days by copious insufflations of powder into the air passages, a little bismuth could do lasting harm, and I should think that this method would be of extreme value in helping us out in these very uncertain and difficult to locate small foreign bodies. Since I heard Dr. Lynch speak of this in New York last fall, I have used this method continuously, and I can corroborate his statement concerning the greater facility with which the speculum is introduced, the infinitely greater comfort with which it is retained by the patient and the improvement of the operative field.

DR. JOSEPH C. BECK, Chicago: I had a case of a man who had a lung full of coal. He showed a beautiful bronchial tree, and I made experiments with forced inhalation by means of the Billings inhaler of anilin dyes that are radiographically obstructive. This picture, which I am sorry to say I did not bring, showed that if not the insufflation, perhaps the forcible inspiration of radioobstructive substances that would be vaporized might be of some value.

Some of you may remember at the American Congress of Surgeons, that I was going to demonstrate suspension laryngoscopy in a patient under general anesthesia, and was unable to put his head over the edge of the table. Finally I succeeded, with the patient's head flat on the table, and thought that made a bad job of the demonstration of suspension as then taught. The next day I asked this patient to bend his head back, and he said, "I never could; I have a stiff neck." I have employed this method, as demonstrated by Lynch, for a year. Three weeks ago I had a patient with a little growth in the larynx, of which I could not obtain a good view with the head on the table, but I succeeded very nicely with the old method, so perhaps there are some cases that would still be better handled with the old method. I do not know what **was the reason**—perhaps some anomalous condition about the hyoid bone.

The method that Dr. Iglauer spoke of, of using the full length intubation tube, I have used with satisfaction, and the new method that he has described today I will employ. I had a similar accident to the one he spoke of, in using the full length intubation tube. It did not perforate, but engaged in the wall of the trachea, and I had considerable difficulty in manipulating it. This method that he describes today will do away with some of these difficulties.

DR. HENRY L. LYNCH, New York City: Dr. Jackson has given us a great aid in bronchoscopic localization by his bismuth insufflation method, especially in difficult localization of small foreign bodies which do not show in the x-ray plate. I have used the bismuth esophageal capsule in many cases which did not show in the x-ray, and by this aid have been able to locate the foreign bodies and remove them.

As far as bismuth irritating the bronchi is concerned, there seems to be little discomfort about it. We have had two cases with tracheoesophageal fistula who complained of difficulty in swallowing. The diagnosis of tracheoesophageal fistula was made from the radiograph. After swallowing the bismuth meal there was a violent attack of coughing, and when the x-ray pictures were taken they showed the whole of the tracheo-bronchial tree in bismuth shadow. All of the bismuth was subsequently coughed out. After having had this rather unpleasant experience, neither of the patients returned to the hospital for further treatment.

I should like to ask Dr. Lynch whether he removes the apparatus after he passes the bronchoscope, especially when he has to rotate the head in examining the upper lobe bronchi. The improved Lynch position of the semiflexion of the head in the examination of the larynx is very advantageous, but there is no advantage of suspension bronchoscopy over the other methods which are much simpler in technic.

Dr. Iglauer has brought forward in his paper one of the most difficult problems which we have in surgery. It does not matter how you cure a case of laryngeal stenosis, as long as you get the case well. That is all we are striving for. The voice, in the final outcome, has been far better in the cases cured by intubational dilation than in those cured by laryngostomy. But when there has been extensive sloughing of the thyroid and cricoid cartilages and complete stenosis, laryngostomy dilated from below or from above, and the method of Rogers to dilate the stenosed larynx by means of urethral sounds from the tracheal fistula upward will dilate the larynx, but considerable force is necessary and often an esophageal false passage is the result. If you attempt to forcibly dilate from downward you invariably have a false passage as a result, and the case may succumb from mediastinal infection. Laryngostomy is by far the safest and best method of curing this type of case. As far as the string is concerned, I agree with Dr. Mayer that it is a very bothersome thing

to leave in the mouth and may also be a source of danger, for the child can easily remove the tube by constantly tugging at the string with the tongue. This is, however, impossible with the anchored tubes of Dr. Iglauer.

In cases who have recovered from acute laryngeal diphtheria the tube has often been debubated by the tongue of the child and may be in the esophagus and is noticed only at the time the nurse finds that the child has difficulty in swallowing, while the child has been breathing quite naturally during this time and the tube thought to be in place. If the tube is to be in place. If the string must be left on the tube, it is far better to let the string must be left on the tube, it is far better to bring it out by means of a small catheter through the nares and attach it to the side of the face. This causes no discomfort, and the child cannot remove the tube with the tongue.

DR. FIELDING O. LEWIS, Philadelphia: I was especially interested in Dr. Iglauer's paper, and it has been my pleasure during the last year to have four of these cases operated on by the method of Dr. Jackson. I have some drawings which show three of these cases before and after operation, and wish to present Dr. Jackson's laryngoscopy tube with the rubber extension which I have used in all these cases, the advantage of which is that it prevents the formation of a tracheal spur between the tracheotomy tube and the extension, whatever it may be, above. It also permits breathing through the tube, the upper part not being completely closed.

DR. JOHN W. MURPHY, Cincinnati: Before Dr. Iglauer devised this method, as we usually worked together, we had a good deal of difficulty in getting these cases so that they could leave the hospital. They were with us for months at a time. In several of these cases, and the one which he mentioned, too, there was absolutely no opening from the upper part owing to the patient's having worn a tracheotomy tube until the upper part of the larynx had closed, so that even a filliform bougie could not be passed. By means of a fine sound, however, we succeeded in getting a minute opening through this membrane. It is not safe to attempt to enlarge the opening with any instrument. We find that the moment we can get the finest probe through and carry a string down and draw the tube up, we take much less risk of doing damage, and by this continuous method of dilation we get much more satisfactory results than by any other.

The method of Dr. Lynch has been employed sometimes by me since I saw him use it, about a year ago. I find it simpler and very much more comfortable to the patient.

DR. GEORGE F. CORR, Buffalo: I had the same experience as Dr. Beck. In my case the patient had difficulty in breathing. I put him under ether and tried to introduce the bronchoscope and found that I could not put the head back far enough. The next day he told me that he had ankylosis of the vertebrae of the neck. That is a thing that does occur now and then.

DR. WOLF FREUDENTHAL, New York City: It seems to me that the method of Dr. Lynch is a great improvement over the old one, yet I am not ready to give up the original Killian method with the head hanging down, for a certain class of cases. I operated with suspension laryngoscopy in a tuberculous case in which any effort on the part of the patient was not desirable on account of hemorrhage. For this class of cases the new modification is really excellent, but we encounter cases in tuberculous patients which do not go as you want.

DR. ROBERT C. LYNCH, New Orleans: I want to correct a wrong impression on the part of Dr. Cott. Cases of the acute type would get well sometimes, and when the child was recovering from the stenosis lesion the tube could be easily coughed up without anyone knowing of it. We recently had admitted to the hospital a child that had had a tube put in by a specialist. The child was then sent to the hospital, and when he got there the tube was stuck to the side of the mouth. He was cyanotic. One of the house staff pulled the string and found the tube was probably

in the stomach. The child can cough the tube out when the stenosis is subsiding without there being any evidence of it.

DR. HARMON SMITH, New York City: A few years ago Dr. Lynch reported no recurrences after removing papilloma, and I thought that he had solved this problem. It would be interesting to know whether the growths were single or multiple, and whether single or multiple in children or in adults, because I think that the class of growth materially affects the problem of recurrence. In the multiple variety in children the more they are interfered with the more they recur, and even after all methods have been tried the tracheotomy tube for a long length of time is, I think, one of the safest modes. Secondly, the removal of a growth in an adult and its non-recurrence does not assure us that after removing a papilloma in another adult it will not recur. Papillomata vary in type, in malignancy and in tendency to recur, and from the pathologic standpoint you are unable to deduct whether or not the tumor will recur. Another point that I should like to have brought out by Dr. Lynch, is whether he has ever employed fulguration alone, because, with the suspension, as he employs it, the surface of the larynx can be made as dry as the face, and I have always contended that if you can dry the surface of the papilloma in the larynx and can be sure that it will remain dry during the fulguration, the fulguration will overcome it—except in the multiple variety in children.

CLOSING DISCUSSION ON SYMPOSIUM.

DR. CHEVALIER JACKSON, Philadelphia: So far I have used the method presented only in cases in which it promised benefit to the patient, directly or indirectly, for localization or therapeutic effect. It remains to be determined whether or not we may expect benefit to chronic bronchitis, pulmonary abscess and other lesions. I used dry powder, and it was coughed out completely in twenty-four hours. Possibly other preparations might not be so rapidly gotten rid of. I hope Dr. Arrowsmith will try to devise a way of getting the dry powder or some suitable preparation down through the larynx without having to pass the bronchoscope. The method then would be of general application by the roentgenologist. Localization, individual variation, bronchiectasis, abscess and other pathology could be readily demonstrated.

The treatment of obstinate tracheal stenosis has been a hobby with me for many years. The method developed by Dr. Ellen J. Patterson and me gets the patients well. Our experience coincides precisely with that of Dr. Lynch as to the indications for laryngostomy. Our experience also coincides with that of Dr. Mayer and Dr. Iglaue in regard to the use of another method when one method does not succeed. In laryngostomy the operation is of less importance than the after care. Too many cases are reported too soon. Dr. Patterson insists on a period from one to three years before doing the plastic operation for closure of the laryngostomic opening. One of our patients who lives in Chicago was recently sent to Dr. Beck for plastic closure, and I think he can testify to the widely open larynx obtained by the method devised by Dr. Patterson and me.

DR. ROBERT C. LYNCH, New Orleans: In response to the question of Dr. Lynch as to whether we removed the suspension in bronchoscopy, especially in work on the upper bronchi, I would say that it is preferable in these cases to do the bronchoscopy without suspension, the apparatus being used for the simple passage through the vocal cords. When it has entered the trachea, the suspension has served its purpose, and the rest is better done without the suspension apparatus being in situ. The only exception is where there are multiple foreign bodies, when it is necessary to introduce the tube several times, and retention of the apparatus will save the traumatism induced by passing the apparatus through the larynx of an infant or young child.

Replying to Dr. Smith, all of these cases were put in this appendix on the recurrence of papilloma after dissection purposely to contradict my statement made at first, when I reported sixteen cases of papilloma of the

larynx removed by the dissection method without recurrence. I had had no experience with recurrence up to then, but since then the cases have increased, and my knowledge in proportion, and we have had these five recurrences after dissection by means of suspension. I reported that particularly to contradict my own statement that there were no cases of recurrence.

The cases were all multiple. They were all in children, and I brought out the point that they recurred after some inflammatory attack in three instances, and without reason in two. I have used fulguration, and believed that in the multiple cases possibly it is better than dissection. Recently I have been drying the papilloma by swabbing the surface first with alcohol and blowing in compressed air to dry out the water that is in the papilloma and then fulgurated it.

DR. SAMUEL IGLAUER, Cincinnati: As a matter of fact, I do not always leave the string in the mouth, but I find that it takes a little time and trouble to depress the tongue and find the tube by the ocular method. The question is, How sharp are the teeth? We have one little fellow who has very sharp teeth, and he usually chews through the string. As far as the tube's being coughed up and getting into the esophagus is concerned, that is impossible in this method, because the tube is anchored below. I find that by leaving the string in the mouth it is easy to make the change when I want to put in a fresh tube. I think that we should devise all methods we can to facilitate treatment, because no matter what method is used, the chief things are persistence and patience. If you can save the time in your daily work, it counts, both for yourself and the patient.

So far as I know, there has been no spur formation. When one uses the intubation tube, one can work the rubber covering downward on the posterior lip of the tube, and that prevents the formation of a spur.

As for laryngostomy, there is no objection to it in special cases, but if one can treat a case without splitting the larynx one is better off.

The Activities of the Subcommittee of Otolaryngology, Section of Surgery of the Head, Surgeon General's Office. CHARLES W. RICHARDSON, M. D., Chairman.

This committee, consisting of Dr. Richardson, Dr. Shurly and Dr. Mosher, presented to the Surgeon General the resolution of the societies they represented as to the need of establishing a division of the Medical Corps of the Army and Navy, to assume charge of injuries of the head and air passages and the diseases of the eye, ear, nose and throat, acquired in service, in addition to making special examinations of aviators and the employment of hospitals and their staffs for this purpose.

The Surgeon General of the Army promptly appointed Major T. C. Lyster as an advisor to the committee, and the Surgeon General of the Navy appointed Surgeon G. E. Tribble, and these two, together with the original committee, were subsequently appointed by the General Medical Board of the Council of National Defense as a subcommittee on the nose, throat and ear, of the Surgical Specialties.

This committee listed five thousand six hundred names of otolaryngologists, adopting the questionnaire already prepared by the Subcommittee on Ophthalmology. The lists were indexed by volunteer typists, the questionnaires addressed and mailed, and the replies disposed of, and a competent stenographer appointed.

Advisers in each State were appointed to co-operate with the committee as to the standing of individuals and their classification. All information was thus thoroughly catalogued.

Of 5,468 questionnaires sent, 2,014 replied, while 3,474 failed to answer.

The Subcommittee on Ophthalmology was combined with that of Otolaryngology for such purposes only as might be required, each still retaining its individual identity.

A request was made to the General Medical Board of the Council of National Defense that the Subsections of Laryngology and Otolaryngology and the Subsection of Ophthalmology should meet in joint session.

A request was made also for the addition of a Brain Surgeon to the Ophthalmologic Section, and an Oral and Plastic Surgeon to the Otolaryngologic Section, thus completing the Division of Surgery of the Head. This request was also promptly approved by the Surgeon General of the Army.

Dr. William H. Wilmer was made chairman of the joint Section of Surgery of the Head. Dr. V. P. Blair and Dr. Bagley were made members of the subcommittees.

The Subcommittee on Otolaryngology was formally approved by the Council of National Defense on August 15, 1917.

The following activities for otolaryngologists have been established:

Suggestions for a one thousand bed hospital for the Surgical Head Section on the Western front abroad were presented to the Surgeon General and approved. The members of the subsection visited various large cities and addressed otolaryngologists to arouse their enthusiasm and gain recruits to the Army Medical Service; otolaryngologic instruments standardized; requirements for entrance into the Army as to hearing revised; tests for malingerers assembled; tests made to ascertain the value of ear protectors; plans for a special hospital and dispensary building in cantonments for the Section on Surgery of the Head; the activities of the subcommittee outlined and sent to the members of the national societies; the appropriate grade of the assignment of the various candidates in the Medical Reserve Corps was indicated by the members of the committee in the office of the Surgeon General; an accurate tab on the professional qualifications and character of each candidate for service was had; the assignments in otolaryngology at base hospitals and cantonments; a roster of men to be assigned in base hospitals abroad (in preparation); a course of lectures at the cantonments by the Chiefs of the Otolaryngologic Staff ordered, the officer designated to deliver the lectures, subjects given for the lectures, and a list of the books for the library prepared.

Major H. W. Loeb of St. Louis was assigned to the office of the Surgeon General to prepare a War Manual of Otolaryngology.

Major B. R. Shurly resigned, and Major J. H. Bryan was nominated by the Council of the American Laryngological Association to the vacancy. This was approved.

Major Mosher was ordered abroad on an inspection tour with Lieut.-Col. Lyster, and Major Richardson to temporary duty in the Surgeon General's office.

Exhibits are presented indicating the various subdivisions of the Surgical Service approved by the Surgeon General. Finally, Col. Richardson presented a report on the proposed reconstruction of the defects on hearing and speech as a result of casualties in war.

This exhaustive and comprehensive report is accompanied by exhibits in detail.