It was now noticed that the pus, which was quite abundant, came intermittently, so that while one passage of urine was almost clear, the next would contain perhaps half-an-ounce of sediment. This made it evident that the bladder must be reasonably free from inflammation, and Professor Wood now made a second thorough examination of the urine, and found evidence that chronic pyelitis was present.

The varying character of the urine showed that probably but one kidney was as yet affected, and the pain in the left side of the back pointed to that kidney as the one at fault. No enlargement of the organ could be discovered. The character of the fibroid and the way in which it pressed down into the pelvis put it almost beyond doubt that that was causing obstruction of the ureter, and consequent pyelitis.

The condition being explained to the patient, she understanding that at her age the disease could not be expected to come to a standstill or go backwards, chose the alternative of an operation for the removal of the fibroid.

This was done on March 1, 1887. An incision was made close alongside of the old cicatrix. In this, as in the former operation, considerable care was taken to avoid wounding the bladder. The tumor seemed firmly fixed in the pelvis, but rather through being wedged there, than by reason of any adhesions.

With the vigorous aid of an assistant pressing up from the vagina, it was finally dislodged and lifted out: the pedicle was constricted by the wire of an *écraseur*, and the mass was cut off. The body of the uterus was removed with the tumor, and only the lower part of the cervix was left. The pedicle was treated extra-peritoneally, the *écraseur* being left in place.

The shock of the operation was great, but the patient slowly rallied, and made a good recovery, leaving the hospital early in April. The pains in the abdomen and renal region disappeared after the operation, and the urine slowly cleared up, until, when she was last seen, it was but slightly cloudy.

The patient rapidly regained strength, and towards the end of April was talking of going to work, but a longer rest was advised.

INTUBATION OF THE LARYNX AT THE BOSTON CITY HOSPITAL.

BY W. H. PRESCOTT, *House Surgeon.*

In view of the prominence which intubation has obtained during the last year, a report of the operations which have been done at the Boston City Hospital may be of interest.

When first brought forward, the operation was viewed with disfavor by the visiting surgeons, and it was not until December 30, 1886, that the first one was performed. In November, one of the staff tried to insert a tube, and probably succeeded, but not being satisfied with the child's breathing, he withdrew it, and performed tracheotomy.

On December 30th, the first operation was done without any difficulty, and the case is reported as No. I. Since then, the operation has been done nine times. In most cases, the relief from dyspnœa has been as marked as after tracheotomy, and, as is usual after the latter, the patient immediately fell asleep, although some were disturbed by the cough which the string occasioned. At first, the feeling that it would not be possible to extract the tube (if there was urgent dysp-

nœa) prevented the cutting of the silk thread which is attached to the tube at the time of insertion, and this thread was probably the cause of two of the accidents which have happened. In two cases the silk was removed, and no trouble arose, and there was no especial difficulty in extracting the tube.

In one case where intubation was attempted, the child stopped breathing, apparently from spasm of the glottis, and tracheotomy was immediately done. In another case it was found impossible, after several trials, to insert the tube. I know of no reason, except lack of skill.

In two of the cases the membrane covered the parts so completely, that the guiding finger could not distinguish one part from another. In these cases, the tube was easily inserted by keeping in the median line, and waiting for the child to gasp.

Of the following cases, Nos. I and IV occurred in the service of Dr. Bradford; Nos. II, III, and V, in that of Dr. Bolles; Nos. IX and X in that of Dr. Gay; and Nos. VI, VII, and VIII, in that of Dr. Post.

CASE I. C. B., five years old. Eight weeks before entrance had scarlet fever, from which he had never fully recovered. December 13th, was taken sick with diphtheria, and entered the hospital on the medical side, December 21st. On morning of December 30th, became cyanosed for a short time, and afterwards had considerable dyspnœa. Transferred to surgical side. Physical examination: Well developed and poorly nourished; membrane on pharynx, tonsils, and uvula; dyspnœa; retraction of chest-walls during inspiration; loss of voice. Intubation (string left in) gave immediate relief to dyspnœa. Was comfortable for sixty hours, when he became cyanosed again. Tube removed, and found to be plugged with membrane. Tube cleaned and replaced (silk not removed). Tube coughed up, and swallowed inside of five minutes. No symptoms referable to the tube, which was never recovered. No return of dyspnœa. Much membrane still left in throat. Child very weak. Gradually failed, and died, evidently from exhaustion, January 9th. No autopsy.

CASE II. O. T., three years old. December 24th. Taken sick nine days before entrance. Slight cough, and some croupy breathing. Two days before entrance "choked up." No further history. Physical examination: Well developed and nourished; breathing harsh and croupy; some retraction; membrane in throat. Steam; poultice to neck. Continued fairly comfortable, with occasional attacks of dyspnœa (relieved by the vomiting produced by *vin. ipecac*), until January 1st, when breathing became labored, and intubation was done. Immediate relief to dyspnœa. Coughed up considerable mucus. Was comfortable until next morning, when had an attack of dyspnœa. Tube removed, and found to be plugged with thick mucus; cleaned and replaced. No return of dyspnœa. Death the same day, from infection.

CASE III. A. L., three years old. January 13th. Four days before entrance, slight cough, with some vomiting. Last night, dyspnœa and loss of voice. Physical examination: Well developed and nourished; anxious expression; no cyanosis; no retraction; croupy cough; membrane in pharynx. Steam; stimulants, *tr. ferri chloridi*, gr. v., t.i.d. Comfortable until 15th, when breathing became labored. Retraction. Intubation. Much relief (string left in). Next day, restless. Tube coughed up; replaced. Patient quiet and comfortable until 18th, when had "choking spell." Tube

removed. Breathing easy for a few hours, when it became labored. Tube replaced. Comfortable until 22d, when had another attack of dyspnoea, and when the house-officer arrived, he could not find the tube, but the breathing was easy. Next day, the tube was removed from the rectum. No further dyspnoea; and from this time the child made an uninterrupted and rapid recovery, and was discharged, January 27th, well.

CASE IV. G. F., seven years old. February 13, 1887. Previous history not ascertained. Child brought in suffering from extreme dyspnoea, with marked cyanosis and eruption of measles; loss of voice; retraction of chest-walls during inspiration. Intubation was followed by relief to dyspnoea; quiet for a short time, then became cyanosed. Tube removed. Breathing quiet. Death within seven hours of entrance, due to septicæmia.

CASE V. G. H. February 19, 1887. No history. Physical examination: Fairly developed; poorly nourished; nearly moribund; cyanosis; retraction; no membrane on pillars; pulse weak, rapid, and feeble. Intubation gave relief to dyspnoea. Had several slight attacks of dyspnoea. Death next day, from extension and septicæmia.

CASE VI. A. H., fourteen months old. May 5, 1887. Two weeks ago was feverish. Had nasal discharge but no cough. Gradually grew worse, and yesterday had dyspnoea. Mother at same time noticed membrane in expectorations and in throat. Physical examination: Well developed; fairly nourished; nursing; membrane in throat; nasal discharge; retraction; no cyanosis. Intubation (string left in). Child could still nurse. No further dyspnoea. Death in twenty hours, from septicæmic infection.

CASE VII. W. S., five years old. May 13, 1887. Has had enlarged tonsils, with considerable purulent expectoration, for some years. Four days ago had headache and fever. No vomiting; patches in throat; some dyspnoea; very weak; bowels constipated. This morning lost his voice, and had considerable dyspnoea but no nasal discharge. Physical examination showed well-developed and fairly nourished boy. Pharynx, tonsils, and uvula covered with very thick membrane; retraction; cyanosis; loss of voice. Intubation was followed by relief. Failed gradually. Death in two days, from septicæmia.

CASE VIII. R. M., five years old. May 13, 1887. Five days ago complained of sore throat; was better next day. Two days ago began to cough. No nasal discharge. Was hoarse yesterday, and last night had considerable dyspnoea. This morning lost his voice, and dyspnoea became urgent. Physical examination: Well developed and nourished; considerable dyspnoea; loss of voice; retraction; membrane in throat. Intubation (string removed). Very comfortable for twenty-four hours, when temperature began to rise and an eruption (measles) appeared on body. Respirations became more frequent, but without dyspnoea. Tube was removed on the fifth day. Death that night from exhaustion and complications.

CASE IX. J. D., five years old. May 17, 1887. Has been sick a week; dyspnoea yesterday; nothing further obtained. Physical examination: poorly developed and nourished; membrane on pharynx and uvula; dyspnoea; retraction; loss of voice. Intubation (string removed.) Tube lost next day; considerable dyspnoea; not possible to reinsert a tube. Tracheotomy advised, but not allowed. Since then the

condition of the patient has steadily improved. Dyspnoea persisted for some days with occasional paroxysms of difficult breathing. May 22d his temperature was 99°, pulse 115, respirations 28. Pulse good and strong. Appetite very good. Still in hospital. Nothing has been seen of the tube.

CASE X. H. N., five years old. May 21, 1887. Has been sick a few days with cough and sore throat; some dyspnoea; loss of voice. Physical examination: well developed and poorly nourished. Some retraction; dyspnoea; croupy cough; no voice. Steam, poultices, and brandy prescribed. Soon after entrance had a severe attack of dyspnoea, with cyanosis. Intubation (string retained), gave immediate relief to dyspnoea, but pulse very weak and feeble. Patient soon revived, and was very comfortable until 9 P.M., May 22d, when he seemed to have some obstruction. The tube was removed and reinserted, but the child died within five minutes, without cyanosis. Death in thirty-six hours after entrance from heart failure.

There were two mistakes made in No. I; first, leaving the silk attached; second, in not using a larger tube when it was thought necessary to reinsert one. Dr. O'Dwyer says the tube is never swallowed unless the silk is left in; but in Case IX, the silk was removed, and the disappearance of the tube can be accounted for only on the supposition that it was swallowed.

The swallowing of the tube in Case III may have been due to the silk.

Case IV seemed a hopeless one, and the operation was done without any expectation of saving the child's life, but merely to prevent strangulation.

Case VI was of interest from the fact that the child nursed without difficulty, while the tube was in the larynx.

Case VII seemed hopeless when he came in, but the relief to dyspnoea was very marked.

Case VIII illustrates another point made by Dr. O'Dwyer. On inserting the tube there was an increase in the dyspnoea, and the tube was immediately coughed up. It was found plugged with a piece of membrane, two inches long, the lower part of which was a complete cast of the trachea. On the second insertion no further trouble occurred.

In Case IX the silk was removed, and it is not known where the tube has gone, as he had no symptoms from it.

The treatment has been the same as in tracheotomy, namely: light steam, stimulants, poultice over chest; Dobell's solution¹ as a throat spray. A solution of corrosive sublimate (1 to 15,000) was applied to nasal mucous membrane when there was any nasal discharge. Occasionally small doses of the bichloride of mercury were given. Tincture of digitalis, in small doses, was also given when the urine was scanty, and pepsin to assist digestion, when necessary. At first nourishment was given in enemata, but it was soon found that all the nourishment needed could be given by mouth, without difficulty. Semi-solids cause the least trouble. The first and last "swallows" are the ones that cause the coughing which is always set up, and so it is best to let the child take a mug of milk and drink it rapidly. Although this is a rule, Case VIII was an ex-

¹ Dobell's solution:—

R Carbolic acid	3 iss
Borax	aa ʒi
Bicarb. soda }	
Glycerine	3 iiii ss
Water	ad Oiv.

ception. This child took liquids best from a teaspoon, while lying on its back. Milk, beef-tea, chicken-broth, ice-cream and custards were given.

The advantages of intubation, as compared with tracheotomy, are: (1) There is no wound, and therefore it will be allowed where tracheotomy might not be. (2) There is not added another source by means of which infection may take place. (3) It can be done more quickly. (4) It is less troublesome both in its performance and its after care. (5) There is not as much discharge. (6) The shock is not as great. (7) No anæsthetic is needed.

The great disadvantage is that the parts below the larynx cannot be kept as free from mucus and membrane as in tracheotomy. Although the fact that intubation can be done more quickly has been put as an advantage, I do not wish to imply that it is a simple procedure. It is not easy, and should be done with a great deal of care and very little force. The statement has been made that it is easier to put a tube into the larynx than into the œsophagus; the experience at the hospital does not bear out the statement.

The method of inserting the tube, as done at the hospital, is as follows: The tube with the silk attached having been put upon the obturator the child should be held upright by an assistant, sitting in a chair facing the operator, with its head held firmly and a little forwards. The gag is introduced on the right side and kept as far back as possible. The operator then introduces his left forefinger into the mouth and passes it downward and backward until he feels the epiglottis; he now passes the tube along the palmar surface of his left forefinger (keeping in the median line) until the tube reaches the epiglottis, when, by an upward movement of the right hand, he can easily put it in place. The left forefinger having been placed on the tube the obturator is withdrawn. After a few minutes the breathing being quiet and the tube having again been felt in position the silk suture may be removed and the patient put to bed.

The number of cases is too small to be of much service in forming an opinion as to the relative value of intubation and tracheotomy from the standpoint of percentage of recoveries; for if the statistics of tracheotomy at this hospital are examined, the percentage of recoveries in any given six months will be found to vary from ten per cent. to thirty-five and even forty per cent.

REPORT ON HISTOLOGY AND EMBRYOLOGY.

BY CHARLES SEDGWICK MINOT.

DURING the past year there have been several important general publications. An American Journal of Morphology, which promises to be of a high scientific character, has been announced by Ginn, Heath & Co., to be edited by Dr. C. O. Whitman, the leading American embryologist. The first number has been unfortunately delayed, so that only the announcement can be chronicled here. From England we have the beautiful memorial edition of Balfour's works in four handsome volumes. With the utmost generosity the family, to whose care we owe this edition, have distributed numerous copies. The papers and essays gain by collation, and reveal advantageously the genius of the young author. His researches represent a body of work such as few men have accomplished at so

early an age. From the very first he tussled with the great problems of morphology, and sought their solution through embryology, for with the insight of superiority he recognized from the start that embryology is the key to comparative anatomy and evolution. In this direction he continued working, but constantly widened his mental horizon. The growth of his power was well shown by his monograph of elasmobranch fishes, and by his comparative embryology, a great monument to his ability. Balfour's original investigations form the first volume of his works. The "Comparative Embryology" is reprinted as volumes II and III. The fourth volume includes the plates only. The examination of Balfour's contributions to science renders his loss keenly felt. To England he was important, for his charming personality greatly enhanced the influence, which belonged to his abilities. He was one of the most valued and beloved officers of the University at Cambridge. The sad accident on the Aiguille Blanche de Peuteret, in July, 1882, robbed England of her ablest embryologist, a man to whom Darwin wrote, after receiving the second volume of his embryology, "I am proud to receive a book from you, who, I know, will some day be the chief of English Biologists."

But to return from a digression which Balfour's name may well pardon. During the past year Oskar Hertwig has published the first part of his human embryology, which promises to sustain and amplify the author's reputation for comprehensive views and clearness of exposition, qualities which, combined with his gifts of observation and industry, have rendered him eminent. We have as yet only the chapters dealing with the history of the sexual products, maturation of the ovum, impregnation, and so forth; and those upon segmentation; the formation of the germinal layers and of the primitive tissues, and finally Chapters XI to XIII, on the fetal envelopes. Hertwig's views on the morphology of the mesoderm, which he groups under the title of the "bœlomtheorie" are here admirably presented, so that the discussion of them will be greatly facilitated. I may state in this connection that the "cœlom-theory" must be very greatly modified. The chapter on the human envelopes and placenta is thoroughly unsatisfactory, since it is far from offering an adequate synopsis of our present knowledge. Save for these and some minor criticisms the treatise deserves unusual praise, and is, I think, fairly to be called indispensable for every student of embryology.

Wood's "Reference Handbook" contains numerous embryological and histological articles. Although many of the former were written by the present reporter, he ventures to refer to them here, as there has been nothing else so extensive published in English on human embryology since the ninth edition of "Quain's Anatomy," in 1882, and during these five years immense progress has been made in this department of science.

Stöhr's "Lehrbuch der Histologie," is capital; for the use of physicians and medical students it is not only the best, but also the only thoroughly excellent manual, I know. The illustrations are admirable, well engraved, faithful to the actual appearances of the specimens, drawn by the ordinary magnifications of the microscope, and nearly all taken from the human subject. The text is singularly concise, clear and instructive, and exhibits familiarity with the most