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CONTENTS.

Original Communications.

FELL METHOD—FORCED RESPIRATION.

By GEO. E. FELL, M.D., F.R.M.S. Ex-President American Microscopical Society, etc., Buffalo, N.Y.

(*Continued.*)

CASE XXIV.—DR. FELL.

December 25, 1891, Mr. C., a resident of Niagara street, Buffalo, a man not habitually accustomed to drink, came under the influence of liquor under peculiar circumstances, and is said to have taken 2 oz. of laudanum. He was taken by the ambulance to the Fitch Hospital, and treated in the ordinary manner by the surgeons in attendance at the hospital, but with unsatisfactory results. The wife and brother-in-law were called about 11 p.m., and they were informed by the physicians in charge that there was no hope for the patient; that everything had been done that was possible to be done. At the urgent request of the wife of the patient, I was called about 11 p.m. I found the patient in a very precarious state, totally unconscious, and in danger of death supervening quickly.

I applied the forced respiration apparatus with favorable results. The cyanosis was overcome, and, after some four hours' work, the patient became conscious, respired for himself, and at 6.30 in the morning was taken to his home in the ambulance. A condition of stupor continued at his home for a number of days following the operation; he did not seem to improve as rapidly as was the custom, until he was taken to a neighbor's house, when it was noticed improvement was rapid. He had been placed on stimulating and supportive treatment, but with apparently very little success. It was noticed, however, that there was quite an escape of natural gas at the stove connection in the room in which he lived, and very much of this slow recovery must be attributed to this, as after the removal from the house he recovered very quickly, and on the leak in the pipe being repaired he was not further affected, and made a good recovery. This case *illus-*

trates the importance of hospitals being provided with an apparatus suitable for performing forced respiration. Had it not been for the special request of the wife of this gentleman, who was very devoted indeed, there is no question but that he would have died under the treatment used at the Fitch Hospital. All had been done that artificial respiration or ordinary methods would accomplish, and yet within four hours from the time I was first called to see this patient, he was placed out of a dangerous condition. *The question arises whether, with such facts presented to the profession, any hospital in the country is justified in not being prepared for cases of this character, which may at any time be presented to them.*

CASE XXV.

Mrs. W., of Elliott street, Buffalo, took an overdose of morphia. I was sent for, but was unable to attend owing to illness, and sent my apparatus in charge of my office student, a nephew 17 years of age. The case was reported as hopeless under the ordinary treatment, but quickly recovered under forced respiration.

Having notified the profession in Buffalo that I desired its members to use my apparatus gratuitously, if desired, in cases which called for it, several physicians have availed themselves of the offer. I present two cases of interest, and number them consecutively.

CASE XXVI.

Dr. L. J. McADAMS, Buffalo, N. Y.

Mary M., on July 23, 1893, became unconscious from several doses of morphine administered for the relief of biliary colic, in all about ⅔ of a grain were given hypodermically. About 4 p.m. was seen to become very quiet and cyanotic. Artificial respiration was immediately begun, as there was no voluntary effort to breathe. This was kept up for 5½ hours, and all the time the stupor becoming more profound, and the cyanosis to such an extensive degree, that Dr. Dignew and myself thought that before we could get the forced respiration apparatus and perform tracheotomy, the patient would die of CO. poisoning. As the heart kept up fairly good, at 9.30 the messenger arrived with the apparatus (Fell's forced respiration), and at 9.45 the bellows were going, and the patient began to change color, and at 3 a.m., July 24, the patient could converse and was out of danger, and has made an uninterrupted recovery (after 5¼ hours of forced respiration which resulted in saving her life).

CASE NO. XXVII.

Dr. J. C. GREEN and DR. J. W. YORK, Buffalo, N. Y.

August 8th, 1893, Mrs. P., aged forty-six years, and poorly nourished owing to the fact that she had taken very little food for past three or four weeks, was seen at 4.15 in the morning. Dr. J. C. Green was called at 2 o'clock, and found her suffering from opium poisoning. It was learned that one ounce had been taken at 9 o'clock on the previous evening. Dr. Green states that he found her pulse 120, and her respirations three per minute; the patient was cyanosed. He gave her 1-16 gr. of atropia, and in one-half hour 1.30 gr. more, hypodermically. Patient could not be aroused. Sylvester's method of artificial respiration was produced, but with no improvement in her condition. Began forced respiration with face-mask apparatus of Dr. Fell at 4.30 a.m. This was continued for seven hours with occasional intermissions, during which Sylvester's method was used. Patient had a feeble pulse, which at times was not perceptible at the wrist. One one-hundredth (1-100) gr. of nitro-glycerine was given hypodermically twice, and an injection of strong coffee per rectum three times. At 11.30 patient moved for the first time, and opened her eyes, but made no attempt to breathe. For the next two hours, forced respiration was practised at intervals, the patient becoming cyanosed very soon after it was omitted. At 1.30 she was considered out of danger, respiration having begun one-half hour before, at first almost imperceptibly. Dr. J. C. Green rendered valuable assistance during the last six or seven hours of treatment.

I was unable to obtain a very clear history as to patient's mental condition previous, or family history.

This woman's life was saved by Dr. Fell's method of forced respiration. She weighed about 100 pounds, and had taken

very little nourishment for three or four weeks, none in 24 hours. This I think made one ounce of opium tincture produce as much effect in her case as two would do under ordinary circumstances. During six or seven hours of the treatment I think she would have died in 15 minutes without forced respiration.

Dr. Joseph C. Green, one of the oldest and most respected practitioners in Buffalo, said of this case in a letter received by me the day I started for this place, September 4, 1893:—

"I have been acquainted, theoretically, with your apparatus for producing artificial respiration in cases of drowning and opium poisoning, for some time, but I never had an opportunity to test the merits of it until one day last month (August, 1893). I was called to the bedside of a lady belonging to one of my old families, and found that she was suffering from the effects of an overdose (one ounce) of laudanum, taken *five* hours previous to my visit. She was cyanotic; breathing four times a minute when undisturbed; pulse small and fluttering, with all the other symptoms of opium poisoning. Emetics and stomach pump being out of the question, I gave a hypodermic injection of 1-16 of atropia, which dilated the pupils perfectly, and sent a messenger for you to bring your apparatus, but you being out of the city, Dr. J. W. York kindly consented to come with it. For ten mortal hours we used it continuously. At the end of that time natural respiration was established.

"This one case, dear Doctor, is sufficient to establish its superiority over all other methods that I have any knowledge of. It speaks volumes for your instrument, and no doctor in active practice should be out of its reach. I have been in active practice for over thirty years, and I have lost patients after all the old methods known to science had been tried, and I am confident that some of them might have been saved by your method if it had been known."

CASE XXVIII.—Dr. FELL.

The following case is presented with the belief that it has some features of novelty of an interesting character; and

1st. To illustrate how forced respiration may possibly be of great value in surgical operations associated with conditions of asphyxia;

2nd. To illustrate its value per face-mask in cases of membraneous diphtheria and croup.

A resident of Buffalo, his family consisting of wife and four children, the eldest a daughter 9 years of age, a son 7 years and 3 months, a daughter 4 years, and an infant son, 2 years of age. The eldest daughter was taken ill with throat troubles and general disturbance of the system. She was quite sick, and was taken from school. On the 29th of March the eldest son was taken sick, and he, like the sister, was treated with home remedies until about 5 a.m. on the Sunday following, when the father discovered him in a cyanotic condition, breathing with great difficulty, and evidently in great danger. I was called about 8 o'clock in the morning, and arrived at the residence an hour later. On examination, I found the four children ill with diphtheria, the exudates being quite clearly marked in the eldest daughter and the son. The son was respiring with great difficulty, and his life was in immediate danger. I informed the father that there was only one thing that could be done at that time, and I recommended tracheotomy as a means of holding the case, but held out no hope of ultimate recovery of the child. The younger children were also ill, the exudates, however, not so extensive, as the disease had affected them later than the first two. The mother desired the operation to be made. I sent for Dr. Albert J. Colton, near by, to assist me, but before we were ready to make the operation the lad became unconscious from the asphyxia, and was in a very desperate condition. He was placed upon a table, the initial incision made for the operation of tracheotomy. The blood was purple. No anæsthetic was used as it was not necessary. A few moments after the first incision was made, Dr. Colton called my attention to the fact that the pupils of the eyes were dilating. I had fortunately prepared my forced respiration apparatus so as to have it for immediate use should occasion warrant, and had it not been ready I undoubtedly would have had the experience of death occurring during the operation. I immediately placed the forced respiration cup upon the face and respired

for the little fellow, *resulting in changing the blood* to a bright scarlet in the wound in the neck, and causing the *return of auto-respiration.* I had proceeded with the operation, and found it necessary before I completed it to repeat the respiratory work with the forced respiration apparatus some six or seven times, in some instances having to respire quite a little time before auto-respiration was re-established. This is a peculiarly interesting fact, associated with the question of interference with respiration through exudates in the respiratory tract, that it is possible (it may be for a short time only, and at other times save life) to retain the life of a patient, breathe for him, and tone up the system so as to enable auto-respiration to be carried on. I completed the operation and placed the tracheotomy tube in the trachea, and found it necessary before consciousness returned to respire for the lad for some time. He became conscious and breathed easily, apparently with very little trouble, for quite a period of time. The general treatment directed was the application to the throat and nasal passages of the peroxide of hydrogen, about 30 per cent. aqueous solution. The father was directed to use this with the spray apparatus occasionally in the wound in the neck if he found it necessary. The afternoon of Sunday revealed the condition the same as that which existed after the operation in the morning. The boy was moving around the house, although the respirations were at all times more or less labored. In a little while the inner tube of the tracheotomy tube would close up with the exudate, and would frequently require cleansing. The father said to me that if he would follow my directions, to merely spray lightly the wound in the neck, his boy would probably have been asphyxiated. He said he found it was necessary to place the tube of the spraying apparatus in the neck or in the tracheotomy tube, frequently to prevent the cyanotic condition from ensuing. He said: "The spray seems to liquify the membrane or the mattery substance, and it comes away in a sort of foamy, frothy state." During the afternoon the condition became worse, the membranes filling up the trachea apparently, so that Dr. Colton, who was present, applied the forced respiration *through the tracheotomy tube,* again relieving the little patient from the severe dyspnœa which prevailed at the time. Sunday night the case progressed about the same, frequent resort having to be made to the peroxide of hydrogen to enable the little fellow to get along at all. On Monday and Tuesday, membraneous casts of the tubes and trachea were coughed up and passed out of the tracheal opening. The boy retained his vigor under adverse conditions existing until Tuesday afternoon, when the exudate seemed to be increasing and interfered with the respiratory efforts, which conditions could not be overcome even by the forced respiration apparatus, and about 11 o'clock Tuesday evening the patient died from exhaustion and heart failure.

It was very clearly evidenced in the case of the boy that he would have died before I could possibly have performed the operation of tracheotomy had it not been for the forced respiration apparatus. How many cases of a serious character might be benefited, or have life retained, by such work and tided over the most serious results, cannot be foretold. It is unreasonable to assert that some patients may not recover who are as seriously sick as was this young boy.

FITCH ACCIDENT HOSPITAL CASES.

The following cases took place at the Buffalo Fitch Accident Hospital which had been supplied with one of my emergency cases. I was not present at any of them, and am obligated to Drs. John Paramenter and E. L. Ruffner of the hospital staff for the information regarding them. Dr. Ruffner stated that all the cases saved would have proved fatal without the use of forced respiration.

No detailed reports of these cases were kept, so that the reports are wanting in many interesting particulars. The variety of cases in which the apparatus was used with success indicates in part its wide range of application.

It was used in cases of carbonic oxide, opium, cocaine and chloroform, "rough on rats," and cocaine poisoning; in drowning, case of internal injury from house falling on a man, injury to base of brain, ether narcosis, etc.

CASE XXIX.

September 10, 1892. Opium narcosis. Mr. B. The Fell Method failed to resuscitate.

CASE XXX.

John Moxfeldt, 1482 Broadway. Opium. Life saved by the Fell Method. Time used not given.

CASE XXXI.

February 12, 1893. Chas. K. Storms, 256 Hoyt St. Received at 7.30 p.m., died at 3 a.m. Kept alive by Fell Method about 8 hours. A case of drowning. Patient did not regain consciousness. Oxygenation of the blood through forced respiration brought about when other methods failed, demonstrating the remarkable value of the method in drowning. It will save life in cases of drowning where those usually applied fail.

CASE XXXII.

In March, 1893, a Mr. Gleason was found suffering from cocaine poisoning. The Fell Method of forced respiration saved life after four hours' use of apparatus.

CASE XXXIII.

M. E. Peck. Opium narcosis. Two hours of Fell Method saved his life.

CASE XXXIV.

May 25, 1893. Mrs. Smith. Cocaine and chloraldine poisoning. Life saved by Fell Method.

CASE XXXV.

June 2, 1893. Genano Borneo, 78 Lloyd street. Fracture base of brain. Fell Method kept him alive 3 hours.

CASE XXXVI.

June 1, 1893. John Willis, 458 Perry street. Carbonic oxide poisoning. Fell Method used for 36 hours; patient never regained consciousness. Died of uræmic poisoning.

CASE XXXVII.

July 6, 1893. Mrs. Gross, large dose of morphia. Ceased breathing on arrival at hospital. Fully recovered after 1½ hours of Fell Method.

CASE XXXVIII.

July, 1893. Miss Fitzmaurice while under an operation, ether narcosis, ceased breathing. The Fell Method of forced respiration, twenty minutes' use, kept her alive until she could breathe for herself; recovery.

Note the following case:—

Within the last year, a lady died of nitrous oxyde poisoning while in a dentist's chair in Buffalo, N.Y. Doctor M. Hartwig, who was in attendance, stated that the *respirations alone ceased*, that the heart kept up its action until asphyxia set in and the patient died. Dr. Hartwig was confident that the life of this lady could have been saved by my apparatus. He did not think of it at the time, although acquainted with its work.

CASE XXXIX.

December 26, 1892. Minnie St. Clair. Profound opium narcosis. Kept alive for forty-eight hours by Fell Method. Died of heart failure.

CASE XL.

June 2, 1893. Tony Macaroni. Internal injury from house falling on him. Fell Method four or five days on and off, when auto-respiration, shallow or deficient, would revive him. He died of pneumonia produced by inhalation of cement and debris which covered him in the fall of the house.

CASE XLI.

Abraham Hackett, 112 Main street. Opium narcosis. Died after about 10 hours' use of Fell Method. He had lain a long time before discovery.

CASE XLII.

October 1, 1892. Took rough on rats. Three or four hours of Fell Method saved life of patient.

CASE XLIII.

April 2, 1893. Miss M. Cocaine poisoning. Hypodermically injected. Life saved after about one hour's use of apparatus.

CASE XLIV.

Sept. 4, 1893. Reported saved. Particulars not obtained.

I have taken the unusual course of presenting my cases first, and general facts pertaining to my methods later, in this paper. The audience is made up of many who have not become acquainted with the subject of forced respiration, so that now it will be in order to present some facts pertaining to the history of the subject.

Medical literature abounds with very little of any value upon the subject. There is no question that experimentation previous to my own had demonstrated that it was almost useless to attempt to save life by this means, but that artifical respiration would accomplish all that could be obtained by artificial means. The opinion also prevailed that more forcible measures than those used in artificial respiration would endanger the delicate lung tissue, or that the air vesicles might be ruptured. We may instance the very generally accepted Marshall Hall's "Ready Method in Asphyxia," wherein we find the use of bellows or any *forcing* instrument strongly condemned. Even in some of our "Visiting Lists," where we might expect to find only axiomatic phrases, this rule was laid down until lately, with special stress upon the inadvisability of using any "forcing" measures or "instrument."

While forced respiration has been practised for many years, both here and abroad, upon animals in physiological laboratories, in vivisection experimentation, we have yet to ascertain that such application has taught it to be considered as of value in the saving of human life, the keeping up of respiration in the human organism, or as a means of resuscitation in asphyxia.

Can this be wondered at when high authorities inform us that artificial respiration will supply the blood with oxygen fully as well as forcible measures, or utter statements which convey just such impressions? In "Heath's Dictionary of Practical Surgery," under the head of "Suspended Animation," this statement appears:—"It is important to bear in mind that artificial respiration is purely a mechanical act, and that, if efficiently performed, air must enter the lungs even of a corpse which is hopelessly dead."

In a short discussion which ensued upon the report of my first case, presented to a section of the International Medical Congress at Washington,* several physicians took the ground that the operation of forced respiration was not needed, that artificial respiration (Sylvester's method) would have accomplished as much. With such statements accepted and supported by the mass of surgical literature, it would be ridiculous to assert that the methods employed in the physiological laboratory were considered valuable in the resuscitation of human beings in asphyxia. I will now defend the position based upon my own experience, that artificial respiration, as practised by the Sylvester method, which is conceded to be one of the best, will fail to supply the lungs with air in sufficient quantity to keep up the action of the heart in deeply narcotized subjects, where forced respiration in many cases would prove entirely successful. In one of my cases, the opinion was expressed by an experienced physician† who witnessed the operation, that the simple institution of artificial respiration, through the bodily movements required, might have proved disastrous to the patient, owing to his weakened condition through loss of blood. The contrast between the two in operation is very noticeable. In artificial respiration the patient is tugged, squeezed and rolled about, according to the method employed; while in forced respiration, he is entirely passive, and will lie for hours without moving or appearing uncomfortable as long as the latter procedure is properly kept up. In the case just referred to, the life of the patient depended upon the forced respiration for nearly a day and a quarter, and now the patient is as well as ever. The question may yet arise in desperate cases—it has already in a number of cases—as to the propriety of the early substitution of forced respiration for artificial respiration. When I had made my third operation and saved three human lives after all usual methods had failed, a gentleman, who presumably was a physician, stated in an article furnished to the *Daily Press*, that "The resuscitating bellows is as well known to every physiologist as is the use

*September, 1887.

†Dr. Carlton R. Jewett, of Buffalo, N.Y.

of the stomach pump, and that Dr. Fell learned its use with the other students at a medical college in Buffalo, where its employment was thoroughly taught by Professor M— for twenty years." If this correspondent had left out the word "resuscitating" he would have been more truthful, and if he will recall the apparatus used and the manner of using it,—which will be explained further on,—he will see his mistake. Many times during my assistanceship of two years in the laboratory of the Medical Department of the University of Buffalo, when operating upon canines for the purpose of exhibiting the thoracic viscera in action, the animal has been overdosed with the anæsthetic, and the respiration would cease. Under these conditions artificial respiration was always resorted to and kept up by pressure at intervals upon the chest, after which the operation of opening the thorax would be continued, and usually among the last procedures would be the substitution of the forced respiration by opening the trachea and using the bellows. It was not "taught" that even the life of a dog could be saved by forced respirations.

It is not necessary to refer to the literature on this subject further than to state that, while *spasmodic efforts* have been made at times to make use of forced respiration, owing to the improper methods used, the results have not proved sufficiently satisfactory to prove it a valuable procedure, but, on the contrary, to condemn its use as stated.

I cannot do better to indicate the general aspect of the profession toward this operation than to modify for the present occasion the utterances in my last paper, read before the American Medical Association at Detroit.

It is now about six years since I saved my first life by systematically respiring for a human being by forced respiration. Up to the present time, about thirty lives have been saved by this means. The method has been given as great publicity as possible by publication in well-known medical journals and proceedings of societies. The fullest detail as to the arrangement of the apparatus has been described, so that the successful methods could be utilized and the apparatus prepared by anyone sufficiently interested. I have always been willing to aid and assist anyone disposed to utilize the method. The most simple means by which the operation could be satisfactorily performed have been detailed, with a view of aiding the practitioner in urgent cases where the complete apparatus could not be obtained. However, what results have been accomplished as already stated, the saving of thirty or more human lives, have with some exceptions taken place through my own individual endeavors. Many human beings, as the reports of the daily press have indicated, have been allowed to die when preventative means existed which the members of the medical profession could have utilized, had they only taken advantage of the statements and facts freely presented to them. It may not be entirely truthful to state that the medical profession in America is ultra-conservative regarding the use of "new methods," in the face of the wild *furore* over tuberculin or the *Brown-Sequard Elixir.* The latter quickly settled itself, and the former the best authorities now appear to discredit as anything of a specific for tuberculosis. How has it treated forced respiration? — *in its success* an entirely American idea, and which from the first intelligent application gave results that could not be questioned by even those inclined to be jealous and unfriendly? It has not even been made the subject of special comment in the medical institutions of the day; so that the graduates in Medicine of but few colleges in the land are intelligently qualified to carry it out, and medical practitioners are not prepared to use it or apply it when supplied with the apparatus. This was quite interestingly demonstrated in Case No. 25 at a time when I was unable to attend, and sent my young nephew with the apparatus to assist two regular practitioners in the saving of a human life from opium narcosis. Although both residents of my native city, and the methods of forced respiration being very simple, these gentlemen were not sufficiently well acquainted with the simple details of the apparatus to use it intelligently. My student, a young man about 16 years of age, having seen it frequently in use, assumed charge, and saved the lady by his efforts. I only speak of this to show that simple methods require more or less study and consideration on the part of anyone, even capable physicians, who desires

to use them intelligently; and I deprecate most fully the assertion of Prof. Horatio C. Wood, that any method upon which the life of a human being may hinge may be used by "unskilled persons."

Through the simplicity of the methods which may be utilized in forced respiration which have been brought to our present knowledge through my own efforts consists its greatest value to mankind — the saving of the life of many human beings has, however, been accomplished in my hands, only by the skillful use of an apparatus specially adapted for use upon man, and through practical knowledge which it has taken me some years to become satisfactorily acquainted with.

Another instance, which indicates that medical press notices and publication in State Association Transactions will not suffice to impress upon the profession the value of forced respiration as a life-saving factor, was instanced in the case of Carlyle W. Harris,* convicted of the murder of his young wife, Helen Potts, through the administering of morphia in fairly large doses. In one report of the case, it is claimed that young Harris desired or suggested to the physician who was attempting to resuscitate the young woman, that he make tracheotomy, having a vague idea only of its use. The physician appeared to know nothing about the method. In this one instance, I have no hesitancy in stating that the life of the young woman could have been saved by my method of forced respiration, and in the event of the execution of Harris (which did take place), we will have to record two lives lost through what will be some of these days almost criminal ignorance of physicians.

The public press is almost daily recording cases of death from narcotic poisoning or from drowning, in which the old methods have failed. Why not try something better, which has succeeded time and again where they have failed and must frequently fail?

Regarding the question of the originality of my method, Prof. H. C. Wood has given the impression through his statements before the Berlin Congress, that the apparatus I used was similar to that used in the laboratory upon lower animals, so that Dr. John O'Dwyer, of New York, has given public utterance to the statement which Dr. Wood first and, I think, unwarrantably, urged. In an article in answer to Dr. O'Dwyer on the improved method of performing artificial respiration (see *Archives of Pediatrics*, May, 1892), I show nine marked practical features of difference between the apparatus which I have used successfully and the laboratory apparatus with which I saved my first life by forced respiration. I quote from my answer as follows:

"That used in my laboratory,* before I devised my forced respiration apparatus for use upon man, consisted of a large foot bellows, a rubber tube to connect it with a large brass tracheotomy tube supplied with a valve, which had to be turned by hand to let the air pass into the lungs, and turned in the opposite direction to let it pass out.

"With this arrangement, each time the valve was turned, for the inspiration as well as the expiration, the trachea was given a wrench. I have found that it makes a great difference whether you are wrenching the trachea of a dog or a living human being. I overcome this feature of the laboratory apparatus by making my tracheotomy tube and the valve which controlled the air-column in separate parts, connecting them by flexible rubber tubing. This would permit the patient to move about without endangering the trachea. This may be noted as the *first feature differing* from the laboratory apparatus.

"In the laboratory apparatus, the trachea had to be ligated around the tube, as Dr. O'Dwyer states, but *not so* in my apparatus. To prevent this, I screw to the tracheal end of the tube a larger or smaller ring, according to the size of the trachea, which fills up the trachea, preventing an excess of air from passing out by the side of the ring.

"This is the *second novel* feature of difference from laboratory methods.

"Again, I made the connection between the flexible rubber tube and the tracheotomy tube, so that it could be easily and quickly disconnected. This is an important feature, and constitutes the *third feature of difference* between my own and the laboratory methods.

"The valve which controls the air also has some valuable features: 1. With it,

* Subsequently electrocuted at Sing Sing, N.Y.

* Medical Department Niagara University, Buffalo, N.Y.

the air can pass into and out of the lungs at all times, except during the forcible inspiration. *Fourth and fifth* differences from that of the laboratory apparatus. 2. The air from the bellows is constantly passing through the valve during expiration, thus allowing the air to immediately enter the lungs from the air-valve when the piston is pressed down, without traversing the whole length of tube from bellows. With this arrangement, auto-respirations can be assisted instead of interfered with,—a factor of importance in many cases I have met with.

"This marked the *sixth* and seventh differences between my apparatus and that used in the laboratory.

"In the construction of the bellows I used a diaphragm of rubber dam (now a double bellows without perishable rubber), which equalized and produced a steady instead of an interrupted or jerky column of air, such as Prof. H. C. Wood provides in his so-called "cheaper apparatus," although I used even a more simple apparatus previously with common bellows. Here we have the *eighth* difference between my own and the laboratory apparatus.

"If I wish to present still more features of difference, I might include the air-heater, which I also have used upon cases of resuscitation of human beings. The eight features of difference mentioned above will, I trust, put a *quietus* upon the question of similarity between my own and the laboratory apparatus. What I have accomplished has resulted from *careful attention* to the details of *practical import* associated with an operation which holds human life in the balance, not by *slipshod* methods which have in the past relegated this operation to oblivion. If the saving of over thirty human lives—the record of results with which my work must so far be credited—is not an argument in support of my statements, what "under the stars" does or will give credence to human utterance? However, I have overlooked another dissimilarity between the laboratory apparatus and my own,—the face-mask—which brings the operation within the reach of the instructed unprofessional. Of course, the face-mask, everyone will admit who knows *nothing* about it, was used in the laboratories in the days of Galen. Without joking, however, this constitutes the *ninth marked difference* between the laboratory apparatus and my own, and yet Dr. O'Dwyer does what appears to me an injustice, in speaking of the *two as being identical.* I desire to state that, notwithstanding an experience in laboratory vivisection work for eight years prior to my first operation of forced respiration upon man, it was not until this *first* operation that I was enabled to conceive its great value. All my experiments, the gradual unfolding through operations upon *living human beings* of the value of the face-mask, should give weight to my words above those resulting from *experimentation upon dogs;* the conditions are very different. All that experimentation upon *dogs* has revealed as to the value of forced respiration in saving life *I had previously demonstrated upon living human beings;* when I began my work, as stated, it was not even known that it would save a dog's life. Now a few words with reference to the evolution of the face-mask. I had begun the operation of tracheotomy upon one of my patients, when my attention was called to the fact that he was dying, the dilatation of asphyxia taking place. I immediately placed the tube of the apparatus in his mouth, closed the lips about it, and compressed the nostrils; inspiration then being produced, I was pleased to find the purple deoxygenized blood in the tracheotomy incision change to a bright scarlet I had many demonstrations of this character following, which gave me the idea of the face-mask. Having a rubber cup used for cupping purposes, I fitted it to the face and saved several lives with it without tracheotomy, before preparing the one I now use."

(To be Continued.)

Society Proceedings.

PROVINCIAL BOARD OF MEDICINE.

The half-yearly meeting of the College of Physicians and Surgeons of the Province of Quebec was held on Wednesday, the 27th September, 1893, in the rooms of the Medical Faculty of the University of Laval, Quebec.

In the absence of the President, the Hon. J. J. Ross, M.D., who was unwell, Dr. L. J. A. Simard, Vice-President for Quebec, took the chair, at 10 o'clock precisely.

The Governors present were Drs. F. W. Campbell, Vice-President for Montreal; A. G. Belleau and A. T. Brosseau, Secretaries; A. Dagenais, Treasurer; and J. M. Beausoleil, Registrar; A. Vallée, W. A. Verge, C. S. Parke, A. A. Watters, Léonidas Larue, C. E. Lemieux, Côme Rinfret, L. T. E. Rousseau, P. M. Guay, Alfred Morisette, J. M. McKay, R. Craik, J. B. McConnell, the Hon. D. Marcil, J. B. Gibson, P. Cartier, R. Latraverse, H. Cholette, P. J. L. Bissonnette, F. Paré, Thos. Larue, F. J. Austin, E. C. P. Chèvrefils and L. A. Plante.

The minutes of the last meeting were read and adopted, excepting that it was resolved to add the words "not sworn" (*pas assermenté*) opposite the name of Mr. Lucien Miller, graduate, who is there inscribed as having his license; Dr. Beausoleil, the Registrar, having it still in his possession.

Letters from the Hon. J. J. Ross, M.D., and Dr. J. H. L. St. Germain were read, regretting their inability to be present at the meeting, on account of their being too unwell.

As some of the members of the Board had suggested that the examiners for the preliminary examination should meet together some days in advance, to come to an understanding relative to the questions to be put at the examination, a letter from the Rev. Mr. Laflamme was read, asking the advice of this Board on the subject. It was decided that a meeting was unnecessary.

Dr. J. B. McConnell was named a member of the Board, representing the Faculty of Medicine of Bishop's College, in the place of Dr. James Perrigo, who has resigned.

The reports of the Assessors of the Laval University (Quebec and Montreal) were read and adopted.

The reports of the Examiners for the preliminary examination were read and adopted.

Thirty-one candidates presented themselves, and ten were admitted. The following are their names:—Messrs. J. H. L. Pagé, W. S. Picotte, Ashton Kerr, Edgar Cassegrain, Arthur Lucier, D. Romuald Picard, Oswald H. Létourneau, Fred. H. Wainwright, Wm. Kerr Brown and Jos. E. A. Poliquin.

The following Bachelors were admitted to the study of Medicine, after having been sworn on their respective diplomas:—Messrs. Alfred Simard, B.L., C. Eugène Parrot, B.S., Wilfred Lamay, B.S., Achille Comptois, B.A., Henri Larue, B.S., F. H. Pelletier, B.A., Achille Boisvert, B.A., Henri Lafleur, B.S., Joseph Pageau, B.S., Marc Rudeau, B.L, Arthur Poirier, B.A., Elias Groulx, B.L., George Cartier, B.S., F.X. Massicotte, B.A., Calixte Ethier, B.L., Ernest Primeau, B.S., F. X. Duplessis, B.S., Olivier Tourigny, B.S., H. Lennon, B.A., L. J. A. Noiseux, B.S., Elzéar Duguire, B.S., Hormisdas Deschambault, B.L.

The report of the Committee on Credentials was read, recommending that the license be given to the following graduates, who received it, after having been duly sworn on their respective diplomas:—

Laval University, Quebec.—Michel Thomas Blais, Louis Alfred Frechette, F. X. Jules Dorion, Gustave Bacon, Joseph Eugène Mathieu, Albert Alphonse Jobin.

Laval University, Montreal.—Aurèle Nadeau, François Plourde, Jos. George Elzéar Miville-Déchêne, E. R. T. Larue, L. O. Bourmival, J. T. Arthur Gauthier, Isidore Laviolette, Henri Lesage, L. Z. Lajoie, L. A. Lacombe, O. C. Milot, G. E. Landry, F. X. Renaud, G. C. F. Schiller, Jules Jehin-Prume, H. Denis, Victor Geoffrion, Pierre Barrette, J. E. Gervais, R. Dazé, Zénophile Beauchamp, J. P. Gagnon, Eugène Lafontaine.

McGill University.—J. W. A. Seguin, J. W. Lawrence, T. P. Shaw, J. A. Henderson, W. J. Deeks, P. H. Phillemore.

Edinburgh University.—Walter Scott.

On the motion of Dr. Dagenais, seconded by Dr. Guay, it was resolved that Mr. F. X. Lemoine DeMartigny should be allowed to take the oath upon presentation of his diploma of Doctor of Medicine of Laval University at Montreal, which is not ready to-day.

The Committee on Credentials makes this further report:—That Messrs. F. X. Plouffe and J. A. Lapierre, who were lawfully admitted to the study of Medicine in September, 1889, and who have presented a diploma of Doctor of Medicine dated in April, 1892, that is to say, obtained before the fourth session, that they shall only obtain their licenses on proving that they have followed the course of Medicine during their fourth year, and by undergoing a further examination before this Board.

These two gentlemen having obtained from Dr. Hingston a certificate of attendance at the indoor and outdoor clinic of Laval University during their fourth year, it is resolved that they be allowed to undergo the professional examination.

Mr. A. G. Ferguson, of Vancouver, admitted to the study of Medicine in 1884, and graduated in 1887 at Queen's University, makes application for a license.

Proposed by Dr. Dagenais, seconded by Dr. Rousseau, and resolved that this Board does not accord a license to Mr. Ferguson without an examination.

Mr. Eugène Ferron, undergraduate, is also referred to the Committee of Professional Examination named by the President.

The meeting adjourned at 12.15 to 1.30 p.m.

Afternoon Meeting.

The President *pro tem* took the chair at 2 p.m.

The Examination Committee reports that

Messrs. Ferguson, Plouffe and Lapierre have successfully passed the professional examination before the special committee appointed by the Board, and that the license be given to them. Mr. Ferron is refused.

In the absence of Dr. St. Germain, confined to his house by illness, Dr. Bissonnette laid on the table a series of amendments to the projected Medical Bill, but, as a large number of propositions of very great importance are before the chair, he did not press the reading of these amendments at present, but hoped that in the month of May next, Dr. St. Germain would be able himself to explain the advantages offered by these amendments.

Dr. Dagenais gave notice that at the next meeting of the Board he would propose :—

1. That the members of this Board shall receive for each day's attendance the sum of ten dollars and their travelling expenses.

2. That the President be authorized to administer the oath to those who take their license and their degree the day before the meeting, after the session of the Committee on Credentials.

3. That the two Secretaries, the Registrar and the Treasurer receive annually a fee of two hundred and fifty dollars.

4. That Bachelors who have a right to their matriculation without examination have the oath administered to them, either at Montreal or Quebec, at least eight days before the meeting of the Board, by one of the Secretaries, who shall make a report at each meeting of the number and the name of these Bachelors.

Dr. Bissonnette asked the following questions :-

1. Have the Secretaries forwarded to each licensed physician a copy of the Statutes and Rules of the College?

Reply.—No. There only remain twelve or thirteen copies.

2. Have the Secretaries forwarded to each licensed physician the reports of the proceedings of each sitting of the Board, containing also the names of those newly admitted to degrees and licenses, and of midwives?

Reply.—No, because no copies remain of the medical register. For the last year and a half the reports of the meetings have been published in the *Union Médicale*, and Dr. Guay adds that all the members of the Board receive this journal.

3. Has the medical register, giving the names of all physicians licensed and not licensed in the Province of Quebec, been published and distributed among the members of the profession?

Reply.—Dr. Beausoleil, the Registrar, replies that he is about to prepare an alphabetical table of the names of all licensed physicians, and that then the statutes and rules, as well as the proceedings of the meetings, will be regularly distributed.

It was then unanimously resolved that the Board authorizes the Registrar to have printed an extract of the register giving the names of all licensed physicians in the Province.

Dr. Beausoleil read the following report of the Committee on Medical Legislation :—

PROVINCIAL BOARD OF MEDICINE.

COMMITTEE ON MEDICAL LEGISLATION.

Mr. President and Members of the Provincial Board of Medicine.

I have the honor to present to you the report of the Committee on Legislation appointed by you at the half-yearly meeting in May last.

Your Committee sat on the 7th of June and on the 5th of July last.

The labors of your Committee have been directed towards the creation of a Provincial Board of Examination, with the object of obtaining reciprocity of licensing with Ontario, of protecting the profession, and of gaining information.

After considerable discussion, Dr. Rottot, delegate of the Medical Faculty of the University of Laval at Montreal, suggested to the Committee to think over the following proposition, seconded by Dr. Chèvrefils : —

1. To augment the powers of the Assessors of the Medical Faculties of the Province.

2. To increase the number of the Assessors *pro rata* to the number of Committees of Examination of the Medical Faculties, up to a complement of six.

3. To permit the Assessors of the Medical Board to interrogate those candidates whose examination has appeared to them to have been unsatisfactory.

This proposition, submitted to the Universities and to the Faculties of Medicine, has resulted in the following replies :—

UNIVERSITÉ LAVAL,
QUEBEC, 16th June, 1893.

DR. SIMARD, Professor Université Laval :

SIR,—In reply to the enclosed communication of the Committee on Medical Legislation, Monseigneur the Rector desires me to say that Laval University has no objection to the Assessors interrogating the candidates at the examinations of Bachelor of Arts and of Doctor of Medicine.

With respect, I remain, &c., &c.,
J. C. K. LAFLAMME,
Secretary Laval University

Dr. Rottot makes known the position of the Faculty which he represents as follows :—

SCHOOL OF MEDICINE AND SURGERY OF MONTREAL, MEDICAL FACULTY OF LAVAL UNIVERSITY, MONTREAL,

MONTREAL, 1st July, 1893.

DR. BROSSEAU, Secretary to the Provincial Board of Medicine, Quebec :

MR. SECRETARY,—In the event of Dr. Rottot, representative of the Medical Faculty of Laval at Montreal, being unable to be present at the meeting of the 5th July of the Committee on Medical Legislation, and to make a report in the name of the Faculty, I beg to inform you officially that the motion Rottot-Chèvrefils, adopted by the aforesaid Committee, has been submitted to the Laval Faculty of Montreal on the 15th and 20th June, 1893, and has been adopted.

With respect, I beg to remain, &c., &c.,

H. E. DESROSIERS,
Secretary.

E. M. & C. of Montreal, Fac. Med. Univ. Laval.

Dr. R. Craik reported verbally that McGill University refused to give to the Assessors of the Medical Board the power to interrogate the candidates at the examination in Medicine.

Dr. McConnell, representative of Bishop's College, reported that it had been impossible to have a meeting of the Faculty, but that he was under the impression that his University would oppose any increase in the powers of the Assessors.

On the proposition of Dr. Gibson, seconded by Dr. Brosseau, the Committee approved of the proposition Rottot-Chèvrefils, and referred it to the Medical Board at its semi-annual meeting of September.

The votes in favor of this resolution were :—Hon. Dr. Marcil, Drs. Rottot, Brosseau, Chèvrefils, Simard, Gibson and Beausoleil. Against this resolution :—Drs. Craik and McConnell.

It was then proposed by Dr. Brosseau, seconded by Dr. Chèvrefils : That in the event of the motion Rottot-Chèvrefils not being carried, Dr. Simard be requested to forward to the Committee of Legislation his proposition relative to the facilitating of reciprocity of license between this Province and that of Ontario.

This proposition reads as follows :

Whereas, it appears that the Board of Medicine of Ontario would be disposed to accord reciprocity to the diploma of licentiates of the College of Physicians and Surgeons of the Province of Quebec, provided that this diploma shall have been obtained by an examination held by the Board of Physicians and Surgeons of the Province of Quebec.

And whereas, in consequence of the uniform formula of the diploma of the license of the Board of the Province of Quebec, those who have already passed, or who shall pass, an examination before the said Board would not be able to prove *prima facie* their right to such reciprocity.

Be it resolved, that the formula of the license of this Board shall for the future indicate if it has been conferred upon the presentation of a University diploma, or if it has been given after an examination before this Board.

And moreover, be it resolved to ask the Medical Board of Ontario, and of the other Provinces, reciprocity for those physicians of the Province of Quebec who are of the latter class—that is to say, those who have passed their medical examination before this Board.

The whole respectfully submitted.

DR. D. MARCIL, President.
DR. J. M. BEAUSOLEIL, Secretary.

Proposed by Dr. Beausoleil, seconded by Dr. A. Dagenais, and unanimously resolved, that the report of the Committee on Legislation be adopted.

Proposed by Dr. Beausoleil, seconded by Dr. Dagenais, and resolved, that the Secretaries of the Medical Board be authorized to sign an agreement with the authorities of the Universities to put in operation the Rottot Chèvrefils resolution, adopted by this Board, which reads as follows :—

"To permit the Assessors of the Medical Board to interrogate those candidates whose examination shall not appear to them to have been satisfactory."

In case of the motion Rottot-Chèvrefils not being carried, Dr. Beausoleil proposed, seconded by the Hon. Dr. Marcil :—

1. That it is in the interest of the public to assure to the people of this Province a medical service worthy of confidence.

2. That it is the duty of the Council of the profession (Medical Board) to assure itself of the scientific proficiency of the candidates for the diploma of practice (license).

3. That every endeavor to obtain the exercise of this power of control has been frustrated by the opposition of the Medical Faculties.

4. That all efforts towards reconciling the interests of the Universities and those of the public and of the profession have been fruitless (in consequence of the refusal of certain Faculties to conform to the motion Rottot-Chèvrefils).

5. That this Board considers that it is he duty of the Government to take in hand the interest of the people in general, and of the profession in particular.

6. That a new legislation be adopted, so as to give to the corporation of the College of Physicians of this Province the control of the entry of its future members (admissionto practice).

Dr. Beausoleil, Registrar of the College, read,

clause by clause, the notice of motion given by him at the semi-annual meeting of last May to the Board.

Proposed by Dr. Beausoleil, seconded by Dr. Dagenais, and

Resolved (1), That the fee for the certificate of admission to study shall for the future be twenty dollars ($20), in place of ten dollars ($10).

Resolved (2), That the fee for the Provincial license shall be forty dollars ($40), in place of twenty dollars ($20).

Resolved (2a), That the regular fixed meetings of the Board of Governors shall be held the first Wednesday in July and the last Wednesday in September of each year; the meetings in July in the City of Montreal, and those in September in the City of Quebec.

Resolved (3), That the following subjects shall be part of the programme of the examination for admission to the study of Medicine:—Botany, Chemistry, Elementary Physics and Intellectual Philosophy.

Resolved (4), That the medical studies be modified in the following manner:—1. Normal Histology. 2. Descriptive Anatomy. 3. Practical Anatomy. 4. General and Special Physiology. 5. Hygiene. 6. General Pathology. 7. Medical Chemistry, Theoretical and Practical. 8. Internal Pathology. 9. External Pathology. 10. Materia Medica and Therapeutics, Practical Pharmacy. 11. Obstetrics and Pathology of Early Infancy. 12. To have been present at at least twelve confinements at a maternity hospital, and to have followed a course of clinical obstetrics of forty-two lessons, or two courses of twenty-four lessons. 13. Medical Clinics and Surgical Clinics, three courses of eight months, or four courses of six months, in an hospital containing at least fifty beds for each of the subjects. 14. Medical Jurisprudence. 15. Instruction at the Morgue. 16. Mental and Nervous Diseases. 17. Diseases of Children or Pædiatrics. 18. Gynæcology. 19. Histology, Pathology and Bacteriology. 20. Operative Medicine and Minor Surgery. 21. Medical History and Medical Ethics. 22. Ophthalmology and Otology. 23. Rhinology and Laryngology.

That the professional examination made by the Faculties and the Board shall be conformed to the above programme.

Resolved (5), That in place of two Assessors to the Faculties of Medicine, the Board shall name not less than two and not more than six Assessors for each Faculty.

That in future the Board shall only supply Assessors for the annual examination of each Faculty.

That in case of any Faculty wishing to have the services of the Assessors for a supplementary examination, notice must be given thirty days beforehand to the Secretary of the section to which it belongs, and remit the amount of the fees to the said Assessors.

The Assessors shall have the right to be reimbursed for their travelling expenses, and, moreover, a fee of ten dollars ($10) for each day that they are detained by their duties.

Resolved (6), That it shall be part of the duty of the Assessors to be present at the examination of each student. Before proceeding with an examination, the Assessor shall enter in a book *ad hoc* the names and surnames of each candidate, the date of his certificate of admission to study, the title of each subject for which he has a certificate of attendance, and he will note in writing his observations in such a manner as to show cause for his report. The notes of the Assessors shall be the property of the Medical Board.

Resolved (7), That the Assessor shall only hear the examination of such candidates as shall have fulfilled the following conditions: For the primary examination, he must have a certificate of admission to study for the space of at least two University sessions in a Faculty of Medicine recognized in this Province, conformably to the regulations of the College of Physicians and Surgeons of the Province of Quebec.

The primary examination shall include Normal Histology, Descriptive and Practical Anatomy, Bacteriology, General and Special Physiology, Hygiene, General Patho gy, Medical Chemistry, Theoretical and Practical, and Practical Pharmacy.

Any candidate who shall have failed in Anatomy or Physiology shall have to undergo the entire examination afresh.

Resolved (8), That the final examination shall include Internal and External Pathology, Materia Medica and Therapeutics, Obstetrics and Pathology of Early Infancy, Medical Jurisprudence and Toxicology.

No candidate shall be admitted to the final examination without having passed his primary examination to the satisfaction of the Assessors of the Provincial Medical Board.

Resolved (9), That the following subjects of special instruction shall be part of the examination questions in the practical examination:—Mental and Nervous Diseases, the Diseases of Children, Pathological Histology, Gynæcology, Operative Medicine and Minor Surgery, Ophthalmology, Rhinology, Otology and Laryngology.

No candidate shall have the right to pass this final examination before the Assessors without he shall have studied in a University during at least four sessions, starting from the date of his certificate of admission to study: so as to have in all points conformed himself to the statutes, rules and regulations of the College of Physicians and Surgeons of the Province of Quebec.

Resolved (10), That in giving notice of the date of their annual examination, the Faculties shall also inform the Secretary of the section to which they belong, of the names of the candidates for examination, both primary and final.

Resolved (11), That the Assessors shall only be required to go to the Faculties when these latter shall be ready to pass consecutively all the students who shall have entirely conformed to the requirements of the statutes and regulations of the College of Physicians and Surgeons of the Province of Quebec.

Proposed by Dr. Beausoleil, seconded by Dr. M. Guay, and resolved, that Dr. J. A. Duchesneau, of Terrebonne, be named a member of this Board, to replace the late Dr. W. Prevost.

Proposed by Dr. Beausoleil, seconded by Dr. Dagenais, that the resolution adopted by this Board in May, 1892, concerning admission to the study and to the practice of medicine, enters this day fully into force, without consideration for the permits to study obtained before 1892, and that the Secretaries of the Medical Board inform all the medical corporations of the Dominion of this rule.

That the present resolution shall only be applicable to those Provincial Boards of Medicine with whom the Board of this Province has not established reciprocity of license.

Unanimously adopted.

Proposed by Dr. Brosseau, seconded by Dr. Beausoleil, and resolved, that the following names be added to those of the former Assessors :—Drs. J. Gauthier, H. Cholette, A. R. Marsolais, F. Paré, J. Girouard, P. J. L. Bissonnette, W. Grignon, J. A. Duchesneau, J. M. Beausoleil, E. P. Lachapelle, Côme Rinfret. C. S. Parke, W. A. Verge, P. M. Guay, Thos. Larue.

On the motion of Dr. Guay, seconded by Dr. Brosseau, a vote was passed thanking Laval University for the gratuitous use of their rooms.

The meeting adjourned at 4.15 p.m.

—Translation of the Official Report in l'Union Médicale.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, April 28th, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Rupture of the Pulmonary Artery—Dr. WYATT JOHNSTON exhibited the specimen, which, he said, illustrated a very frequent mode of sudden death. The patient, an elderly man, was overtaken suddenly on the street by a hæmorrhage, and when seen by a physician was practically in a dying condition. He was taken to the General Hospital, where he died. Owing to certain features of the case, especially owing to the body not being identified, an autopsy was ordered by the coroner, to make sure of the cause of death.

A quantity of blood was found about the mouth and fauces, and a large clot lay at the back of the pharynx. Blood was found in considerable quantities throughout the bronchial tubes, and also in the finer bronchi. In the right lung there were spots of hæmorrhage into the lung, small pulmonary apoplexies, apparently due to the rupture of little blood vessels, caused by extraordinary respiratory efforts. The cause of death was easily found. At the apex of the left lung, which was adherent to the pleura, was found a cavity as large as a goose-egg. Springing from the wall of the cavity could be seen a small aneurysmal sac, at one point of which was seen a rupture which was partly closed by a blood clot. An interesting feature was the state of the lining membrane of the cavity, which was covered with a grayish, ragged material, which upon removal left a smooth membrane behind, evidently a distinctly pyogenic membrane. The fibrinous flocculi on the surface were evidently the results of previous hæmorrhages, for as the blood exuded from the smaller vessels into this cavity in considerable quantities on several occasions, the walls became covered with fibrin.

This form of lesion is the commonest cause of death from pulmonary hæmorrhage, the other principal causes of hæmoptysis being rupture of the wall of an artery without the previous formation of an aneurism, or, less frequently, hæmorrhage from the granulating membrane lining the cavity. This latter, however, is more likely to give rise to small, slight hæmorrhages than to serious complications.

This case further shows the advantage of doing an autopsy on persons who die under mysterious circumstances. In this case it was thought that there might have been some foul play, some chest injury, to account for the hæmorrhage; but when the result of the autopsy was made known, the coroner decided that there was no necessity for an inquest.

A Case of Addison's Disease.—Dr. A. D. BLACKADER showed a patient suffering from what he believed to be Addison's disease, a disease characterized by two or three very prominent features: First, a discoloration of the skin, which in this patient is fairly well marked. More than that, it has the minute spots of discoloration which have been pointed out by Greenhow as being tolerably characteristic. He has also, on the front of the chest, pretty well marked patches of leukoderma. The symptoms, too, are fairly characteristic. The patient first entered the hospital complaining of asthenia, breathlessness, palpitation on slight exertion, inability to walk or perform work of any severe

kind. At present he is scarcely able to walk across the hospital ward without getting out of breath. There is also associated with these symptoms a tolerably moderate amount of anæmia, his blood now containing only 2,500,000 red capsules to the cubic millimetre.

One other symptom which has been put down as characteristic this man has not yet had, viz., symptoms of gastric irritation; there has been no vomiting, no diarrhœa. Still, considering the short time the patient has been complaining of any symptoms at all, that is only from about the middle of February, we are scarcely warranted in expecting the disease to have reached its full development.

With reference to the treatment, Dr. Blackader proposed to treat the case by feeding with finely minced supra-renal capsules. He was led to do so by the similarity which can be traced between this disease and myxœdema, which similiarity is especially touched on by Dr. Osler. In both we have distinct histological changes met with in the tissues, being in the one an increase in the mucin, in the other an increase in the pigment of the cells; and they are both accompanied by marked nervous phenomena. In myxœdema we have mental dullness, in Addison's disease profound asthenia. We may also trace the likeness still further, when we come to consider the history of the respective glands which give rise to them. In myxœdema, before the connection was made out between it and the removal of the thyroid, it was stated that that gland was of no account in the economy, and that it could be removed without giving rise to any serious symptoms. Now, the same thing has been alleged of the supra-renals, and the question is whether they have any use in the economy, and whether their administration by the mouth will prove of any service in cases where the glands themselves are diseased.

Dr. MIGNAULT referred to a case of this kind which had occurred many years ago in the General Hospital under the care of Dr. Osler. The patient, a young man, was brought there with a discoloration of this kind; everyone was much surprised at the condition, and many theories were advanced to account for it. Dr. Osler finally diagnosed the case as Addison's disease. The young man only lived three or four weeks. Both supra-renals were found diseased, thus confirming the diagnosis.

Dr. G. P. GIRDWOOD could just recollect having seen the case alluded to, and as far as he could remember the color was very much the same as in this case.

Dr. ADAMI briefly noted a few cases of the disease which he had the opportunity of observing. One of these was at the Addenbrooke's Hospital at Cambridge, England, a young woman, presenting all the cardinal symptoms of the disease, who, nevertheless, to the surprise of all, recovered under the arsenic treatment.

He called attention to an autopsy held by him at the General Hospital the previous week, in which one supra-renal had become a caseous tubercular mass, the other being unaffected, and neither the history of the patient nor the post-mortem appearances yielded the slightest indication of Addison's disease. He referred to this case inasmuch as recently there had been recorded instances, contrary to the general rule, of Addison's disease associated with cancer, etc., of one supra-renal. He agreed with Dr. Blackader that the treatment by supra-renal juice was well worthy of being tried; the eminent success of Dr. Murray's plan of treatment of myxœdema by thyroid extract rendering it advisable that other extracts should be tested in other more or less parallel diseases, though he deprecated the excesses that were already being recorded in the employment of body juices.

Dr. FINLEY knew of two cases of Addison's disease which had occurred at the General Hospital within a few weeks of each other. The first case was one in which the pigmentation was very marked, as the patient came in late in the disease. There was excessive nervous prostration, vomiting and fever, the patient dying in a few days.

The other case was one in which pigmentation was absent, and therefore it was not possible to make a diagnosis during life. Yet the train of symptoms was markedly similar in both cases—vomiting, nervous prostration, delirium and death.

He recollected a case in which he had performed an autopsy for the late Dr. Howard. There was an injury involving the right supra-renal, but without any of the symptoms of Addison's disease.

Dr. WYATT JOHNSTON remembered the two cases referred to by Dr. Finley, and which were called Addison's disease in the hospital. One of the patients showed a considerable amount of bronzing of the skin; they both suffered from diarrhœa, vomiting, nervous prostration, and died, one of them rather suddenly. He had had some doubts about the correctness of the diagnosis. However, they have been looked upon as Addison's disease for some time. As to the condition of the supra-renals, in the one case there was slight tuberculosis, slight caseation; in the other there was none; at all events, they were obscure cases, certainly not typical ones. He had examined the semi-lunar ganglia, with negative results, as far as finding any special fibrosis or atrophy of the nerves was concerned.

Dr. KIRKPATRICK referred to a man who came to the hospital complaining of general asthenia, and after some time, developing illusions, he was sent to the Verdun Hospital for the Insane. The asthenia increased until the man died, but shortly before death he developed marked bronzing of the face. At the autopsy

the only lesion that could be detected was marked caseation of one supra-renal capsule.

Dr. McConnell said that the treatment which Dr. Blackader is about to try seems to be in keeping with the principle which is supposed to exist, viz., that the organs of the body seem to be amenable to their own secretions when taken as remedies. The idea originated in Brown-Séquard's elixir of life. A great deal of fun was made of Brown-Séquard at the time, but his remedy does not appear to be discarded even yet. Some short time ago Dr. Hammond, of New York, announced a new remedy for heart troubles, which he calls "cardine," and which he thinks will prove a strong tonic for weak and fatty degenerated hearts. All have read of the effects of the juice of the thyroid gland in myxœdema, which is simply carrying out the same idea as that now about to be tried by Dr. Blackader. We all will look forward anxiously for the results of this application.

Dr. J. E. Molson asked if slow pulse is not a sign frequently found in Addison's disease.

Dr. Blackader, in answer to Dr. Molson, said that in all the literature he had read on this subject he had not noticed any such symptoms dwelt upon. With reference to the cases Dr. Adami alludes to of one gland only being affected, he understood that both glands are invariably affected in Addison's disease. However, it is most likely one gland becomes involved before the other, so in the post-mortem room one supra-renal may be found to have undergone destruction, while its fellow is only in the early stage. Both Addison and Wilkes and others in Guy's Hospital considered it necessary for both glands to be affected. Cases where only one gland is involved do not seem to stand very severe criticism, but recent investigations seem to show that there may be symptoms developed when only one gland is affected. Of course if one gland is perfect, it should be able to do the work of both, and there should consequently be no Addison's disease. If, however, this is the case, if with a perfect supra-renal capsule in the body we have still Addison's disease, my remedy is not likely to prove of much account, as that would destroy the theory that it is the want of this tissue that gives rise to these symptoms.

Sclerosis of the Brain.—Dr. Johnston exhibited this specimen, and gave the following report of the autopsy: Head only examined; nothing unusual about the scalp or external surface of skull cap; veins moderately full of blood; skull cap of ordinary thickness; tables not denser than normal; veins of diploe moderately full; in inner surface no irregularities or abnormal appearances; dura only slightly adherent to the calvarium, which is removed with ease; outer surface of dura normal; longitudinal sinus contains soft, dark, non-adherent clot in its posterior half. On reflecting dura, the pia over both hemispheres is thickened, and has an opaque, milky appearance. Beneath the pia is excess of clear fluid, somewhat distending the membrane in the regions corresponding to the sulci. Moderate adhesion of dura to the pia along the convexity. Pacchionian bodies not unusually large; brain removed with ease; slight excess of cerebro-spinal fluid escapes during removal; dura at the base normal; sinuses normal. In the petrous bone on both sides the upper surface presents several small areas 0.1 to 0.2 inches in diameter, where a small cavity exists, only separated from the cerebral cavity by a thin, transparent, fragile membrane, readily broken with the point of an ordinary dissecting forceps. On examining the brain the contour appears to be normal; the vessels of the base are normal in size and arrangement, and are free from obstruction. There appears to be some thickening in the pia arachnoid extending out into the sylvian fissure. No signs of hæmorrhage and no appearance at all suggesting the presence of old hæmatin pigment. Over the convexity the pia is greatly thickened and detached from the convolutions with much difficulty; when removed, the convolutions appear to be normal in size and outline; no cysts. There is no trace of localized disease in the convolutions; in regard to this point the third left frontal and motor areas of the cortex were examined with special care and with perfectly negative results.

On opening the lateral ventricles they are found to be of normal size. The choroid plexus is somewhat denser than normal, and is slightly adherent to the surface of the ventricle at the head of the right corpus striatum. Adhesions between the floor and the roof of the ventricle also exist in the region of the corpora quadrigemina, and the fornix is reflected with some difficulty. The ependyma of the lateral ventricles is smooth, but on passing the finger over it the ganglia at the base feel denser than normal. The fourth ventricle appears widened, the ependyma covering its surface is thickened and covered with minute translucent grey granulations. The cerebellum is found to be normal.

On dissecting the ganglia at the base of the head of the right corpus striatum in the anterior one inch is smooth and of a dull greyish-yellow color in patches. This region cuts with greatly increased resistance, and leaves a smooth, pale, firmly resisting surface. On incising the substance of the hemispheres, the white substance is found to be moderately firm and its vessels contain but little blood. The grey matter of the cortex throughout the whole of both hemispheres is greatly increased in consistency, and cuts with great resistance; in cutting it, a slight creaking of the knife is constantly noticed. On the cut surface the grey matter forms

everywhere a raised ridge, projecting above the level of the adjacent white matter. To the touch the grey matter feels firm and dense, the consistency being about three times that of normal grey matter. The color of the grey matter is somewhat deeper and redder than normal and the thickness of the cortex is everywhere considerably reduced, being on the average 1 mm. and the maximum thickness being only 2 mm. This condition appears to be diffused uniformly throughout all parts of the cortex, and no focal lesions can be detected.

Microscopical examination. — Throughout cortex, ganglion cells reduced in size and fewer in number; stroma dense, and contains more nuclei than normal; no infiltration about smaller arteries; section of cervical cord in upper cervical region shows no sclerosis.

Remarks.—It is difficult to say to what extent syphilis is to be held responsible for the state of the cerebral cortex in this case. A diffuse cerebral sclerosis with atrophy of the nerve elements proper is thought by some to be always due to syphilis. Others only recognize syphilis when marked endarteritis is present. The absence of arteritis in any degree sufficient to explain the change seems to lead to the inference that while the syphilitic poison possibly was the cause of the lesion in the right corpus striatum, its irritative powers had probably passed away at the time of death. The lesions in the brain do not appear to be definitely syphilitic, though the absence of syphilis can hardly be held proved where no examination of the other organs was made.

Dr. PERRIGO gave the clinical history. In November he was called in to see the patient owing to the result of his falling down the stairs. At that time the appearance of his face was so peculiar that it was thought he had been drinking, but afterwards this was found to be a mistake, he was an abstemious man, and had been so for years; but in the course of the enquiries, a history of syphilis occurring some 50 or 60 years ago was obtained. His condition then and afterwards showed something as follows: In walking, while he could perfectly co-ordinate, he would suddenly have to sit down, as if struck on the head, owing to loss of power in his legs; it was this that caused him to fall down stairs. He was ordered the iodides, and that treatment was followed by a gradual improvement. Then he developed epileptiform attacks and some loss of memory and defects in the power of speech. This last was not of an aphasic nature, nor yet one of articulation; he seemed to stop in the middle of a sentence or middle of a word and go on to something else, all the time being unconscious of this defect.

On being sent to the hospital he appeared to improve, his speech became better, memory better, epileptic attacks ceased, the attacks of sudden sitting down became less frequent, and he was discharged practically a well man. In regard to the iodide treatment, at one time he was taking as much as 320 grains during the 24 hours.

The patient then went on a trip to Baltimore, and while there he grew worse. His defect of speech returned, patellar reflexes were gone, memory was lost, epileptic attacks returned, and he appeared to lose at times control of his muscles. In going to bed, for instance, in sitting on the edge of the bed, his legs would go through a series of irregular motions. He never, however, had any difficulty in feeling the ground. He then became maniacal, and finally died.

Dr. LAFLEUR asked if the epileptic attacks were those of true epilepsy or of a Jacksonian character. The reason for asking was because he had seen a precisely similar case, in which the same diagnosis was made—cerebral syphilis with meningitis, right-sided paraplegia beginning in the foot and gradually travelling up the leg. The patient was put on anti-syphilitic treatment, without much result. At the autopsy there was no evidence of syphilis in the brain or viscera, in fact, no obvious lesion of the brain. But on more careful examination, just such a condition as Dr. Johnston has described was found—diffused sclerosis, narrowing of the cortex. There was no lesion of the basal ganglia. There is a close similarity between the cases, both from the clinical history and the autopsy.

Dr. ARMSTRONG related the condition of the patient while in hospital. His symptoms were mixed ones. He was maniacal, and required a man to keep him in bed. His symptoms were largely irritative; noise would irritate him; lifting an arm would cause general spasms of the body. The right side of the body was distinctly weaker than the left; the grasp of his right hand was nil, while that of his left was fair. In addition to these he was unconscious for two or three days, no questions could be asked at all, and when consciousness and speech returned he was distinctly aphasic. Not being able to get any information from himself, the diagnosis had to be made from the history and remarks of his friends. A diagnosis of cerebral syphilis had been made in London, and on the strength of this he was put upon the iodides and mercurial inunctions. Improvement took place, the power returned to his right side, his memory returned, speech returned, and general condition was one of apparently very considerable improvement, supposed to be in consequence of the anti-syphilitic treatment.

Cirrhosis of the Liver with Jaundice.—Dr. WYATT JOHNSTON exhibited the specimens from a case under the care of Dr. Perrigo and read the history of the autopsy as follows:

Autopsy 28 hours after death.—Body of a large elderly woman; abdomen distended. Body intensely jaundiced over the entire surface of deep bronze tint; conjunctivæ deep yellow. Moderate rigor mortis and lividity. Subcutaneous fat in fair amount of deep bronze-yellow color; in peritoneum, about three quarts of clear, bile-stained fluid; peritoneum smooth; omental fat abundant; colon and small intestines considerably distended; liver does not extend beyond costal border. Spleen very large, over 300 gms.; on section dark and abundant; consistency not increased. Kidneys both appear to be nearly double normal size, are soft and deeply jaundiced. The cortex appears swollen; supra-renals normal, pelvic viscera appear normal. Stomach contains about a tumblerful of brownish-black fluid. Mucosa reddened and shows signs of ecchymosis; mucosa soft, not thickened. Duodenum contains dark, slaty, greyish fluid. Bile papilla normal in appearance and no signs of catarrh in its neighborhood. On slight pressure on the bile duct a clear, almost colorless greyish mucous fluid readily flows out of the papilla Bile ducts rather large, walls thin; their mucosa appears normal; no increase of connective tissue about the ducts; glands in portal fissure not increased. Gall-bladder contains a tablespoonful of pale greyish, thin fluid, not in the least bile-stained. Hepatic artery normal; portal vein rather small in calibre, but appears normal. Liver weighs 1,900 gms., is of a deep yellow-brown color, mottled with small pale yellow spots, evidently fatty. The surface is uneven and has a fairly well marked hob-nail appearance, the projecting portions of tissue being separated by fibrous strands running in all directions between the lobules. On section the organ cuts with but slightly increased resistance and to the touch does not feel very dense; the surface yields a greyish pulp on scraping; pancreas normal. Intestine contains greyish fæces; near the ileo cæcal valve the mucosa is normal. No enlargement of retro-peritoneal or retro-thoracic glands; lungs crepitant. Heart not opened. Brain not examined.

Microscopic examination of liver shows intense jaundice of the hepatic cells in places, with marked fatty infiltration irregularly distributed. Increase of fibrous tissue, which penetrates between and into the acini. No changes in connection with the bile ducts; no proliferation of epithelium or connective tissue in connection with the smaller ducts.

Remarks.—The rarity of icterus as a complication of cirrhosis of the liver makes it worth while to study carefully every case of this kind met with. In the present instance no changes were discovered at the autopsy or by microscopic examination to show that the jaundice was obstructive or had anything to do with the anatomical changes in the bile passages, and is therefore not the biliary cirrhosis of French writers. According to Fagge, icterus occurs in about 10 per cent. of all cases of cirrhosis of the liver, and is almost always a bad omen.

Dr. PERRIGO said that the patient had been under his observation for the last 14 or 15 years. She was a lady who was a good illustration of the difficulty of obtaining a reliable history in family practice. It was only the day after the autopsy that he succeeded in eliciting a true account of her private habit of dram-drinking. The case shows well to what an extent tippling can be carried on and yet kept secret from both husband and family. The patient was of a remarkably despondent temperament, always looking at the blackest side of every question. She was the subject of chronic rheumatism as well as chronic bronchitis, the latter, however, improving during the last year or two. About nine weeks ago, shortly after having a cataract removed from her right eye, she developed jaundice. Previous to that, she had morning vomiting for six or seven days. The jaundice continued for six or seven weeks, but finally it disappeared under treatment, and remained away for three or four weeks. During this interval, however, she did not pick up her strength as well as might have been expected. Suddenly the jaundice reappeared and became very intense, and just as suddenly, a couple of weeks before death, ascites appeared. The latter rapidly filled up the peritoneal cavity, and impeded respiration so much that it was thought advisable to tap her, which was done a few days before death, and several ounces of fluid drawn off. This, however, was not followed by much improvement, as she finally became comatose, and died.

From her facial expression he had suspected tippling, but always received such positive assurances to the contrary that he was obliged to put that possibility aside. During the last five or six months she had a peculiar drawn expression that made him suspect malignant disease.

Dr. BLACKADER endorsed Dr. Perrigo's remark of how frequent the habit of tippling exists in ladies in whom one can find no reasonable signs of it, ladies who had been secret tipplers for years, and yet in whom he was unable to detect the slightest symptoms of it; the tongue was clean; no excitement in conversation was ever evinced, no flushing of the face, and, in fact, nothing which might point to the real cause of their trouble, namely, alcoholism.

The PRESIDENT suggested an examination of the urine for alcohol in such cases, as a means of arriving at the diagnosis.

Appendicitis Occurring in a Patient with Sacro-Iliac Disease.—Dr. ARMSTRONG related the following case: A young girl, 14 years of age, came to the hospital with a letter saying

that nine months before she fell downstairs. Nothing was thought of the injury at the time, until about three months afterwards she developed a tumor in the right iliac fossa, accompanied by a temperature running about 103°. This condition improved, the temperature became normal, she was considered convalescent, but the right thigh became flexed and has remained so.

As she appeared in the hospital clinic, as to diagnosis, two very good arguments could be made out: one man could argue very strongly in favor of sacro-iliac disease; another man could produce just as convincing evidence in favor of appendicitis. In favor of the first we had the history of an injury, tubercular family history, flexion of the thigh, lateral curvature of the spine, that peculiar hitching up of the right side of the pelvis, which on looking at it from behind makes the perfect picture of sacro iliac disease. In favor of the second we had the tumor, the high temperature, the pain, nausea, vomiting, etc. To settle the matter he decided on a exploratory incision, and on doing so very readily came down upon the appendix lying in a little pocket of pus. At this point it seemed quite clear that the case was one of appendicitis. However, after the appendix was removed and everything made nice and clean, he noticed that the right iliac fossa seemed to come forward more than usual, and on closer inspection decided there was evidence of inflammatory products within the sheath of the psoas muscle. On making another incision, then, this muscle was found throughout nearly the whole of its extent infiltrated with the ordinary cheesy material, commencing near the crus of the diaphragm and extending down to Poupart's ligament, where, no doubt, if left long enough, it would ultimately have pointed. Over the sheath of the psoas, and attached to it, the appendix was lying; at one spot there looked as if some necrosis had taken place, but there was no actual communication between the abscess in the appendix and that in the psoas.

So that, as may be seen, the evidence in favor of both conditions was well founded, the truth being that here we had a case of sacro-iliac disease, in the course of which an appendicitis was developed. The patient made a good recovery after the operation; her temperature is normal, and she appears to be doing nicely in every respect.

Dr. ADAMI regretted that his investigation had not been as thorough as he would have wished. Examining some of the cheesy substance, however, he succeeded in finding some bacilli. In the appendix he found some chronic thickening, the outer wall being especially thickened and congested. On making the bacteriological examination, he found, in addition to inflammatory products, a large number of diplococci, micrococci and other pyogenic organisms; so that bacteriologically he came to exactly the same conclusion as did Dr. Armstrong clinically, viz., that in the appendix there was a simple inflammation, as shown by the presence of the ordinary pyogenic organisms, while in the cheesy matter we had tubercle, as shown by the presence of the bacilli.

Poisoning by Paris Green.—Dr. WYATT JOHNSTON, exhibiting the specimens, said that lately this usually quiet community seems to have taken to poisoning itself with Paris green, as within the past month four or five cases of this nature have come before the public. On Tuesday last, two inquests were held on cases of this nature by the coroner. In one case a large dose was taken about one week before death; the duration of life after the inception of the poison was due to the treatment which was inaugurated very soon afterwards, the pump and emetics being employed with a fair degree of success. In the second case a smaller dose was taken, but owing to the man not coming under treatment for some considerable time afterwards, he died much sooner than the first one.

The first specimen is from the case in which a relatively small amount of poison was taken, and in which little after-treatment was employed There is intense engorgement of the vessels and ecchymosis of the stomach walls. As a rule, in arsenical poisoning the changes in the stomach wall are not nearly so profound as one might expect to meet with according to the descriptions given in the text-books. In this case, however, there is an extreme degree of ecchymosis of the mucosa, hæmorrhages into the deep mucosa. The duodenum also shows intense congestion, which evidently has gone as far as complete stasis. More or less hæmorrhage has also occurred in places throughout the intestinal tube, and well down in the jejunum, particles of Paris green were found.

The other specimen is one in which the dose of the poison was larger, but where the contents of the stomach had been speedily evacuated, death occurring one week afterwards. There is some congestion, although the reddening in the specimen is more pronounced than at the post-mortem, owing to the action of the fluid in which the specimen was preserved. There is no ulceration here, no necrosis, simply a congestion of the mucosa. Congestion in this case, however, is not a symptom diagnostic of poisoning. The man just before taking the poison had been on a rather prolonged spree, and was besides an old drunkard, and under these circumstances some congestion of the mucosa might have been expected, independent of the poisoning.

An interesting feature in connection with

the first case is that in the brain a region of softening was noticed in each hemisphere, almost symmetrical, and situated in the region of the internal capsule. It is very unusual to find lesions of this kind bilateral, and still more so to find them situated in almost the same region on each side. In this case they go to show the existence of an old standing brain disease. This is a very important discovery from a medico-legal point of view. In the eyes of the law, willful suicide is a crime, but suicide while insane does not constitute a crime. This has important bearing socially, and also has certain religious relations which makes it very important to determine, if possible, whether suicide occurs in an insane person or not. In this case an autopsy was ordered for the special purpose of determining whether insanity could be established or not, and there was no doubt that a man with this condition of brain would be certainly one that would be extremely liable to suffer from mental weakness. We know that where there is a tendency to softening of the brain, it is customary for patients to show more or less an unsound condition of mind, and in this case the history of the man's life during the last few years seemed to point to some cerebral trouble.

Dr. W. F. HAMILTON related the clinical history. The first case which came to the hospital was that in which a small quantity of the poison was used, half an ounce being the amount stated to have been taken. The man said that he had taken the poison at about 3 p.m., he walked home about 5 p.m., and was first noticed by his wife and daughter to be ill. To their enquiries as to the cause of his illness he admitted having taken poison, and a doctor was at once called, who administered emetics and antidotes, and succeeded in having ejected some Paris green and a considerable quantity of blood. At about 7 p.m. he, Dr. Hamilton, was called in, when he found the patient in a condition of collapse, his pulse being very weak, etc. Thirty grains of zinc sulph. with large quantities of warm water were given, and then washed out the stomach with the stomach tube. At about half-past nine he was sufficiently revived to be conveyed to the hospital in the ambulance. On his arrival there, another very efficacious emetic was administered, namely, a teaspoonful of mustard with a large quantity of warm water, which was followed by copious emesis, in which more Paris green was noticed. At 12 p.m. he appeared to be a little easier; at 7 a.m. he complained of intense pain in the abdomen; his pulse was 120, his respiration 30. Bismuth sublimate gr. xxx. with ½ gr. opium, as well as hot applications to the abdomen, were given. Little or no relief was experienced from this, and he died about 8 a.m., judging from the general symptoms, of cardiac failure.

The second case was another alcoholic. On the morning of the 20th he took three ounces of Paris green. Immediately upon taking it he started for the hospital, and rushing into the office told what he had done. He was already being purged from its effects. About half an ounce of dialyzed iron was given to him immediately, as well as some zinc sulphate, until he vomited freely. He was then transferred to the ward, and doses of zinc sulph. 30 grains were repeated until in all about 180 grains had been taken; no dose was administered until the previous one had produced free vomiting. At the end of each act of emesis he ejected large quantities of an intensely green substance. In addition to the emetics we administered both dialyzed and oxide of iron. At 3 o'clock that afternoon he passed by the bowel some green substance which was considered to be Paris green. On the 21st he seemed considerably better. On the 22nd the temperature went up to 100°, the heart became weaker, and he became very restless. Through the latter part of his life he was constantly retching. Later he developed an intense congestion of the fauces, which interfered with swallowing. He died at 10 a.m. on the 25th, or about five days after his admission.

Report of the Committee appointed to draw up Rules for the Prevention of the Spread of Tuberculosis.—Dr. ADAMI read the report.

Dr. A. D. BLACKADER moved that the report be adopted and printed for circulation.

Dr. HINGSTON thought that the practical suggestions in the middle of the paper were admirable, but there is at the very outset laid down a principle which may not be universally adopted, and which, for the public, is certainly not necessary. It is that in every case of turberculosis the tubercle must have been obtained from some pre-existing case where tubercle was present, and in that way alone. This question is a very large one, and as yet a very debatable one, and a great deal may and has been said to modify that view. What, for instance, becomes of those experiments of Cruveillher, with which you are all no doubt familiar? In the healthy rabbit taken from the field he induced tuberculosis, and caused its disappearance at pleasure. He caught them, confined them in a dark, damp place, and tubercles were developed. This he proved by killing several of them one after another, and finding them in different stages of phthisis. Others, again, after they had shown symptoms of the disease, he liberated, and after they had been at liberty for some time he recaptured them, and examination showed that one after another the tubercles were being eliminated. Now, if tubercle is always due to the existence of tubercle bacilli in others, where did the

healthy rabbits get the bacilli? Or were the bacilli responsible for the mischief in the imprisoned rabbits? That is impossible to say, as in the days of Cruveillher the bacillus was not recognized as the cause of tubercle, and even at the present day it is not universally recognized as the cause, while some think it the result.

In joint affections, and of these he spoke with more confidence, we commonly find the healthy child of healthy parents afflicted. On enquiring as to the previous health of the patient, we frequently get the answer: "Yes, the healthiest of my children." Then there is a history of an injury some time previously; the child, in the act of running or climbing, fell and injured the knee, the hip, or the sacro-iliac synchondrosis perhaps, as the case may be. An inflammation follows in the injured joint, and this inflammation is said to be due to the bacillus, rather than to the clearly recognized fall or injury! Where does this healthy child get the bacilli from? It is true that in the course of time tubercles may develop; but have we the right to say that they do so as the result of the child being brought in contact with the tubercular disease rather than as a result of perverted nutrition? From time immemorial, inflammatory affections of this kind were treated, and generally without benefit, as strumous; it is only since they came to be recognized as inflammatory and the result of traumatism that treatment has become successful. This is one of America's great contributions to surgery.

Moreover, is it as yet quite settled whether the bacilli develop themselves in the course of the disease, or whether they already exist in the system, and manifest themselves only in the injured parts? In joint affections it is certainly not generally admitted that the bacilli are the cause. Cases sometimes occur where the origin of the disease is supposed to be due to some depression of the vital energies of the part, consequent on over-work or injury, inducing a condition where we should look rather for the spores of inflammation than for the bacilli of tubercle. Even now the latter are by some supposed to contain the former.

He fully endorsed all the other points of the instructions to the public: those relating to ventilation, cleanliness, etc., but thought we should stop there, and not say needlessly that which we will often find difficult to substantiate clinically, and which is unnecessary in a set of practical instructions intended for the public.

Dr. ADAMI, in reply to Dr. Hingston, said that this subject is an enormous one, and one that at this late hour of the evening it will be impossible to go into in detail. While he could not now enter into all the evidence showing that tubercle is always obtained, directly or indirectly, from pre-existing tubercle, this, however, he would say, that in every case of typical tuberculosis, if one takes a piece of the diseased tissue, be it lung or joint, and inoculate it into a guinea-pig, he will have set up a typical tubercular inflammation in which bacilli shall be found. In regard to the experiments of Cruveillher, they are on a par with those kindred investigations where it was shown, or supposed to be shown, that tubercles could be produced by the injection of particles of dust, or inoculating with bits of paper, string, etc., and of all these only the one thing need be said, viz., that they were made before the discovery of the bacillus, before the bacteriological method had come into use in such investigations, and as such they are imperfect and, he thought, must go by the board. In fact, it is highly probable that the inflammation which these men set up was not true tubercular inflammation at all, and therein lay their mistake.

In laying down the principle alluded to we are acting in accordance with the views held by the leading minds of France, of Germany, of England, and he did not think there was in England to-day a single man of scientific note who disbelieves in the bacillary origin of tuberculosis, and further still, we are acting in accordance with the views held by the majority of this Society.

As a reason why every case of tuberculosis must be derived from some previous case of the disease, he might say that the more one examines the habits of life of the tubercle bacillus, the more certain one becomes that they will not grow at a temperature but three or four degrees below the blood heat, even if they be cultivated upon specially prepared broth. Now, the temperature of an ordinary room is always considerably below that point, and consequently bacilli could not propagate or manage to survive beyond a certain time in such a medium, and so we may infer that wherever a case is found it must have originated from a preceding case. In fact, Dr. McEachran pointed out that the disease was not confined to man, but that it existed and was prevalent amongst animals. It is one of the four great scourges of the bovine race. In joint diseases, therefore, we must not be content with looking for previous disease in other members of the family, but we must also investigate the meat supply as well as the milk of these people.

Dr. GIRDWOOD said that supposing the person does not contract the disease from some preceding case, man or animal, how, then, does the tubercle bacillus become developed, unless by spontaneous generation, which at the present day cannot be admitted.

DISTRICT OF ST. FRANCIS MEDICAL ASSOCIATION.

The Association held its regular fall meeting on Oct. 17th, at the Continental Hotel, Sherbrooke, P.Q.

The meeting opened at 2.30 p.m. The President, F. Austin, M.D., in the chair.

The following gentlemen were present: R. A. D. King, Compton; Thos. LaRue, Coaticooke; G. A. Coderre, Megantic; R. H. Phillimore, Cookshire; G. A. Bowen, Magog; G. W. Powers, Waterville; C. J. Edgar, North Hatley; F. J. Austin, J. D. A. McDonald, F. Paré, I. Frégeau, W. S. Smith, J. A. M. Elie, J. F. Rioux and J. O. Camirand, Sherbrooke.

On motion to that effect, R. H. Phillimore, M.D., and Alex. Dewar, M.D., both of Cookshire, were elected members of this Association.

It was moved by Dr. Austin, seconded by Drs. Paré and King, and resolved: "that this Association, through its Secretary, tender Dr. Meagher, of Windsor Mills, their most sincere and heartfelt sympathy in the great affliction which an all-wise Providence has seen fit to visit upon him by the death of his wife on the 15th inst."

Dr. Edgar moved, seconded by Dr. Smith, that part of the funds of this Society be used for the founding of a pathological department in connection with the Society, to which all members will be expected to contribute material, and to have access thereto when so desired.

The President then gave the annual address, the following being a few points touched upon:

"Since our first preliminary meeting on the 14th Sept., 1890, we have had 6 regular meetings, the first two of these, however, being taken up with framing a constitution, by-laws and a tariff. At the four last meetings, no less than 13 papers were read, besides reports of unusual cases met with in practice. Many of these papers were of great interest, and showed marks of much study and thought in their preparation.

"Our total membership is now 43, and as there are about 70 or 75 members of the profession in this district, there remain a good many stray sheep to bring into the fold.

"From our Treasurer's report, it appears there is deposited to the credit of this Association a sum considerably over $100, and it is a question what should be done with this money. It has been suggested by some that it be invested in books to form the nucleus of a library; by others, that it should be used to pay for surgical instruments not usually kept by those in general practice, but which might at any time be required for special cases. I am inclined to the latter idea.

"I am quite convinced that these meetings have been of much benefit to those members who have been able to attend, not only in a professional point of view, but also because they have afforded an opportunity which many of us otherwise would not have had of meeting together, making each other's acquaintance and spending a few hours in social intercourse, which in my opinion is one of the most important objects of these meetings.

"We have much to be thankful for in that death has not visited any of our members during the past year, and that, as far as I know, we have escaped any serious illness or accident, though it is with much regret I hear our esteemed friend Dr. Meagher, of Windsor Mills, has to mourn the loss of his wife, her death having taken place only last Sunday.

"It is with much pleasure I am enabled to say our respected first President, Dr. E. D. Worthington, is still among us, though unable to continue his useful and active career in the profession."

Dr J. O. Camirand then read a paper on "Fractures of the Patella," in which he described the various modes of treatment and apparatus used in such cases, as well as those used by himself in the cases which came under his care. This was followed by a discussion, in which Drs. Austin, King, Powers and LaRue took an active part.

Dr. G. A. Bowen, of Magog, followed with an extremely interesting and instructive essay on "Hysteria," the Proteus of the medical faculty and the nightmare of all practitioners. Remarks on this subject were made by Drs. Paré, Austin, Powers, Edgar, McDonald and Camirand.

"Chronic Constipation" was the subject chosen by Dr. Powers, of Waterville. The Dr. treated this subject in a highly useful and practical way, affording new and pertinent ideas as to the treatment of this troublesome ailment.

The following gentlemen will read papers at the next meeting:—Dr. J. D. A. McDonald, "Infantile Diarrhœa;" Dr. R. A. D. King, "Obstruction of the Bowels;" Dr. F. Paré, "Cancer of the Stomach;" Dr. R. M. Canfield, "Diphtheria."

The election of officers for the ensuing year was then proceeded with, and resulted as follows:—

President, Dr. F. Paré, Sherbrooke, P.Q.; 1st Vice-President, R. A. D. King, Compton; 2nd Vice-President, C. J. Edgar, North Hatley; Secy-Treas., J. O. Camirand, Sherbrooke; Assistant, J. D. A. McDonald, Sherbrooke. Council—Thos. LaRue, Coaticooke; G. W. Powers, Waterville; J. F. Rioux, Sherbrooke.

On motion by Dr. LaRue, seconded by Dr. Austin, it was resolved that the next meeting of this Association be held at Coaticooke, P.Q., subject to notice from the Secretary, and the meeting then adjourned.

J. O. CAMIRAND, M.D., Secy-Treas.

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MONTREAL, FEBRUARY, 1894.

THE COLD BATH TREATMENT OF FEBRILE DISORDERS.

During the last few years, Brand's method of treating fevers by the use of the cold bath has made very rapid progress, being now adopted in many hospitals by the most progressive physicians in the treatment of typhoid fever. The death rate seems, without doubt, to have been considerably reduced thereby. Our attention has been called, however, to the remarkable effects of the cold water treatment of fevers generally, by the perusal of an excellent paper by Dr. T. K. Holmes of Chatham, Ont., read before the last meeting of the Ontario Medical Association, in which he refers to the experiments of Lauder Brunton, made many years ago, which show that the heart of the turtle or frog, when removed from the body, will have its beat quickened or slowed by exposure alternately to heat and cold.

These observations indicate the stimulating effect of heat on the cardiac sympathetic. Dr. Holmes infers from this that blood cooled by the cold bath inhibits the heart and the respiration through its action on the vagus. Dr. Holmes has applied this treatment in a new class of cases, namely, those in which convulsions are accompanied by high temperature. The results were most satisfactory, so that he has come to regard the cold bath as an absolute specific for convulsions coming on during a febrile attack.

Our own experience very fully substantiates the high place which Dr. Holmes gives to the cold water treatment of fevers, although in private practice the objection of the friends of the patient to immersing them in a cold bath are almost insurmountable. We have, however, obtained really good results with cold water administered in other ways. To begin with, the patient is fed entirely on iced milk, both for the reason that they will take a much larger quantity of this nourishment when cold than they would if hot; 2nd, the raising of two quarts or more of milk at a temperature of 32° up to a temperature of 103° causes the abstraction of a considerable quantity of heat; 3rd, it may be the presence of iced milk in the stomach in close proximity to the heart may have had the remarkable inhibitory influence to which Dr. Holmes refers in connection with the use of the cold bath. Besides this, we took care to have a plentiful supply of ice water or broken ice constantly beside the patient's bed, so that he could help himself as often as he wished. The drinking of ice water or the sucking of ice in turn causes intense thirst, and this thirst itself is made use of to induce the patient to drink still larger quantities of ice water.

Besides these means of keeping down the temperature, pulse and respiration, it has been our custom for the last 20 years to have the patient sponged 2 or 3 times a day with a weak mixture of spirits and water, the moisture being allowed to evaporate instead of being dried off. There are few patients who will not claim that this proceeding is exceedingly grateful to them. By these means, therefore, the practitioner can keep down the temperature and pulse rate even in private practice, where it would be impossible to sufficiently overcome the prejudices of the friends and relatives of the patient to permit of the employment of Brand's cold bath treatment. The beneficial effects of the taking in of large quantities of cold water in addition to the iced milk are immediately seen in the disappearance of the high color from the urine and also of the dicrotic characteristic of the pulse, which is due, of course, to insufficient filling or tension of the arteries. Arterial tension, we need hardly say, is a prime factor in the nourishment of the heart, which is only fed by the coronary arteries, which in turn are but poorly filled, when the pulse is dicrotic and the arterial tension low.

BOOK NOTICES.

DUANE'S STUDENTS' DICTIONARY OF MEDICINE. The Students' Dictionary of Medicine and the Allied Sciences. Comprising the pronunciation, derivation and full explanation of Medical Terms, together with much collateral descriptive matter, numerous tables, etc. By Alexander Duane, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute; Reviser of Medical terms for Webster's International Dictionary. In one square octavo volume of 658 pages; cloth, $4.25; half leather, $4.50; full sheep, $5.00. Philadelphia, Lea Brothers & Co., 1893.

This work has received years of the most painstaking labor of a gentleman abundantly qualified by natural gifts and special training for the difficult task just completed. The volume is one of high merit, and we anticipate for it rapid recognition as the standard medical dictionary for students.

Dr. Duane's experience as a medical lexicographer and his accurate scholarship are sufficiently attested by his position as Reviser of Medical Terms for Webster's International Dictionary. In the present work he has undertaken to provide medical students with full information concerning every word they will meet in acquiring their professional education. The vocabulary is exceedingly liberal, and its fullness is paralleled by the treatment accorded to each word. The definitions are of the "explanatory" style, including not only a statement of meaning, but likewise much descriptive matter under headings which would be inadequately represented by a definition however full. Thus, under Diseases are given their causation, symptoms and treatment; under important Organs, an outline of their structure and functions; under each Drug, its actions, uses and preparations, the information being arranged in logical order, so as to give a rational and connected idea of the subject. Extensive tables of Bacteria, Muscles, Arteries, Veins, Nerves, etc., are included. Each word is followed by its correct pronunciation (a new feature in works of this class), given by means of a simple and obvious phonetic spelling. Derivation, an unexcelled aid to remembrance of meanings, is likewise fully and clearly stated, Greek letters being replaced with those of the English alphabet, for the convenience of those unfamiliar with Greek. The type has been carefully selected for legibility, and each page contains an extraordinary amount of matter. Duane's Medical Dictionary is executed on a plan embodying in a high degree every qualification of value to students, and we may therefore confidently predict that it will become the standard and favorite work of its class.

PAMPHLETS.

THE PREVENTION AND MANAGEMENT OF PELVIC INFLAMMATION IN PUERPERAL WOMEN, by Horace Tracy Hanks, M.D., Professor of Diseases of Women, New York Post-Graduate School and Hospital; Surgeon to the Women's Hospital in the State of New York; late President New-York Obstetrical Society; late Vice-President New-York Academy of Medicine; and Member American and British Gynæcological Societies, etc. Reprint from American Medico-Surgical Bulletin, May, 1893.

MECHANICAL AIDS IN THE TREATMENT OF CHRONIC FORMS OF DISEASE, by Geo. H. Taylor, M.D., author of "Health by Exercise," "Health for Women," "Pelvic and Hernial Therapeutics," "Manual Massage," etc. Consulting Physician to The Improved Movement Cure Institute, 71 East 59th Street, New York. Copyright, 1893, by the Improved Movement Cure Institute, New York, George W. Rodgers, Publisher. 1893.

REPORT ON NASAL SURGERY, WITH ILLUSTRATED CASES. By M. F. Coomes, A.M., M.D. Professor of Physiology, Ophthalmology, Rhinology and Otology in the Kentucky School of Medicine, Louisville, Ky. Reprinted from the American Practitioner and News. Louisville, John P. Morton & Company, 1893.

EROTOPATHIA (MORBID EROTISM). Read before Section on Nervous and Mental Diseases, Pan-American Medical Congress, at Washington, D.C., September 8, 1893. By C. H. Hughes, M.D., Executive President of the Section, and President of the Faculty, and Professor of Neurology, Psychiatry and Electrotherapy, Barnes Medical College. Reprint from the Alienest and Neurologist. St. Louis, October, 1893.

COUNTER-DRAINAGE AFTER CŒLIOTOMY. By Horace Tracy Hanks, M.D., New York. Reprinted from the Post-Graduate, No. 4, 1893.

THE TREATMENT OF NASAL DUCT OBSTRUCTION. Read in the section on Ophthalmology at the Forty-Fourth Annual Meeting of the American Medical Association, By Casey A. Wood, C.M., M.D., Professor of Ophthalmology in the Post-Graduate Medical School, Chicago; Oculist and Aurist to Cook County Hospital; Oculist to the Emergency Hospital and Alexian Bros. Hospital. Reprinted from the Journal of the American Medical Association, October 28, 1893. Chicago: Published at the office of the Association, 1893.