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EPIDEMIC INFLUENZA.

AN ABSTRACT OF CLINICAL REMARKS DELIVERED AT THE TORONTO GENERAL HOSPITAL.

BY A. M'PHEDRAN, M.B.,

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In the present epidemic of influenza, which is gradually lessening, there has been great variety in the symptoms presented. The symptoms may be conveniently grouped under the following heads, viz.: 1, febrile, 2, nervous, 3, catarrhal, 4, gastro-enteric. Febrile and nervous symptoms were present to a greater or less degree in all cases probably: a few may have been apyretic, but I have met with none in which there were not some nervous disturbances. But in many cases there were no catarrhal symptoms, and only in a comparatively small proportion of cases were these symptoms very severe. Gastro-enteric disturbance occurred in several.

This case of A. T., aged 30, presents a good illustration of the group in which there were only febrile and nervous phenomena present. He awoke in the morning feeling sore all over, as if from over-work. The soreness was most marked in the lower dorsal region, and by evening was so severe that breathing was extremely painful, there being a feeling of much pain and tightness around the chest. During the night the temperature rose to 102° , with frequent flashes

of heat, followed by chilliness, dizziness and sleeplessness. There was no frontal pain, sneezing, coughing or nasal symptoms. Free perspiration was induced, but without any rapid relief to any of the symptoms. The temperature fell to normal next day, and the pains rapidly abated, so that he was able to return to business in the afternoon, though he was sore and stiff for a day or two. The appetite was good throughout, and no prostration followed. In many cases quite as mild as this the appetite failed, and there was in some very great prostration, so great in a few that syncope occurred even while quietly in bed. In some the pains were extremely severe, and assumed a periodic character, coming on at a certain hour every day, and lasting an hour or two, or perhaps all night. In some of them the pain was frontal, even in the absence of any other evidence of implication of the frontal sinuses: in others, the pain was in the sides, the back, the thighs, or the abdomen. In most of these the pains were difficult to relieve, and only disappeared slowly, under rest, good nourishment, and tonic treatment.

The fever rarely lasted longer than from one to three days, a continuance of it being probably due to some complication as bronchitis or pneumonia. The temperature rarely rose higher than 102° or 103° ; occasionally to even 105° .

Sleeplessness has been a troublesome feature in many cases, some not obtaining any sleep for 4 or 5 days.

In this patient the attack is typical of many of the catarrhal cases. He is a healthy young man. He went down street in the morning, and while standing at a street corner he suddenly became weak, dizzy, and sick, and could scarcely walk home. He shortly suffered pains in all parts, with most intense pain in the head. In the evening, catarrhal symptoms set in—eyes watery, nose stuffed up, cough with free expectoration of dark bloody fluid. Temperature rose to about 103° , head grew worse as the catarrhal symptoms developed; anorexia, constipation, scanty high-colored urine. The fever and severe headache disappeared in three days, the cough continued, but the sputa gradually lost its dark color, becoming mucopurulent. There was considerable prostration. He was confined to bed two weeks, and his recovery of strength was gradual. The bloody sputa was doubtless due to great congestion of parts of the lungs. In several similar cases I have found dulness with weak respiratory murmurs at the base, lasting for 2 or 3 days. Had this been due to pneumonia, the fever and dulness would not have disappeared so soon.

In many cases, however, well marked attacks of pneumonia followed as a sequel; and that, too, even in those who were without the catarrhal phase of influenza. Such was the case in an old lady in whom the symptoms were only febrile and nervous which disappeared on the 3rd day, leaving her feeling very well; she was seized that night with a chill, next day she was delirious, and the lower lobe of the left lung soon hepatized. She died on the 6th day of pneumonia.

Similar but milder cases have been numerous, the most frequent seats of consolidation being the base of the lungs and thin portions lying beneath the 2nd and 3rd costal cartilages and overlapping the large vessels. The latter is a frequent point of attack, especially in catarrhal pneumonia, which has been an occasional complication. Catarrhal pneumonia is to be suspected, even if we cannot discover signs of consolidation, if slight fever persists, with cough, perspiration and considerable prostration: such cases require the utmost care in order to secure complete recovery, on account of their liability to develop phthisis.

In a few cases the pneumonia has been of a

low type, developing probably in the heavily congested lung, and ending in purulent infiltration of the diseased part. Such a case we have just had in Ward 14, in a man aged 30, who was brought in, in a typhoid state with an almost imperceptible pulse. There was little cough, slightly accelerated breathing, and he presented an appearance of a late stage of enteric fever. A careful examination could not be made, but you know we ascertained that there was dulness in the left axillary space with weak tubular breathing, and we judge that there was probably purulent infiltration of the base of the left lung. Such was the condition found at the post mortem in the bases of both lungs, the left being greatly disorganized.

I have met with two cases in which spasmodic asthma was a sequel, and in one with spasmodic croup with some catarrh of the larynx. In many there has been a persistent hard, distressing cough, often paroxysmal, that seemed to be due to a slight catarrh of the larynx, re-acting on an irritable nerve centre.

Cases with marked gastro-enteric symptoms have occurred from the first, but have been much more common in the late than in the early part of the epidemic. Most of you will remember a young man admitted into Ward 5, early in January, with several general pains and with distressing vomiting of bright green fluid. The vomiting persisted for four days, and after that, he rapidly regained his strength. This is but an illustration of many cases that were met with, most of them, however, were of shorter duration—not more than a day or two. Lately the enteric symptoms have been most common. The patient is suddenly seized with a watery diarrhoea, with considerable flatus. The discharges are very offensive, and usually dark in color. There may be three or four or even a dozen evacuations in the course of a day. In some there is no pain, while in others, there is severe pain all over the abdomen, with much tenderness; it seems situated in the abdominal wall, and quite independent of the condition of the intestinal tract. Equally severe pain and tenderness are present in a good many who have no diarrhoea, and several of these suffer from a hyperæsthetic state of the stomach. In these there

is pain after taking food, similar to that felt in ulceration of the stomach. Occasionally there is vomiting. These abdominal pains are very difficult to relieve; they seem to be of the same nature as the pains already referred to, as occurring in other parts of the body.

In several cases of this epidemic influenza, there has been slight jaundice, as indicated by yellow tinge of the conjunctiva and general surface. In most, if not all of these, there has been considerable fever and prostration. The following case, which I saw with Dr. Dobie, illustrates the most severe of these cases with jaundice. The patient was a young man. He had had a sharp attack of influenza; the temperature rising to over 104° with considerable delirium. After a day or two he improved, and was able to sit up. The next day he was feverish again, noisy delirium soon set in again, and jaundice began to develop. The temperature was variable but high, jaundice deepened, the conjunctiva being also markedly congested. He rapidly grew worse, became comatose, urine dribbled away unconsciously, staining the bed a deep yellowish brown. A marked purpuric rash came out, but there were no other hemorrhages. The bowels were moved by enemata, the motions being at first constipated, later bilious. Some mucus was vomited. Liver dulness was somewhat lessened. The pupils reacted to light. He died comatose within a week of the relapse. I saw another case with Dr. Frank Cowan, in the person of a young medical practitioner, in whom the jaundice was less deep, but the petechial rash was quite copious. He also died comatose, within a few days. And I have just seen another case with Dr. R. B. Nevitt, bearing a striking resemblance to these two: what the result will be remains to be seen, but there is little probability of recovery, as the patient is already in a typhoid state, with very weak pulse. The urine is dark and contains a trace of albumen; the stools are pale, the tongue brown and dry, and there appears to be tenderness in all parts. Liver dulness is somewhat diminished, and splenic dulness reaches the margins of the ribs.

Doubtless the condition in all these cases is one of marked toxæmia. The jaundice may be due to destruction of red blood corpuscles, but

the reduction of the area of liver dulness indicates disease of the liver, and jaundice, as due in part at least to absorption of bile. In that case they resemble acute yellow atrophy of the liver, which occurs sometimes in fevers. The first case looks very much like one of yellow atrophy, except that the temperature rose to 107° before death, instead of being subnormal.

Generally speaking, in this epidemic, the prognosis is favorable. The general mortality has been high, but probably few deaths have been due to the influenza directly. This is due to the fact that the intensity of the fever was usually mild, and its duration short, and the vital organs were seldom more than slightly affected. A few however died, I believe, of heart failure, but perhaps the heart was previously affected. Pneumonia seems to have been unusually prevalent, but there can scarcely be any direct connection between it and influenza—the same germ would probably not cause both diseases. The heavy congestion of the lungs occurring in many cases doubtless rendered them more vulnerable to attack by the microbes of pneumonia.

Relapses, or second attacks, were fairly common. One gentleman had a marked attack of influenza, and then pneumonia as a sequel. He passed the crisis of that disease, when he was again attacked by influenza, in which he had a temperature of 103° . It had no effect, however, on the process of resolution in the lung—he seemed to recover quite as quickly from the pneumonia as if he had not had the second attack. None of the cases of second attacks which I have seen were due to want of care.

As to treatment, the scientific method would be to give some substance that would kill or *inhibit* the specific microbe—if there be such—that cause the disease, as quinine destroys the germs of intermittent fever. But we know neither the germ nor the agent that would destroy it; we have to content ourselves therefore with symptomatic treatment.

For the relief of the headache and the pains in the back and limbs, the newer analgesics are exceedingly useful. Phenacetine, which I used most frequently, given in 5 to 20 gr. doses, usually gave great satisfaction—in some cases it

failed, and on two or three occasions it was followed by considerable depression. Antipyrin was largely used, but I have seen severe cardiac weakness produced by it, and therefore seldom prescribe it. Da Costa advises small doses of quinine with antipyrin, to prevent the depression. Antifebrin and exalgine have also been used; gelsemium has been found to give relief, where all others had failed. All these analgesics should be used with caution, as dangerous depression is liable to follow all of them. For the nasal catarrh I have found a spray of a 2 per cent. solution of cocaine give most relief usually. In some, the inhalation vapor from hot water, containing tincture Benzoin C., gave most satisfaction. It not only relieved the nasal symptoms, but also the laryngeal and bronchial at the same time. For the paroxysmal cough, sedatives were chiefly called for—given frequently in small doses to keep up their effect—such as bromides, morphia, Dovers powder, hydrocyanic acid, chloroform, etc.

The great tendency to prostration is to be borne in mind, and every effort made to maintain the nutrition. Quinine 2 grs., three or four times a day, proved useful. The bowels should be kept open but care taken not to purge, lest a diarrhoea be established. For the diarrhoeal cases I have always found bismuth, with a little opium, sufficient to control the bowels, the patient being kept in bed and warmth maintained. If prostration becomes marked, stimulants should be given in moderate quantities. If the circulation be weak, small doses of nux vomica and belladonna are of great service; later, iron should be given.

Selections.

HYDERABAD CHLOROFORM COMMISSION.

In January, 1888, a commission appointed by the Nizam of Hyderabad to inquire into the dangers of chloroform anæsthesia reported, after many experiments upon dogs, "that chloroform may be given to dogs by inhalation with perfect safety, and without any fear of accidental death, if only the respiration, and nothing but the respiration, is carefully attended to throughout."

This report, agreeing with the teaching of

the celebrated Scotch surgeon, Syme, was severely commented upon by the London *Lancet*. The Nizam thereupon offered that journal £1000 that it might send a representative to Hyderabad to repeat the experiments of the Commission, and to make any others thought necessary. The task was entrusted to Dr. Lauder Brunton, England's best known pharmacologist. On his arrival in India, a new Commission was formed, consisting of Surgeon-Major E. Laurie, M.B., Edinburgh; Dr. T. Lauder Brunton, F.R.S.; Surgeon-Major Gerald Bomford, M.D., London; Dr. Rustomje, H.H., the Nizam's Medical Adviser. Associated with them were the members of the first commission.

The commission made 430 experiments upon dogs, monkeys, horses, goats, cats and rabbits; 300 animals were killed outright, and 125 subjected to artificial respiration at varying intervals after natural respiration had been arrested by chloroform.

The animals killed had chloroform given them in every possible way, and under every conceivable condition; some fasting, others at varying intervals after heavy meals; others after administration of Liebig's extract of meat, coffee, rectified spirits or ammonia. Most of them were healthy, but some had heart disease; in many the heart and other organs had been rendered fatty by the administration of phosphorus. Chloroform was given with and without inhalers; in the vertical and recumbent positions; in large and in small doses; in fact in every way that could be thought of.

The effects of chloroform did not appear to be interfered with or much influenced by any of these various conditions.

In every case where the chloroform was pushed the respiration stopped before the heart.

Chloroform, given continuously, and freely diluted with air, causes a gradual fall in the mean blood pressure, provided the animal's respiration is not impeded, and it continues to breathe quietly without struggling or involuntary holding of the breath. As this fall continues, the animal first becomes insensible, then respiration gradually ceases, and lastly the heart stops. The chloroform, however concentrated, never causes sudden death from stop-

page of the heart. If the inhalation be interrupted, the fall still goes on, at a rate proportionate to the rapidity of the fall while the chloroform was being inhaled. This after fall is due to absorption of some of the residue of chloroform in the air passages. Thus, often, if chloroform is given rather freely, respiration although going on when the chloroform is discontinued, afterwards stops. If the chloroform is stopped altogether, the blood pressure falls for a little, but soon rises again and shortly becomes normal. If the anæsthetic be pushed further, there comes a time when the blood pressure and respiration will no longer be restored spontaneously, although the heart continues to beat after the inhalation is stopped.

Occasionally, if the fall has been very gradual, the respiration stops completely, but as the blood pressure rises again, the respiration recommences spontaneously. The same thing may happen when the inhalation has been discontinued.

If struggling is accompanied by acceleration of the respiration and pulse, especially if the respiration is deep and gasping, there is a more rapid inhalation of chloroform and consequently a more rapid fall of blood pressure, and a greater after fall. A similar rapid decline of blood pressure is caused by involuntary holding of the breath, and by slight continuous asphyxia, for both are followed by a deep gasping inspiration.

Complete asphyxia has a similar but more marked effect, and the trace corresponds precisely to that due to irritation of the peripheral end of the cut vagus. The pressure falls very rapidly, sometimes almost to zero, and the heart's action becomes excessively slow or even stops for a few seconds. This effect of asphyxia is the result of stimulation of the vagi.

In itself, is the slow action, or temporary stoppage of the heart, with gr. at fall of pressure produced by vagus irritation, an element of danger in chloroform administration, and if not, wherein is the danger?

Deliberate irritation of the vagi during anæsthesia was shown experimentally to diminish rather than increase the danger. The effect on the heart is never continuous, and as the vagus becomes exhausted, or the irritation is taken off, the blood pressure rises again, as it

does when the same result is produced by asphyxia.

The slowing of the heart and circulation produced by irritation of the vagus from any cause, e.g., holding the breath in chloroform administration, retards the absorption and conveyance of chloroform to the nerve centres.

The effect of vagus irritation upon the heart is never continuous; and in chloroform administration, as the pressure rises again after the slowing of the heart and temporary fall of pressure produced by any form of asphyxia: violent respiratory efforts with bounding heart's action lead to a rapid and dangerous inhalation of chloroform, and consequent rapid and dangerous decline in blood pressure. The temporary exhaustion of the vagi after stimulation is to be feared, not the actual stimulation, so long as it is continued.

Accordingly in chloroform administration neither holding the breath, even if involuntary, nor vagus inhibition can be kept up beyond a certain time; and if the chloroform is not removed from the face, one or both of two things may happen: (a) when the animal breathes again, it takes deep and gasping inspirations, the lungs become filled with chloroform, and an overdose is taken in with extreme rapidity; or (b) when the restraining influence of the vagus is taken off the heart, through the irritation ceasing or the nerve becoming exhausted, the heart bounds on again, and the circulation is accelerated in proportion. The blood then becoming quickly saturated with chloroform, an overdose is at once conveyed to the nerve centres. The theory hitherto accepted that the danger in chloroform administration is the slowing or stoppage of the heart by vagus inhibition, is now shown to be *absolutely incorrect*. The controlling influence of the vagus on the heart is a safeguard; it is the exhaustion of the nerve which is dangerous.

When the pulse is rapid and bounding, with high blood pressure, there must be more rapid absorption of blood from the lungs, and a more rapid propulsion of the chloroformed blood to the medulla oblongata, and consequently a more rapid paralysis of the respiratory and vaso-motor centres and precipitous fall in the blood pressure. Not only is the poisoned blood carried more swiftly to the vital centres

in these cases, but as the heart is already doing its utmost before the chloroform is given, it is unable by increased work to stave off the fall in pressure that occurs when the vaso-motor centre is paralysed.

The effect of artificial respiration after the natural respiration has ceased is to cause an alternate rise and fall of small amount in the blood pressure. After artificial respiration has been continued for a certain time, the blood pressure again rises, and a little later natural respiration returns.

Complete stoppage of the respiration always means that an overdose has been given, an overdose perhaps so great as to cause a very prolonged after-fall of blood pressure, and thus render restoration impossible. No matter how soon it is commenced after the respiration stops, it is never in any case certain that artificial respiration will restore the natural respiration and blood pressure; even after the respiration has been restored, the pressure may continue to fall and respiration again ceases and artificial respiration then fails. The time which may be allowed with impunity to pass before commencing artificial respiration varies considerably, as does the time taken to restore natural respiration.

To test the alleged danger from shock during chloroform administration, a very large number of those operations reputed peculiarly dangerous in this connection were performed, such as extraction of teeth, evulsion of nails. In many cases the operation was done when the animal was merely stupefied by the chloroform and not fully insensible. In such cases a slight variation in the blood pressure would sometimes occur, such as one would expect from the irritation of a sensory nerve, or from struggling, but in no case in any stage of anæsthesia was there anything even suggestive of syncope or failure of the heart's action.

The commission concluded that chloroform has no power of increasing the tendency to either shock or syncope during operations. If shock or syncope does occur from any cause, it prevents, rather than aggravates, the dangers of chloroform inhalation.

As to fatty heart, the truth appears to be that chloroform *per se* in no way endangers such

a heart, but, on the contrary, by lowering the blood pressure, lessens the work that the heart has to perform, which is a positive advantage. A patient with an extremely fatty heart may die from the mere exertion of getting upon the operating table, just as he may die in mounting his own front steps, or from fright at the mere idea of taking chloroform or of undergoing an operation, or during his involuntary struggles. Such patients must inevitably die occasionally during chloroform administration, and would do so even if attar of roses were inhaled.

Severe hemorrhage in no way affects the action of chloroform, for the low blood pressure produced by the bleeding tends to prevent a too rapid intake of chloroform. Of course a patient nearly bled to death needs less chloroform to put him into a state of anæsthesia.

PRACTICAL CONCLUSIONS.

The following are the practical conclusions which the Commission think may fairly be deduced from the experiments recorded in this report:—

I. The recumbent position on the back and absolute freedom of respiration are essential.

II. If during an operation the recumbent position on the back cannot, from any cause, be maintained during chloroform administration, the utmost attention to the respiration is necessary to prevent asphyxia or an overdose. If there is any doubt whatever about the state of respiration, the patient should be at once restored to the recumbent position on the back.

III. To ensure absolute freedom of respiration, tight clothing of every kind, either on the neck, chest, or abdomen, is to be strictly avoided; and no assistants or bystanders should be allowed to exert pressure on any part of the patient's thorax or abdomen, even though the patient be struggling violently. If struggling does occur, it is always possible to hold the patient down by pressure on the shoulders, pelvis, or legs, without doing anything which can by any possibility interfere with the free movements of respiration.

IV. An apparatus is not essential, and ought not to be used, as, being made to fit the face, it must tend to produce a certain amount of asphyxia. Moreover, it is apt to take up part of the attention which is required elsewhere.

In short, no matter how it is made, it introduces an element of danger into the administration. A convenient form of inhaler is an open cone or cap, with a little absorbent cotton inside at the apex.

V. At the commencement of inhalation care should be taken, by not holding the cap too close over the mouth and nose, to avoid exciting struggling, or holding of the breath. If struggling or holding of the breath do occur, great care is necessary to avoid an overdose during the deep inspirations which follow. When quiet breathing is ensured as the patient begins to go over, there is no reason why the inhaler should not be applied close to the face; and all that is then necessary is to watch the cornea and to see that the respiration is not interfered with.

VI. In children, crying ensures free admission of chloroform into the lungs; but as struggling and holding the breath can hardly be avoided, and one or two whiffs of chloroform may be sufficient to produce complete insensibility, they should always be allowed to inhale a little fresh air during the first deep inspirations which follow. In any struggling persons, but especially in children, it is essential to remove the inhaler after the first or second deep inspiration, as enough chloroform may have been inhaled to produce deep anæsthesia, and this may only appear, or may deepen, after the chloroform is stopped. Struggling is best avoided in adults by making them blow out hard after each inspiration during the inhalation.

VII. The patient is, as a rule, anæsthetised and ready for the operation to be commenced when unconscious winking is no longer produced by touching the surface of the eye with the tip of the finger. The anæsthetic should never under any circumstances be pushed till the respiration stops; but when once the cornea is insensitive, the patient should be kept gently under by occasional inhalations, and not be allowed to come out and renew the stage of struggling and resistance.

VIII. As a rule, no operation should be commenced until the patient is fully under the influence of the anæsthetic, so as to avoid all chances of death from surgical shock or fright.

IX. The administrator should be guided as to the effect entirely by the respiration. His

only object, while producing anæsthesia, is to see that the respiration is not interfered with.

X. If possible, the patient's chest and abdomen should be exposed during chloroform inhalation, so that the respiratory movements can be seen by the administrator. If anything interferes with the respiration in any way, however slightly, even if this occurs at the very commencement of the administration, if breath is held, or if there is stertor, the inhalation should be stopped until the breathing is natural again. This may sometimes create delay and inconvenience with inexperienced administrators, but experience will make any administrator so familiar with the respiratory functions under chloroform that he will in a short time know almost by intuition whether anything is going wrong, and be able to put it right without delay before any danger arises.

XI. If the breathing becomes embarrassed, the lower jaw should be pulled, or pushed from behind the angles, forward, so that the lower teeth protrude in front of the upper. This raises the epiglottis and frees the larynx. At the same time it is well to assist the respiration artificially until the embarrassment passes off.

XII. If by any accident the respiration stops, artificial respiration should be commenced at once, while an assistant lowers the head and draws forward the tongue with catch-forceps, by Howard's method, assisted by compression and relaxation of the thoracic walls. Artificial respiration should be continued until there is no doubt whatever that natural respiration is completely re-established.

XIII. A small dose of morphia may be injected subcutaneously before chloroform inhalation, as it helps to keep the patient in a state of anæsthesia in prolonged operations. There is nothing to show that atropine does any good in connection with the administration of chloroform, and it may do a very great deal of harm.

XIV. Alcohol may be given with advantage before operations under chloroform, provided it does not cause excitement, and merely has the effect of giving a patient confidence and steadying the circulation.

The Commission has no doubt whatever that, if the above rules be followed, chloroform may be given in any case requiring an operation

with perfect ease and absolute safety, so as to do good without the risk of evil.—*Lancet*, January 18.

NOTES ON A CASE OF WEIL'S DISEASE.

BY E. H. YOUNG, M.D. DURIL, L.R.C.P., D.P.H., ETC.

At 7 A.M. on May 14th I was sent for to see T. H.—, aged twenty, who was said to have had a "stroke." On reaching the house at 8.30 his friends gave me the following history. Patient has always enjoyed the best of health, and has had no serious illness. On the 10th he returned from his annual Yeomanry training at Barnstable, being then in the best of health. On Sunday (12th) he took his food with his usual good appetite, and in the evening he walked to chapel, four miles away. When returning home he suddenly became "shivered," had severe headache and an aching pain in the legs, the latter being so severe that he thought he should never reach home, and was obliged to take frequent rests on the way. He went straight to bed, forgetting, however, to remove his stockings. He slept well through the night. The next morning (13th) he got up somewhat later than usual, but no sooner was he down stairs than he sat in a chair and became drowsy and stupid. When aroused, he said that his head ached, that he felt sick and had pains in his legs. He would not take any food. He was at once helped back to bed, three aperient pills were given, and his head bathed with cold water. Throughout the day the drowsiness increased. When spoken to he replied very briefly, and said that headache, nausea, and pains in the legs continued. He refused food of all kinds. Towards evening he became more unconscious, was delirious, and answered questions incoherently. He had passed no urine since 6 P.M. on the previous day.

May 14th.—At 3 A.M. his bowels were opened. Motions rather pale, semi-liquid. His mother thinks a very little urine was passed at this time. At 8.30 A.M. when I first saw patient, his condition was as follows: Lying in bed on his back, eyes closed; took no notice of my entry. He is a tall, well made, muscular young man. Features a little blurred, cheeks rather dusky. His skin has a very slight yellow tinge, so slight that

his friends had not noticed it. His mental condition is one of apathy: he replies in monosyllables, often incorrectly. Says he has no headache and does not feel sick, but feels pain in the stomach (region of liver), and his legs feel sore. Nothing abnormal was detected in the chest or abdomen, but there was tenderness on pressure over liver and spleen, especially the former. No alteration in hepatic or splenic dulness. Tongue covered with a thick, moist, yellow fur. Eyes injected; pupils equal, rather dilated, react sluggishly. No paralysis or œdema. Temperature 101.4°. Pulse regular, full, 104 per minute. Respiration 12 per minute. There is marked prostration of strength. I ordered complete abstention from food, hot poultices over the liver, and gave a powder of calomel and compound jalap powder, followed by a sulphate of soda mixture. At 2 P.M. I was again sent for, as the patient was said to be worse. On arriving at 3 P.M. I found that after I left this morning he had complained of severe abdominal pain, which was relieved on his passing a motion. The motion was liquid and of a tarry colour. His general condition remains the same, except that he is perspiring freely and the pulse is more relaxed. Ophthalmoscopic examination (for which the lids had to be held up) showed the discs were clear and healthy, but the veins rather full. Before leaving, the patient passed about an ounce of urine, which was slightly tinged with bile, clear when passed, but speedily became turbid: highly acid; contained no albumen. Microscopically, it showed a large quantity of uric acid crystals, amorphous urates, and some oval colourless plates. No blood or casts.

15th.—11 A.M.: After I saw him yesterday afternoon he remained in much the same condition of stupor, becoming delirious at night. At 4 this morning he seemed to sleep quietly, and on awaking at 8 said he felt better. His aspect this morning is distinctly brighter, but tendency to stupor still marked. He is not so dusky about the cheeks, and the veins of the eyes are less full. His skin has a more distinct jaundiced hue. He still complains of pain over the liver, increased by pressure. Has no other pain, but says his head feels "funny." Appetite bad, declines taking any food. Pulse 72, regular, good strength. Temperature 102.4°. His

bowels have been opened twice since yesterday. Motions liquid, tarry. Has also passed six ounces of urine of the same character as before.

16th.—3 P.M.: The patient passed a good night, and had no delirium. This afternoon he is much brighter, and talks with his friends. Pupils widely dilated. Bowel open once, motion still tarry. Has passed nearly a pint of urine. He still has slight tenderness over the liver, but no other pain. Says he is not hungry, but very thirsty. Tongue cleaning; jaundice about the same as yesterday. Temperature 100.2°; pulse 48, regular, good.

18th.—3 P.M.: Patient has been going on well since last note. Tongue cleaner. Appetite still bad. Jaundice diminishing. Motions normal. No tenderness over liver, Temperature 98.4°; pulse 44, regular, good. The patient went on well after this. He sat up for an hour on the 19th, but felt very shaky. On the 24th he went out of doors and quickly regained appetite and strength.

Remarks.—I think the above notes on a case of Weil's disease worth publishing, as so few cases have thus far been recorded in this country. The points of interest in the case are: 1. The early onset of severe nervous symptoms, the patient becoming *drowsy* within an hour or two of the initial rigor, and delirious within twenty-four hours. 2. Although no albumen, blood or casts were detected in the urine, there can be no doubt, from the fact that only one or two ounces of urine were secreted in forty-eight hours, that the kidneys were affected by the disease. 3. The rapid recovery of the patient, which was very probably *not* influenced by the treatment pursued. In all probability the symptoms were due to some toxic (perhaps specific) agent in the blood; but whether introduced by food, water, or air, I am unable to say. It is very probable though that the poison was absorbed during his absence from home. I may add, however, that my patient is not aware that any of his camp comrades suffered in a similar way.—*London Lancet.*

THE SIGNIFICANCE OF ERYTHEMA.—Erythema multiforme is more and more growing in importance as a symptom or precursor of not a few grave diseases. It does not do for us now to regard an attack of it as simply due to indi-

gestion. It has been shown that the occurrence of erythema may mark the beginning of typhoid fever, may occur as one of the symptoms of acute or chronic malarial disease, may be a manifestation of a rheumatic or lithæmic state, or may even, as it were, be an abortive manifestation of any of these diseases. Our attention is again drawn to the fact by Dr. Moncorvo, of Rio de Janeiro, who, in a recent number of the *Revue mensuelle des maladies de l'enfance*, reports two cases of erythema nodosum occurring in the course of acute malarial disease, and yielding promptly to quinine.—*N. Y. Med. Jour.*

ELECTROLYSIS as a mode of treating disease does not make rapid progress in public favor over here, but Dr. Steavenson, of St. Bartholomew's Hospital, is one of the few exceptions to the general rule, and has given it an extended trial in cases of stricture of the urethra with Mr. Bruce Clarke. The latter has lately placed on record the results, as far as they are known, in fifty cases; of these, twenty-three patients were known to be well at periods after the operation varying from a year and a half to three years, in two cases no relapse had taken place at the end of four years, while only nine had required subsequent treatment. These results must be considered excellent, but the difficulty is that all persons are not equally competent to undertake the treatment, a fact which probably accounts for the failures of so many operators and the consequent disfavor with which this treatment is mostly regarded.—*London Letter, N. Y. Med. Jour.*

A DIET OF LEAN MEAT AND WATER.—I have been anxiously looking for some replies to the very interesting question raised by Dr. Herschell's paper in *The Lancet* of Nov. 9th. I entirely agree with him that the time has arrived when our views as to animal diet should be reconsidered. For two years past I have been treating obese patients for limited periods on a diet mainly of lean meat and water, and I must emphatically say such a diet is well borne, and is greatly beneficial to the general health, especially in those cases previously suffering from dyspepsia, and the experience of over 200 cases leads me to think that the diet may be persisted in without any ill effects for long

periods together. In most of my cases the average loss in weight was from 2 to 3 st. and 12 in. in abdominal girth. The stored carbon rapidly disappears. The Terra del Fuegians at Westminster, as Dr. Herschell urges, are good specimens of a diet almost entirely confined to lean horseflesh and water, and the all-important questions raised should be fully discussed. I agree with all Dr. Herschell puts forward, but wish to add my mite of experience gained in treating obesity by largely diluted animal food, in order to elicit from some of the well-known men who make dietetics a specialty their views on Dr. Herschell's carefully considered paper. — *W. Towers-Smith in The Lancet.*

PROLAPSUS RECTI DUE TO LARGE STONE IN THE BLADDER OF A CHILD THREE AND A HALF YEARS OLD—REMOVAL—CURE.—Mary X., three and a half years old, came under my notice as a dispensary patient in November, 1888, with the following history, as furnished by the mother: About one year before presentation the child's gut was found prolapsed after each stool, and she appeared to be in great pain in passing her urine. She was taken to a number of physicians and dispensaries for treatment, and presented at almost all the clinics as a case of inveterate and severe prolapsus recti, and many methods of treatment were tried without affording the child the slightest relief or improvement. At my first examination I found the child to be anæmic, nervous, and cachectic in appearance, and suffering from diarrhoea and bronchitis. The rectum was prolapsed two inches, and during the examination it came down fully seven inches, and presented a slightly bleeding surface. A straining effort on the part of the child forced urine from the bladder, which was collected, and found to contain pus and much epithelium, as evidence of cystitis.

The sphincter ani was relaxed to such an extent that three fingers could be passed through it without an effort. The child was then anæsthetized, and a more careful examination showed the presence of a large stone, free, in the cavity of the bladder.

Speedy removal of the stone was suggested, and the suprapubic operation decided upon,

on account of the large size of the stone and the facility of access by this operation.

The bladder was first thoroughly irrigated with a warm solution of boro-salicylic acid, and, after division of the skin in the linea alba, the patient was put in Trendelenburg's position, with head low and raised pelvis, by which means it was comparatively easy to avoid the reflection of the peritoneum.

It was not found necessary to raise the bladder by inflating the rectum,—two fingers of an assistant passed into the rectum being sufficient to bring bladder and stone into a convenient position above the symphysis. The bladder was now incised and the large stone removed with some difficulty, thereby producing slight laceration of the margin of the incised bladder.

Owing to this slight and unavoidable laceration primary union was not contemplated, but the bladder was sutured, nevertheless, and the wound filled with loose iodoform gauze, and the usual antiseptic dressing applied. The temperature of the patient was normal throughout the entire healing process, except on the third day after operation, when it rose to 102° F. for a few hours. The process of healing was all that could be desired, excepting a small leak in the suture, which was detected on the fourth day. At the end of three weeks the wound had closed, and the child was discharged cured.

During the time of convalescence the rectum came down once, and not again afterwards. The stone—which I here show you—is twice as large as a pigeon's egg and weighs twenty grammes.

Its presence in the bladder of the child had evidently caused the rectum to prolapse as a direct consequence of frequent straining, and its removal permitted the parts to assume their normal and natural condition.—*A. Caillé, M.D., New York, in Archives of Pediatrics.*

THERMO-PALPATION.—It has been known for some time that there is a difference in the surface temperature of the body corresponding to the organs underneath—that is to say, the temperature is higher over the lungs than over the liver or the heart. From a communication published in the *Orvosi Hetilap*, one of the

chief medical journals in Hungary, by Herr Jonas and Dr. Benzr, it appears that this fact is available as a basis for a novel method of physical examination which may be styled "thermo-palpation." These observers say that it does not require any peculiar sensitiveness of touch or any special education to appreciate the difference of temperature on passing the fingers over the surface of the body from the situation of the lungs to that of the liver, and that patients themselves, and students who had not yet learned percussion, were quite able accurately to detect the height of a pleuritic effusion by the difference of temperature. Diseased and healthy organs can be mapped out in this way by going over the surface, first say, downward and then upward, when the line of demarcation will be distinctly felt. The general principle appears to be that organs containing air, such as the lungs and intestines, permit of greater surface warmth over them than more solid organs, such as the heart, liver, spleen, etc. Of course, instead of using the fingers, a differential thermometer may be employed, and much slighter differences may be recognized than is possible by the touch alone.—*The Lancet*.

THE BACTERIA IN PERITONITIS BY PERFORATION.—In the first fasciculus of *La Cellule* for 1889, La Ruelle gives the results of a series of bacteriological investigations on cases of peritonitis, produced by intestinal perforations. He examined the peritoneal contents of two patients in whom perforation had been produced by strangulated hernia, and six animals (four dogs and two rabbits), in which perforations had been artificially produced in various ways.

In four cases, his microscopic preparations and gelatine cultures indicated the exclusive presence of one form of bacillus. In the other four, this bacillus constituted the immense majority of the organisms present in the peritoneal exudations.

This bacillus he found on cultivation to be identical with Escherich's bacillus coli communis, and, from the examination of the intestinal contents, not only of infants, but also of adults, and of various animals, he finds that it constitutes, in some cases, the only organism, in others, 95% of the organisms present.

In order to determine the role played by the bacillus coli communis in peritonitis, he injected it into the peritoneal cavity of a large number of dogs and rabbits, and obtained varying results, according to the conditions under which the experiments were performed.

If he mixed a quantity of the cultivated bacillus with sterilized physiological salt solution, there were noticed general symptoms of poisoning, presumably due to the ptomaine produced by the bacillus, but in no case, peritonitis.

If he mixed, however, the bacilli with a sterilized emulsion of intestinal contents in bile, he obtained, every time, well marked peritonitis. As control experiments, he injected animals with sterilized bile and intestinal contents, without obtaining peritonitis.

A histological study of the peritoneal lining showed that, although the bacillus alone produced certain changes in the endothelial cells, still they were slight. In cases, however, where the intestinal liquid was injected without the bacillus, the endothelial cells underwent extensive degeneration.

He concludes, therefore, that the bacillus coli communis produces peritonitis in cases of intestinal perforation, but that it is assisted by the intestinal contents, which prepare the way for it by their action on the endothelial cells, and also provide it with a quantity of food material for further development.

The bacillus, he considers, has a two-fold action; first a general toxic effect on the system, by the production of a ptomaine; and second, a direct inflammatory effect upon the peritoneal lining.

J. J. M.

NON-TUBERCULAR AND NON-CARDIAC HÆMOPHYSES IN ELDERLY PERSONS.—Sir Andrew Clark (*British Medical Journal*, October 26 1889) says that, at one time believing that every case of pulmonary hemorrhage was due to pulmonary tuberculosis, or malignant growth, or to aneurism or disease of the heart, a case was finally brought to his notice which not only convinced him of the error of this view, but revealed a distinct cause for pulmonary hemorrhage. This patient was a man, of about fifty or sixty years of age, suffering from moderate progressive osteo-arthritis and subacute bronchitis

with some emphysema. The heart and bloodvessels appeared sound. Very soon he began to cough up blood in small quantities at short intervals, and, in spite of all treatment, died from hemorrhage within a week. The autopsy revealed isolated patches of emphysema surrounded by hemorrhagic extravasations in the back and lower part of both lungs. Nowhere could there be discovered the slightest evidence of structural change, which would have accounted for the hemorrhage. A microscopical examination showed that the seat of the bleeding was in the immediate neighbourhood of the patches of emphysema, and that the minute terminal arteries in these localities were always diseased. There seemed to be a causal relation between the emphysema, the hemorrhage, and the condition of the bloodvessels. The author was led to conclude that the initial change had been some minute structural alteration in a terminal branch of the pulmonary or bronchial artery; that in consequence there had been a more or less complete obstruction to the blood supply of the territory involved; following this there had arisen degeneration of the capillaries and venous radicles, determining a true atrophic emphysema; that the impairment of the vessel walls had brought about the hemorrhage which ended in death. The structural changes in the affected bloodvessels were limited to nuclear proliferation in the middle coat, and an amorphous and hyaline infiltration of it and the intima. As the patient had for years been a well-marked arthritic, and as the lesions described were akin to those which are found in the diseased articulations, the author concluded that the affection was of an arthritic nature, and might be called "arthritic hæmoptysis."

Some years ago he had under observation a very similar case, in which fatal hæmoptysis occurred in the person of a typically arthritic man, and in whom the autopsy revealed a condition practically identical with that described in the first patient. In the last fourteen years he has seen about twenty cases of hæmoptysis of this kind, some of which he details, occurring in persons over fifty years of age. He draws the following conclusions regarding the affection and its treatment:

1. There occurs in elderly persons, free from ordinary diseases of the heart and lungs, a form

of hæmoptysis arising out of simple structural alterations in the terminal bloodvessels of the lung.

2. These vascular alterations occur in persons of the arthritic diathesis, resemble the vascular changes found in osteo-arthritic articulations, and are themselves of an arthritic nature.

3. Although sometimes leading to a fatal issue, this variety of hæmoptysis usually subsides without the supervention of any coarse anatomical lesion of the heart or of the lungs.

4. This variety of hemorrhage, when present, is aggravated or maintained by the frequent administration of large doses of strong astringents, by the application of icebags to the chest, and by the restricted indulgence in liquids to allay the thirst which the astringents create.

5. The treatment which appears, at present, to be the most successful in this variety of hæmoptysis, consists in diet and quiet; in the restricted use of liquids, and the stilling of cough; in calomel and salines; in the use of alkalies with iodide of potassium; and in frequently renewed counter-irritation.—*Amer. Jour. of Med. Sciences.*

DIAGNOSIS AND TREATMENT OF AORTIC ANEURISM.—At a recent meeting of the Medical Society of London, as reported in the *Brit. Med. Journal*, Dr. R. Douglas Powell opened a discussion on the diagnosis and treatment of aortic aneurism; clinically he considered that all the features of aneurism were grouped about the sacculated form; that in regard to clinical signs and treatment, the fusiform variety merged into the form of heart disease with which it was associated. In the fusiform variety the signs were manifested about the commencement of the vessel, no pressure signs were observed, and death occurred from cardiac failure, angina or syncope, the treatment was that appropriate to the heart condition. The essential phenomena of the—clinically—true or sacculated aneurism were:

First, those of pressure tumor signs; secondly those indicative that the tumor was a vessel tumor. To attach too much importance to the second of these signs without sufficient inquiry for those of tumor, was to invite error in diagnosis. Dr. Powell referred to those cases of abdominal aortic pulsation, where by paying

too much attention to signs of vessel disorders, and not enough to pressure signs the case will be mistaken for one of aneurism. A systolic murmur when heard over a localised area, remote from the heart, was of value in diagnosis, but in about half the cases of aneurism no murmur was present. A diastolic murmur was of great diagnostic value, for it furnished distinct evidence of intra-arterial disease and if associated with the pressure signs of tumor, the aneurismal nature of that tumor was almost demonstrated. Thrill was a comparatively rare sign in true aneurism. Of the signs symptomatic of vessel disease, Dr. Powell especially mentioned a systolic jog often appreciable to the ear, through the medium of a rigid stethoscope, and, of greater importance, the diastolic, stock sound in many cases could be similarly appreciated. Dr. Powell regarded Tufnell's method of treatment as most valuable, especially in cases of abdominal aneurism, and of sacs pressing deeply on vital parts. Tufnell's method, (1) diminished the cardiac beats, and therefore the aneurismal distensions by many thousands daily; (2) it reduced blood volume, and was said to inspirate and render more fibrous the blood; (3) it reduced blood pressure, slowed the current through the aneurism, and so favored conditions for clotting from the periphery. Dr. Powell condemned the wire and galvano-puncture treatment, as causing clotting in the centre rather than from the circumference of the aneurism.

Dr. Broadbent agreed with Dr. Powell that fusiform aneurism was not amenable to any treatment; the only thing was to lower the general intra-arterial pressure, enjoining rest if otherwise necessary, but not with the idea of promoting a cure. Dr. Broadbent attached a good deal of value to potassium iodide in the treatment of aneurism; his explanation of its action was that it virtually effected the same thing as the Tufnell treatment, draining off the fluid by the kidney and so inspirating the blood. Alluding to Dr. Sibson's plan of treatment by ergot, he said it unquestionably diminished the size of the tumor, though this was not due to its specific action on the muscular fibre in the sac wall, since he had never been able to discover any there.

Dr. Ord insisted on the diagnostic value of

local signs—pulsation, murmur, thrill, shock, dulness, undue pulsation, etc. and said he looked to pressure signs to complete the diagnosis. In treatment he had found Tufnell's method very beneficial, but generally associated it with iodide of potassium. He confirmed all that Dr. Broadbent had said with regard to the ergot treatment. The dose given by Dr. Sibson, was 20 minims of the liquid extract, with 20 drops of spirits of chloroform, to cover the nauseating tendency of the former.

Dr. Bristowe declared himself a pessimist in reference to treatment. He thought that drugs at most afforded a passing relief. He had no faith in treatment by wire or by galvano-puncture, nor in the iodide of potassium treatment. Patients with aneurism were benefitted by rest, diet, and generally by measures which reduced the intra-arterial blood pressure. He suggested, however, that it was open to question as to whether it was worth while rendering these patients useless members of society for the sake of a problematical prolongation of life for a few weeks or months, and he thought on the whole, that it was preferable to allow them to carry on their usual avocations, even if they died a little sooner, though this did not necessarily follow. He alluded to the cases of Dr. Murchison and Dr. Hilton Fagge, both of whom, though they suspected they were suffering from aneurism, continued to work to the last.

W. P. C.

Therapeutic Notes.

Prof. Bartholow recommends for *habitual constipation* a few minims of wine of tobacco, take at bedtime. It acts by increasing the secretion and causing peristaltic action.—*College and Clinical Record.*

HYPODERMIC SOLUTION OF CAFFEINE—

Benzoate of Soda	70 grains
Caffeine	80 grains
Water	120 drops.

Medical Press and Circular, Jan. 15th, 1890.

AN APPLICATION FOR TOOTHACHE.—The *Progrès Médical* credits Guild with a method of treating carious toothache by means of a mixture

of equal parts of crystallized carbolic acid and flexible collodion, which is to be carried to the bottom of the cavity. The pain is said to disappear instantaneously.

ANTIPYRIN IN THE TREATMENT OF WHOOPING COUGH.—Dr. Windelschmidt, of Cologne, treated 350 cases with antipyrin. In thirty per cent. antipyrin had no effect, or the patient passed away from observation: in fifty per cent. the result was very good, the duration of the attack being reduced to two or three weeks. To obtain the best results the antipyrin should be given as early as possible, and three or four times a day, in a dose of $1\frac{1}{2}$ grains for each year of the child's age.—*Centralblatt für die ges. Therapic.*

For a man suffering with *gastric ulcer*, brought before the clinic by Prof. Da Costa, the following was directed to be rigidly carried out: Absolute rest on the back in bed, milk diet, in which a small quantity of carbonate of soda is put, to render it alkaline; should this not sufficiently nourish him, then combine with the milk diet nutrient enema. For the anæmia accompanying the disease—

R. Ferri et potassii tartrat., ʒij
Glycerini, ʒj
Aquæ, q. s. ad fʒijj M.

Sig.—Teaspoonful three times a day.—
College and Clinical Record.

PHENACETINE OR PARA-ACETPHENETIDINE is one of the aromatic series of compounds discovered in the effort to find an artificial product possessing the properties of quinine.

It is an excellent antipyretic and analgesic, superior to antipyrin in that it is cheaper, given in smaller dose, and without any unpleasant after-effect, save perspiration. As an antipyretic, 7 grains cause a fall in the temperature, commencing in about half an hour, accompanied by sweating, the minimum being reached in three or four hours. Although the sweating is more or less profuse, collapse or chill is never observed. It is said that it may be administered for months without any unpleasant consequences, although it seems to lose somewhat of its effect. Its antipyretic action may be made use of in any febrile affection.

In the same dose, 7 or 8 grains, it gives great relief in one or two hours in the various forms of neuralgia.

During the epidemic of influenza, it has been given very generally in doses of 7 to 12 grains, repeated every half hour, and whilst causing in most cases profuse perspiration, has speedily relieved the frontal headache and the vice-like pains felt in the loins and extremities.

THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS
OF THE MEDICAL SCIENCES.

Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.

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TORONTO, FEBRUARY, 17, 1890.

HYDERABAD CHLOROFORM COMMISSION.

The number of the experiments, the care and accuracy with which they have been performed and recorded, the high reputation of the members of the Commission, demand for the conclusions a careful, even if incredulous, consideration. To be told that the danger of chloroform is not from syncope, but from respiratory failure, that stimulation of the vagi is a safeguard, not a danger, that fatty heart is not a contra-indication to its use, is indeed a shock to medical orthodoxy.

Death is said to occur once in every 3000 cases of chloroform anæsthesia, but Surgeon Major Laurie has given chloroform more than 10,000 times without a single mishap. He says that careful examination of all the recorded cases of death from chloroform in Great Britain, since 1885, shows that in not one case did death occur when the respiration, and the respiration alone, was attended to.

It must not be supposed that the Commission teaches that chloroform is absolutely safe. Death may occur, but now it must be ascribed to carelessness of the chloroformist. Chloro-

form retains all its old properties : we have merely gained more knowledge as to these properties.

THE CONTEST IN THE BATHURST AND RIDEAU DIVISION.

There will not be many election contests for representation in the Ontario Medical Council, for the next session. The majority of the old members will be elected by acclamation. In Bathurst and Rideau, however, there will be a lively contest between the former representative, Dr. Cranston, of Arnprior, and Dr. A. F. Rogers, of Ottawa. It is thought by some that, as Dr. Cranston has represented the Division for nine years, he should now retire, and allow a new man to enjoy the honors. A number of the physicians in Ottawa think, in addition, that, as the rural portion of the Division has had the representation for ten years, the city should now be allowed to choose the representative.

The new candidate is a worthy physician, in good standing in Ottawa, and we believe his friends are correct in thinking that, if elected, he will prove a good member of the Council. One of the principal planks in his platform is the contention that every student should be compelled to graduate in arts before he commences the study of medicine. We think we can say, with considerable confidence, that the vast majority of the profession in the Province will not agree with Dr. Rogers.

It is only simple justice to Dr. Cranston, the honored President of the Council, to say that in the past he has been one of the most efficient and fair-minded members of that body. We are not disposed to make any suggestions in the matter of the election, believing that the residents of this Division are capable of making an intelligent and judicious choice; but we think that those outside of Rideau and Bathurst, who have watched carefully the proceedings of Council for many years, will be well pleased to see Dr. Cranston again returned to his old position.

ONTARIO MEDICAL ASSOCIATION.

The tenth Annual Meeting of the Ontario Medical Association will be held in Toronto

June 4th and 5th, under the Presidency of Dr. J. Algernon Temple.

If the papers already promised may be taken as a criterion, the meeting bids fair to be even more successful than that of last year.

In the Surgical Section, Dr. M. Sullivan, of Kingston, will read a paper on Hernia; the discussion will be taken up by Dr. L. McFarlane of Toronto and Dr. Waugh of London.

Dr. A. S. Carson, of Toronto, will in the Obstetrical Section deal with "The Prevention of Post-Partum Hemorrhage." Dr. Powell, of Ottawa, and Dr. Allen Baines, of Toronto, will throw additional light on this important subject.

In the Ophthalmological Section, Dr. Ryerson, of Toronto, will read a paper on "The Ophthalmoscope in Relation to Diseases of the Nervous System." Drs. Palmer and Wishart, of Toronto, will discuss the paper.

Arrangements have not yet been completed for the Sections in Medicine and in Therapeutics.

A paper on "Duodenal Ulcers" is promised from Dr. J. H. Duncan of Chatham. Dr. Andrew Smith, of New York, will contribute a paper, illustrated by apparatus, on "Empyema, with Mechanical Results of Opening the Thorax."

The members of the Association will be gratified to know that Dr. Goodell, of Philadelphia, and Dr. Emmett, of New York, have expressed their intention to be present and to take part in the proceedings.

It is requested that any member who intends to present a paper will, as soon as possible, send the title of his paper to Dr. J. E. Graham, Toronto, Chairman of Committee on Papers, or to Dr. D. J. Gibb Wishart, Toronto, Secretary of the Association.

A CITY'S REFUSE.—The ordinary refuse of the city is greater than most people would suppose. The *Medical News* calls attention to the fact that the Street Commissioner of New York has given a contract to trim the garbage scows to an Italian, who agrees to pay \$1552 per week for the privilege, or \$80,704 per year. The contractor employs men to pick over the refuse while trimming the scows, and from what they hand over to him, he is able to secure a large profit.

Meeting of Medical Societies.

NEW YORK ACADEMY OF MEDICINE. SECTION ON ORTHOPÆDIC SURGERY.

Stated Meeting, Jan. 17th, 1890.

V. P. Gibney, M.D., Chairman.

Dr. W. R. Townsend presented a case of
CONGENITAL TALIPES: RIGHT EQUINO-VARUS,
AND LEFT CALCANEO-VALGUS.

The case was of considerable interest on account of its rarity. Mr. Tamplin states that out of 764 cases where the deformity was congenital, there were only 15 in which there was varus of one foot and valgus of the other; and only 19 cases of calcaneus. Dr. Townsend said that this case came to him at the Hospital for Ruptured and Crippled on Dec. 23rd, when only ten days old. It was the mother's second child, and the labor had been normal; there was no history of club-foot in the family. He had already commenced treatment of the right foot, and consequently the deformity was not so marked as when he had first seen the case.

Dr. A. M. Phelps said that this was only the second case of the kind that he had seen; and in connection with it, he desired to present a plaster cast of two feet removed from the womb of the mother after her death at the sixth or seventh month of utero-gestation. It showed equino-varus of the left, and calcaneo-valgus of the right foot, and was an admirable example of the manner in which the deformity had been produced by the pressure of the uterus. There was no history connected with it beyond what had been stated. The original is in Prof. Volkman's museum at Halle, Germany.

Dr. John Ridlon remarked that the chief interest in this class of cases is connected with the subject of their causation. He had seen only one other case, which was shortly after the publication of Dr. H. W. Berg's paper on this subject. This patient had the same deformity, and in addition, clubbed hands on both sides.

Dr. V. P. Gibney did not think he had seen more than three or four such cases in an experience of eighteen years. He thought that the retarded rotation theory, as explained by Dr. Berg, accounted very well for these cases.

Dr. A. B. Judson said in regard to the foot affected with calcaneus, that although at first sight it appeared to be a severe deformity, it was quite amenable to treatment, and cited a case published by Dr. Churchill of Iowa in support of this assertion, in which he advised simple manipulations, and made an appointment to do a tenotomy one month later. At the end of that time, he was surprised to find that the deformity had entirely disappeared. In another similar case reported by Dr. Prouty, of New Hampshire, the trouble was entirely remedied by the same simple manipulations, so that when the child began to walk, the foot was absolutely normal.

A remarkable case had been reported by Dr. Gibney a few years ago to the N. Y. Pathological Society, in which the calcaneus was so extreme that the digits had made indentations on the anterior part of the leg.

The paper of the evening on "The Operative Treatment of Talipes Calcaneus, Paralytic," was read by Dr. V. P. Gibney, who exhibited eight patients illustrating the advantages of the operation described in his paper. This operation was that which Mr. Willett, of St. Bartholomew's Hospital, published in the St. Bartholomew's Hospital Reports, in 1880. The technique is as follows: A large Y-shaped incision over the posterior aspect of the leg; lower fourth, the stem of the Y ending at the os calcis,—the stem itself about one and a half inches in length, while each side of the V-shaped portion is about two and a half inches long. The incision exposes the sheath of the tendon. The V-flap is then dissected, the sheath is opened, and the tendo Achillis raised from its bed by a curved director. A strong catgut ligature is passed through the upper portion of the tendon to serve as a means of preventing retraction after section; and the tendon is cut through obliquely, this section being made as oblique as possible. With the Vulsellum forceps, each end of the tendon is grasped, and the upper portion pulled down towards the os calcis, while the foot is fully extended and the knee slightly flexed.

The tendon is sutured together with catgut, back and forth, with about three or four heavy sutures; and the end of the V-flap brought down to the end of the stem, and the edges sutured, taking every alternate stitch through the tendon itself.

The aim is to convert the Y-shaped wound into a V-shaped cicatrix. It is better to use catgut altogether, in order that the wound may not be disturbed for three or four weeks. Dressings and plaster of Paris, which extends from the toes up to the middle third of the thigh, the knee being flexed to an angle of about 120 degrees, and the foot extended to the full limit, complete the procedure. The operation practised by the reader of the paper differs a little from that of Mr. Willet, in the following particular: Mr. Willet used wire and excised a portion of the tendon. The wire he used was merely for fastening the ends of the tendon together. The objections offered to his mode were that the wire cut through the tendon, and that one was in danger of removing too much tendon.

The paper was based upon an analysis of 28 cases operated upon during the past six years. The results showed 17 good, 8 fair, and 3 poor. The term "good" was defined as a useful foot without any relapse after a sufficiently long time; ability also to walk without a brace or support of any kind. "Fair" was defined as a slight stretching of the cicatrix, but not enough to impair the usefulness of the foot. Shoes with the heel raised and a steel tongue are also required to make the gait satisfactory. "Poor" referred to those cases where the cicatrix had stretched and the deformity had relapsed.

The general results, however, were very satisfactory. The time elapsing between the operation and the date of last observation was as follows:

From 3 to 12 months,	9
From 1 to 2 years,	15
From 2 to 3 years,	1
From 3 to 4 years,	1
6 years,	1
5 years,	1

16 healed by first intention, 12 by granulation. Of those healing by primary union, 10 were good, 3 fair, and 3 poor. Of those healing by granulation, 6 were good, 5 fair, and 1 poor. In those where granulation took place, the tendon sloughed in 3 instances, and a portion was removed through the wound. In no instance was a brace required, but particular attention was given to the building of the boot or shoe. The instructions were to have the heel raised at least

one inch, to have a stiff counter, and a leather tongue reinforced by tempered steel. The hopelessness of paralytic calcaneus was discussed at length; the difficulty of correcting the deformity by means of apparatus; the great strain on the spring itself; the frequency of breakages; and the unsatisfactory results generally.

Dr. Joseph D. Bryant said that he had been especially interested in the statement regarding the changes which in many cases occur in the length of the new tissues which had been connected by the operation with the tendo Achillis. The subject was of much importance as bearing upon the question of the behavior of cicatricial tissue elsewhere in connection with the repair of deformities of another kind; and although it does not follow that because fibrous tissue in this particular situation retracts after the force has been taken from it, that fibrous tissue will do the same thing elsewhere, the subject becomes of immense practical importance in connection with the recent methods for the radical cure of hernia. If we study the behavior of the cicatricial tissue of burns when put on the stretch, we shall find that it will stretch, but that when released, it will return to its former position, or even become more contracted. Such tissue might properly be compared to rubber which is tireless, while the tissue concerned in the operation under discussion might be looked upon as rubber which has become tired.

He would like to know if one of the cases which showed such extreme loss of power was likely to be benefited by a repetition of the operation.

Dr. C. A. Powers was particularly interested in the subject of tendon suture of the hand and wrist, in which he had had a considerable experience. He had become convinced that careful antiseptic suture of these cases, with proper rest of the parts, yielded uniformly good results. Primary union seemed to be a requisite for a good functional result in hand and wrist cases; for, when healing took place by granulation, the tendons became caught in the cicatrix and there bound. He would like to know in what proportion of cases the author had secured primary union, and how the result seemed to be modified when healing took place by granulation.

Dr. R. H. Sayre had noticed that some of the patients exhibited were able to move the heel independently of the long flexor of the great toe, and he supposed that as the paralysis had been only partial, the shortening of the tendon had enabled the weakened muscles to act to better advantage. Such cases ought to be much benefited by the persistent use of massage and galvanism, and they present a much more favorable field for operation than those in which the paralysis is absolute; for, under such circumstances, shortening of the tendon only results in the formation of an unyielding fibrous cord.

The progress of the deformity when untreated must depend largely upon the amount of damage originally done to the spinal cord. He had seen patients with very marked cavus, who, instead of walking on the bottom of the heel, walked upon the posterior portion, which had in consequence developed an elastic buffer. He had hesitated to interfere, as such cases do not hold out much hope of improvement, and the gait is much better than the appearance of the foot would lead one to suppose was possible.

As regards treatment, he favored the use of a brace similar to the one described by Dr. Gibney, or with an elastic spring to take the place of the gastrocnemius. Such an appliance will give the patient comfort, and enable him to move about with less of a wooden tread.

The results shown in the cases this evening are exceedingly good, but he was surprised at the amount of stretching which the cicatricial tissue had apparently undergone. The usual plea against tenotomy is that the resulting scar tissue tends to contract and reproduce the deformity. This, he thought, was a mistake; for the tissue obtained after a subcutaneous tenotomy is not at all comparable to that obtained in an open wound by the process of granulation. There should be no more secondary contraction after a non-suppurative subcutaneous tenotomy than occurs in tissues after aseptic healing by blood-clot. Whatever elongation has occurred in the cases shown this evening in all probability took place, not in the cicatrix, but in the muscular fibres above, the paralyzed muscle being constantly antagonized by a normal muscle, and thus gradually stretched out.

Dr. Ridlon said that one of the patients ex-

hibited had been seen by him last summer, and he had then strongly favored tenotomy on account of extreme equinus which then existed; but he saw that the foot was now in good position.

In the mechanical treatment of this condition, he had been accustomed to employ the apparatus with the "rubber muscle" at the back: but since Bernard Roth of London published the description of his brace for drop-toe with tempered spring at the back of the leg, he had considered that such an instrument, having a spring running from the garter line with a steel plate to the ball of the foot, was much better than those ordinarily in use.

Dr. H. W. Berg was inclined to take a gloomy view of these cases of polio-myelitis, yet he did not consider them entirely beyond help from neurological treatment. Were it conclusively proven that the nervous supply of the posterior group of leg muscles, for instance, is entirely derived from one level of the anterior gray horns in the spinal cord, or from one series of cells in the spinal cord, it is obvious that if these cells had been entirely destroyed, any electrical treatment must of necessity be useless as regards restoring power to the limb. But it has not been proven that the nervous supply is derived in this way, and it is barely possible that a few cells, giving rise to fibres of any one nerve, have escaped the inflammation. The number of these nerve fibres remaining may be so small as to escape notice in an electrical examination, and yet be sufficient to exert an important influence upon the movements of the foot. Hence, if these healthy nerve fibres and muscle fibres to which they are distributed be stimulated by a galvanic current, they will take on a vicarious action under the irritation of the galvanic current, and will cause even in old cases of poliomyelitis, as he had frequently observed, a decided improvement in the power to extend the foot. In his experience, fully ninety-five per cent. of the cases had been relieved, although none were cured. He did not think that even the most enthusiastic operators claimed that they did more than relieve their cases. A large number would certainly be benefited by the operation described by Dr. Gibney; but any operation including simply the soft tissues was hardly a philosophical one,

and could not be expected to give as good results as one which would fix the bony tissues.

It is evident that in the cases exhibited, the scar tissue has stretched as the children grew older and the weight of the body increased. This result could be postponed but not averted by furnishing a support for the foot.

Dr. Judson said that the difficulty in walking experienced by these patients was due to their inability to use the anterior part of the foot, so that the toe cannot be pressed forcibly against the ground; and hence, they walk very much like one having a peg leg, or an amputation of the anterior part of the foot.

It has been stated that the aborigines of this country were in the habit of performing Lisfranc's amputation upon their captives, who were thus able to work in the fields, but were incapable of rapid locomotion towards liberty. A patient affected with talipes calcaneus is in practically the same condition.

The object of the operation described this evening seems to be to restore some of this function of the anterior part of the foot, so that the patient, in walking can bring the weight first on the heel and then on the toe; but it is not easy to understand how the operation can accomplish this, for it is essential that there be very firm union between the calcaneus and the upper extremity of the tibia along the line of the gastrocnemius. With one exception, the cases exhibited could not put their weight on the toe at the same time that the well foot was raised from the ground; nor is it reasonable to suppose that they will retain for any great length of time the slight connection between these parts. He was inclined to think that a cicatrix resulting from primary union was less liable to contract than one which occurs after a long process of granulation. It is difficult to over-estimate the strain which falls on the tendo Achillis. The great mass of the muscles of the calf gives an indication of this force. The foot may be considered as a lever of the second class, the fulcrum being at the toe, the weight at the ankle, and the power at the heel. The long and short arms of the lever are represented, respectively, by the portions between the ankle and the toe, and the ankle and the heel, and the strain produced

by the weight of the body is thus multiplied as it falls on the tendo Achillis.

He thought that much could be done for these patients by mechanical treatment, and the object of his brace was to transfer some of the weight of the body to the anterior part of the foot. In the brace formerly described by him, there was a joint at the ankle to arrest motion at a right angle; but the brace has been rendered much more durable and equally efficient by the omission of the joint in the present instrument. The weight which naturally comes on the plantar surface of the anterior part of the foot in a well person, with this apparatus comes upon the anterior part of the upper portion of the tibia in the neighborhood of its tubercle; so that the patient first strikes the heel, and then puts the weight upon the anterior part of the leg in its upper portion, thereby decidedly improving the gait. The sensation is very much like that of kneeling; for the weight, instead of coming on the ball of the foot as in the healthy person, comes on that part of the tibia which takes the weight when in the kneeling posture.

These cases cannot of course be cured by the use of such apparatus; but adult patients are often very glad to wear a simple and durable apparatus which improves the gait.

Dr. Judson remarked that Dr. C. Fayette Taylor had once said that one reason for the muscular degeneration which occurs in these cases is, that the weakened and half paralyzed muscles being compelled to endure such an enormous strain, yield at once; but if they are relieved by means of an apparatus, of some of this duty, they are less likely to undergo such degeneration, and therefore the chances are better for ultimate improvement.

Dr. Frederick Peterson agreed with the reader of the paper regarding the usefulness practically of the galvanic and faradic currents in these old cases; for he did not believe that the current could restore destroyed muscle fibre or degenerated nerve fibres or cells.

Dr. H. L. Taylor said that in considering tenotomy one must remember that in most cases not only the muscle but the tendon itself is atrophied, so that it is at times a mere thread. These cases of calcaneus are exceedingly difficult to treat, and any real advance will be very welcome; but he considered that the mechani-

cal treatment was fairly satisfactory as a palliative measure. We can retain the foot in a position of election for an indefinite period, and improve locomotion by enabling the patient to transfer the weight from the heel to the ball, not of course through the tendo Achillis, but by impinging on the upper end of the tibia by means of an apparatus.

He wished to lay emphasis on the statement that calcaneus could usually be prevented from developing, when these paralytic cases were seen sufficiently early. The foot could be held with absolute precision; and although he had followed for a considerable time cases of paralysis of the posterior tibial muscles, he could not recall a single one in which calcaneus had developed under proper mechanical treatment.

Dr. Phelps said that in cases of flail foot with absolute paralysis he was accustomed to do an excision, or a Pirogoff's amputation, which is a safe operation providing firm ankylosis can be secured. Unfortunately this is not always obtainable in children. When the tendon unites primarily union takes place by blood-clot, and the result is not cicatricial tissue but a reproduction of the tendon; and therefore stretching cannot take place in the tendon itself but in the body of the muscle. The same argument has been brought forward against the open operation for club foot, only it has been claimed that the cicatricial tissue contracted; but when healing by blood-clot follows that operation the cicatricial mass does not contract, nor did he believe it yielded.

From birth up to the third or fourth year, and even later, there is a development of the deformity, and therefore in estimating the beneficial results from any special method of treatment, one must wait a similar length of time before passing upon the result.

He had been much interested in Dr. Gibney's cases on account of the candor with which they had been presented, and the care exhibited in securing careful histories; but until the ultimate results could be ascertained, he preferred to cut the anterior tendons when required and apply a brace similar to the one which had been presented; or a brace with a posterior rubber muscle acting on a lever attached to the sole of the shoe; and in special cases, either Pirogoff's amputation or excision.

Dr. Gibney, in closing the discussion, replied seriatim to the questions that had been propounded.

He could not say whether a second operation in one of the cases would be of any benefit.

He had not entirely completed his table of results, and could only say that about one-half of the cases had healed by primary union, and that his analysis, so far as it had gone, failed to show much difference in the results dependent upon the method of healing. He had, of course, always aimed to secure primary union; but some of his best results had been obtained in cases in which the granulating process had been tedious, and even where some of the tendon had protruded and had sloughed away, or had required removal.

He was sorry that he was unable to furnish records of systematic electrical examinations in these cases; but in the hurry of hospital work this portion of the work had frequently been omitted. He had, however, the report of an examination made by Dr. M. A. Starr before the operation on a little boy who had attracted attention by his ability to stand on his toe and on the ball of the foot. Dr. Starr reported at that time, two years ago, that the posterior group of muscles showed well marked reaction of degeneration, and failed to respond at all to the faradic current, and he gave it as his opinion that it was very doubtful if recovery would take place. Dr. Gibney thought that most of the gentlemen present would agree with him in saying that the patient now had considerable power in that posterior group of muscles.

In alluding to electrical treatment he did not intend to disparage all such treatment, but simply to record his own disappointment with it in connection with confirmed cases of calcaneus. He believed with Dr. Berg that if certain nerve fibres still remained intact, they could be developed by appropriate treatment. He was also willing to admit that an operation which secured ankylosis or synostosis was capable of giving a very useful foot; but from what he had heard of the operation there seemed to be good cause for doubting the permanency of the results. Besides this, the operation was a much more formidable one than that which he had described in his paper, and it would often be impossible to secure the consent of the parents.

to perform it, while they would willingly agree to the other operation.

In regard to the mechanical points raised by Dr. Judson, it must be remembered that in addition to the gastrocnemius muscle, the perineal group and some of the interossei are also involved.

In only one of his cases had he met with the ribbon-like form of the tendon, and the result of this case is reported as "poor." When this condition exists the tendon must be brought further down, and particular care exercised in the process of suturing, aiming to have the tendon well imbedded in the V-shaped flap.

Dr. Phelps presented a specimen that was apparently an intracapsular fracture of the femur. It had been removed from a man in the dissecting room, who was noticed to have the legs flexed and abducted, and twenty or more sinuses, healed and unhealed, about the thigh, which had burrowed in every direction. Through a most unfortunate mistake on the part of those who secured the specimen, the soft parts were all carefully removed. The pus is stated to have come from a cavity behind the mass of new bone which is seen in the acetabulum; and the new joint is found to be perfect. When the specimen was exhibited a few evenings since before the Surgical Section it was thought to be a case of old hip joint disease, but the specimen clearly shows, since sections have been made, that this is not the case, and is of peculiar interest as illustrating the utter impossibility of curing such a case by mechanical treatment. It was a strictly surgical case, and unless the sinuses were followed up and treated by thorough curetting and free drainage with antiseptic precautions, the man must have died, as he did die, from amyloid disease of the liver and kidneys.

Dr. J. D. Bryant concurred in the opinion that this was a case of intracapsular fracture.

A SIMPLE METHOD OF PREVENTING THE BREAKING OF PLASTER AND WAX CASTS.

Dr. Phelps exhibited two casts so treated. He said that in order to render plaster or wax casts almost unbreakable, it was only necessary to rub well the surface of the cast with plum-bago, and then by the process of electro-deposition, cover the whole surface with a film of copper about 1 mm. in thickness. To illustrate

the efficacy of this method the speaker took one of the specimens, a large cast illustrating Dupuytren's Contraction, and threw it violently upon the floor, without its sustaining the slightest damage.

The other specimen had already been shown at the meeting in connection with Dr. Townsend's case of club feet.

Hospital Reports.

GANGRENE OF THE HAND INDUCED BY A TIGHT SLEEVE—RECOVERY.

UNDER THE CARE OF DR. NEVITT IN THE HOUSE OF PROVIDENCE, TORONTO.

H. H. æt. 3½.

The boy was restless and cross for several days, and complained of his hand, which had become much swollen and painful. The swelling and pain increased, and on Jan. 27th, his mother, on examining the hand, thought that, at a point in the palmar surface, it was "going to break." She punctured it with a needle, but nothing came away, except a drop of clear fluid; at night she applied a bread and water poultice. Dr. Nevitt saw the case on the following day, when he found the hand and forearm greatly swollen, and of a mottled purplish colour; the swollen parts felt quite cold; there was a spot, about the size of a twenty-five cent piece on the palm, opposite the roots of the middle and ring fingers, which had become quite gangrenous. On examination it was found that constriction was caused above the elbow, by a rather tight sleeve, which, there is every reason to believe, had not been removed since the child had first complained of pain. Dr. Nevitt made a free incision in the palm, carrying the knife through the gangrenous area; this was done with the object of relieving the great tension. There was scarcely any bleeding; a considerable quantity of blood-stained serum however escaped; the operation caused little or no pain. Hot linseed meal poultices were then applied to the entire hand and wrist. The arm was relieved from the constricting influence of the sleeve. Jan. 29th, the swelling was still very great, but the circulation in the hand was much improved. During the next two days the hot poultices

were continued, the swelling rapidly diminished and the part assumed a more natural appearance; sensation was completely restored, and free movement of the fingers became possible as the swelling disappeared. On Feb. 5th, the wound had almost healed, and the parts were in a natural condition.

CYST UNDER THE OCCIPITO-FRONTALIS MUSCLE FOLLOWING INJURY -OPERATION - RECOVERY.

UNDER THE CARE OF DR. NEVITT IN THE
HOUSE OF PROVIDENCE, TORONTO

L. H. *et. 10.*

Last November she was playing with some children and, while running swiftly past the corner of a house, struck her head against a projecting brick, receiving a very severe blow. She cried for a time but soon resumed her play, and thought no more of her head until three days after, when the injured area became swollen and painful.

The swelling, which was situated on the right side of the head, midway between the occipital protuberance and the parietal eminence, increased, and the pain became so severe that she was unable to sleep at night. Hot poultices were applied, and these relieved the pain. Two weeks after the accident the swelling was tapped by means of a trochar and cannula; some pus was withdrawn but the cavity refilled rapidly. Two days subsequently the tumour was opened and a drainage tube inserted, the cavity then seemed to close, but after removal of the tube swelling and pain again occurred.

It was opened a second time, two weeks after the first operation, and a drainage tube inserted; the tube was left in for three or four days and, the discharge ceasing, it was removed.

A few weeks after this Dr. Nevitt first saw the patient; the swelling had reappeared; there was a soft tumour, apparently under the occipito-frontalis muscle, its limits could be fairly well-defined: fluid was contained, without tension, in a loose baggy sac. The scar of the old opening was incised and about two ounces of an oleaginous fluid, sticky to the feel and brownish in color, were withdrawn; strands of catgut were inserted as a drain and a dry absorbent dressing applied; the wound healed readily.

The sac, however, refilled, and on January 30th she was put under chloroform, and a free incision was made through the entire length of the tumour, extending from a little above the occipital protuberance to within about one-half an inch of the right parietal eminence. The lining of the cavity was white, glistening, and smooth, the walls gliding smoothly on each other, the floor was apparently formed by the pericranium. The cavity was then stuffed with iodoform gauze, and allowed to granulate from the bottom. It was, at first daily and then every second day, washed out with carbolic acid solution and dressed with the gauze. At the first dressing there was a considerable discharge of pus and blood: but since then there has been very little.

When last seen, February 10th, extensive granulations had formed, quite filling up the cavity, and healing was progressing very satisfactorily.

(For notes of these two cases we are indebted to Miss Mary A. Gifford and Miss L. Graham, students of the Woman's Medical College, Toronto.)

A CASE OF MORPHINE POISONING IN AN INFANT SIX DAYS OLD RECOVERY.

BY J. R. LOGAN, M.D., M.R.C.S., ENGL., GRAND
FORKS, N. DAK.

This case has seemed to me to be of sufficient interest and rarity for publication, from the extreme youth of the patient, the length of time elapsing from the apparent death of the child until signs of life were elicited, fully an hour, and the length of time during which electrical treatment was required before natural breathing took place. Last December I was called about half past three one afternoon to see a baby, said to be dying. On my arrival about half an hour later, I was told that the child, a boy six days old, had been dead for at least three quarters of an hour. I found out from the nurse that during the previous night the child had been restless, and that she had given it 2 or 3 drops of Magendie's solution of morphine, which the mother was using for after pains, and that she was afraid to tell anyone of it, until I got the history from her. I examined the baby, and found its extremities cold and

blue, no respiration or heart beat to be detected. Having with me a common portable McIntosh faradic battery, I applied one pole over origin of phrenic nerve, the other over diaphragmatic region, while having the extremities wrapped in warm flannels. After about ten minutes application of electricity and artificial respiration, a feeble gasping inspiration was noticed, and shortly after the heart's beat could be detected. This occurred at about a quarter past four o'clock. The heart's beat continued to grow stronger, but respiration only took place when battery was applied. Directing the nurse to continue intermittent applications of the battery at regular intervals, to imitate natural respiration, I left, intending to return soon and give a hypodermatic injection of atropine as an antidote: being unexpectedly detained, I did not see the patient again until next morning, and was glad to find him breathing well, though much exhausted. From the nurse's account of the night, I got the history that the baby did not attempt to breathe naturally until five o'clock in the morning. Many times she suspended the use of the electricity, but no attempt at respiration was made: the application of the battery poles always elicited an inspiration. At five o'clock natural respiration began, soon he was able to swallow a few drops of strong coffee, and from this on, improved rapidly. Recovery was complete, and baby is now healthy. Success in such cases encourages one to continue efforts at resuscitation for a long time in cases of suspended animation from narcotic poisoning, asphyxia, etc.

Two drops of Magendie's solution represents $\frac{1}{15}$ of a grain of morphine: this is the smallest possible amount that was given in this case, and it is probable the dose was larger. The only remedial agent used was faradic electricity, and the application of this was required for more than thirteen consecutive hours, during which time no effort at natural breathing was made by the child.

A GENEROUS DONATION.—Some one, who wishes his name to be unknown, has signified his intention to give a half million dollars to found a convalescents' home, to be connected with the general hospitals of London.

Book Notices.

A Text-book of Animal Physiology, with introductory chapters on General Biology, and a full treatment of Reproduction. For students of Human and Comparative (veterinary) Medicine, and of General Biology. By Wesley Mills, M.A., M.D., L.R.C.P. (Eng.). Professor of Physiology in McGill University, and the Veterinary College, Montreal. New York: D. Appleton & Co.

This book will be of undoubted value to the student of physiology. The writer has devoted special attention to the comparative side of the subject, and this is the book's distinctive characteristic. We must not, however, lose sight of the fact that the study of physiology is always of necessity comparative, and is so presented to us in all the best text-books on the subject. The work will be of great use to the veterinary student, who will find in it a useful text-book which is very comprehensive, and yet not too elaborate in detail. The student of human physiology may with advantage add this book to his library; it will not, however, supplant such text-books as Foster or McKendrick. The writer displays much originality, and the book is written in an interesting manner, while the author's meaning is stated with clearness; the illustrations are numerous and are well executed.

The manner in which the coagulation of the blood is discussed is not as satisfactory as we would wish. The phenomena presented in the clotting of blood have been studied very minutely by many observers, and most important facts have been discovered. The action of a fibrin-ferment on fibrinogen in the production of fibrin has been considered as proven by the majority of physiologists. The part played by the white corpuscles, or the hæmatoblasts, or the influence exerted by the condition of the vessel wall in precipitating the process of coagulation, are questions which demand further investigation. The author of "Animal Physiology" deprecates the amount of work, with so little profit, which has been expended in this field of research, and, while he is inclined to ignore the important discoveries which have already been made in investigating this difficult subject, he suggests no alternative theory, and offers no satisfactory explanation of the phenomena.

The subject is beset with many difficulties; the

fact that it is impossible to study the exact nature of the blood within the living blood vessels is an obstacle in the way of our investigations; the importance of the subject, however, cannot be over-estimated; we know part of the truth, but further investigation is demanded.

A Compend of Human Physiology. By Albert P. Brubaker, A.M., M.D., Demonstrator of Physiology in the Jefferson Medical College, etc. Fifth Edition, Revised and Enlarged. Philadelphia: P. Blakiston, Son & Co.

The series of "quiz compends" has become widely known. The fact that a fifth edition of this little volume has been called for, indicates that it has been of service in the past, and its popularity will no doubt be maintained.

Annual of the Universal Medical Sciences. A Yearly Report of the Progress of the General Sanitary Sciences throughout the world. Edited by Charles E. Sajous, M.D., lecturer on Laryngology and Rhinology in Jefferson Medical College, Philadelphia, and seventy associate editors. Issue of 1889, Volumes iii. and iv. F. A. Davis, Philadelphia, New York and London.

These valuable publications, which appear annually, prove of great service to the practitioner who wishes to keep abreast of the medical literature of the day. We know of no work which affords as much reliable information in such a concise and readily accessible form. The contents of volume iii. are devoted to surgery; the first article is an important contribution by Professor Senn, of Milwaukee, on the surgery of the brain and nerves. In the section devoted to antiseptics we find no reference to the introduction of the double cyanide of mercury and zinc as a new antiseptic; the value of this substance was brought to the notice of the profession by Sir Joseph Lister in an address published in the *Lancet*, 1889, Vol. ii., p. 943.

Volume iv. contains a very complete account of the contributions to our knowledge in diseases of the skin and syphilis, and diseases of the eye, ear, nose, pharynx and larynx. Sections are also devoted to legal medicine; examination for life insurance; diseases of the blood and spleen; and diseases of the thyroid gland. The last article in the volume is a useful contribution

on the subject of urinalysis by Professor Tyson and Dr. Allen J. Smith.

The publishers of these volumes deserve credit for the manner in which they have done their work, the volumes are neat, well printed, and copiously illustrated. The vast amount of information contained in them will be of great value to the medical practitioner.

Personal.

DR. H. NEWELL MARTIN, of Johns Hopkins University, has been elected President of the American Society of Naturalists.

MISS GORDON, a graduate of the Toronto General Hospital Training School for Nurses, has been appointed matron of the Belleville hospital.

DR. T. P. WEIR, (Tor., 1888), has been appointed an assistant physician in the Toronto Asylum for the Insane, in the place of Dr. Canc, who resigned.

Births, Marriages and Deaths.

BIRTHS.

WRIGHT.—At 279 Sparks street, Ottawa, on Friday, the 27th of February, inst., the wife of Dr. Henry P. Wright, of a daughter.

DEATHS.

MOORE.—On Thursday, February 6th, 1890, at the residence of his father-in-law, R. S. Williams, Esq., corner of Wellesley and Sherbourne streets, Wm. Moore, M.D., in the 33rd year of his age.

Dr. Gordon W. A. Ross, of Embro, died Feb. 5th, from congestion of the lungs, resulting from an attack of influenza.

WE regret that through some misunderstanding between our proofreaders and the compositors, certain articles in our last issue appeared in a form not the most intelligible.