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ACUTE LARYNGITIS, EPIDEMIC ON THE RIDEAU CANAL IN 1829 & 1830.

By PETER H. CHURCH, M.D., Aylmer, C.W.

(Extract of Thesis presented to the University of McGill College, in conformity with the Statutes for Graduation. May 24, 1846.)

My object in choosing this as the subject of my thesis is to draw the attention of the Faculty to a type of this disease, which made its appearance in the vicinity of the Rideau Canal during the time I practised in the Johnstown District, in 1830, in the form of an epidemic.

I will, in the first place, enumerate the symptoms of simple acute laryngitis, for the purpose of shewing the difference between it and that which made its appearance in the epidemic above mentioned.

The following may be taken as the diagnosis of acute laryngitis. At the first onset the symptoms rarely differ from those of ordinary sore throat; but sooner or later there is a sense of constriction, heat, or pricking in the region of the larynx, which is at times very severe when the patient speaks or coughs, or when pressure is made on the larynx. At the same time, or even before the occurrence of these symptoms, there is more or less fever. The voice, as well as the cough, is hoarse, and at first dry; but subsequently an expectoration of mucus takes place, and at times the sputa are mixed with blood. This sensation of mucus is of little moment in the case of the adult, but becomes serious in infants. Deglutition is at times difficult, or effected with inconvenience, and the inspirations are long and laborious, but by no means to the same extent as in croup, or œdema of the glottis. In very severe cases the dyspnœa recurs at short intervals with spasmodic force, and there is danger of suffocation, with great distress, restlessness, and starting of the eyes, followed up, if the disease be not removed, by evident sinking of the vital powers and death.

The duration of the disease, when it terminates fatally, varies, of course, according to the constitution of the patient, the extent of the lesion, and the effects of remedies. The usual duration is from three to five days, yet it has proved fatal in less than twenty-four hours.

Seldom has the section of country, referred to above,

been visited by a disease so fatal as the one which I am about to describe. It made its appearance in the fall of 1829, and following winter, spreading devastation around. Its attack was so sudden, and its termination so speedily fatal if left to the operation of nature, that the physician was often called in time only to see his patient convulsed in *articulo mortis*, without having it in his power to render him that professional aid which, if timely administered and properly directed, might, in a majority of cases, have afforded relief. No class or condition was exempt from its ravages; the wealthy and the poor both suffered, though the latter, from being more exposed to its predisposing causes, became an easier prey. It made great havoc among the labourers on the Rideau Canal, more especially among the stone-cutters. They were generally attacked after returning from their work in the evening, and so rapid was its course, that if not relieved within twenty-four hours, it almost always proved fatal. The patient, after enduring the most agonising sufferings, generally fell into a comatose state and died. I shall call the disease acute laryngitis, accompanied or attended with erysipelatous inflammation of the head and face.

Symptoms.—It was characterized by fever, pain referred to the larynx, difficulty of breathing and deglutition, hoarseness, or a complete loss of the voice, and frequent spasmodic exacerbation of all the symptoms, creating a sense of suffocation, which was urgent in the extreme. In some cases the pain was increased by pressure upon the thyroid cartilage. The disease was attended with a perpetual hawking or spitting up of tough gelatinous mucus. There was an inability to put the tongue out between the teeth, as it much increased the pain and difficulty of breathing, and it was with the greatest persuasion that the patient could be prevailed upon to swallow either food or medicines. The attempt was accompanied by such strong spasms, that the fluid was driven forcibly through the nose. In about six or eight hours after the disease made its attack in the manner just related, a small red spot appeared on one or both of the temples, which in a few hours more extended to the scalp and face; small vesicles containing limpid, and in some cases a yellowish fluid, now became visible, and gradually extended over the whole inflamed surface,

accompanied with an itching which was intolerable, and when indulged, served to make the patient more irritable. On the appearance of the erysipelatous inflammation, the patient was generally attacked with delirium. Sometimes it made its appearance at a later period, but when it did come on it gradually increased, until it arrived at a state of phrenzy. The face became turgid, eyes starting, and seemed as if bursting from their sockets, tears and sometimes blood flowing from them. The patient, during his ravings, had a constant desire to get out of bed; and sometimes it required the united strength of two or more men to detain him in it. The pulse, at the commencement of the disease, was generally full, hard, and quick, resisting the application of the finger with considerable force; and as the disease advanced, the pulse became more frequent; and when the patient began to sink into a comatose state, which was always the case at the close of the disease, it became intermittent. The stomach was much affected with nausea, and vomiting of bilious matter, which, although attended with considerable pain and anxiety during the evacuation, never failed to give the patient great relief. Respiration became less oppressive, but in a short time he would be revisited by violent spasms, with a recurrence of all the symptoms, and if not relieved by timely aid, was irretrievably lost.

Causes.—Various were the opinions of the medical practitioners of this country with regard to the cause of this disease, some attributing it to specific contagion, arguing from its extreme prevalence; for if it occurred in a family, or a neighbourhood, few were so fortunate as to escape the disease; others alleging that it arose from an epidemic state of the atmosphere, the latter of which, I think, from the observations I have been able to make, is the most correct. In many instances, cold appeared to have great influence in bringing on the malady; hence its frequent occurrence among the labourers of the Rideau Canal, and more particularly the stone-cutters, whose occupation required them to be exposed to the inclemency of the weather, while it at the same time abridged the exercise of the body to such an extent that cold had a powerful effect upon them. It is my opinion that cold and an epidemic state of the atmosphere were the causes of this disease, one acting as a remote and the other as an exciting cause.

On looking over my brother's (Dr. B. R. Church's) case-book, together with my own, I found that we had four hundred cases in four months, which were doubtless owing to epidemic influences. In such a large number of cases, we must look for some other cause than cold to produce a disease of such a character. No

doubt the malady might, in many instances, have been brought on by cold, but could such a cause, unaided, have produced so prevalent a disease.

Dissection.—The morbid effects that appeared, upon dissection, in the few cases that fell under my inspection were, first, a highly inflamed state of the larynx which generally extended to the trachea, and sometimes through the ramifications of the bronchi; but the last was not generally met with.

The abdominal viscera appeared in a healthy state. Upon examination of the cranium, its contents presented the appearances of inflammatory action. The dura mater, tunica arachnoides, and pia mater, exhibited such phenomena in a remarkable degree; effusion of coagulable lymph, adhesions, and, in some cases, pus was found covering a portion of the membranes, or the membranes themselves were found eroded by ulceration. But this latter occurrence was by no means frequent.

Prognosis.—Convulsions, coma, insensibility, and great prostration of strength, were unfavourable symptoms. The disease often terminated by the fourth or sixth day. The general fever, the delirium, the sparkling fury of the eyes, the dryness of the skin, abating, showed that the patient was likely to recover. A discharge from the nose or lungs, the occurrence of diarrhoea, or an evacuation from the hemorrhoidal veins, or urinary passages often proved critical, particularly if the pulse abated, became softer, and lost its febrile character.

[We consider it unnecessary to follow Dr. Church through the principles which guided the selection and application of remedial agents. Suffice it to say, that these consisted in *free* depletion, adopted at the commencement of the attack; the application of blisters to the larynx, thighs, warm pediluvia, with sinapisms to the soles of the feet, and the internal exhibition of calomel, and tartar emetic conjoined with digitalis. The following case, which concludes the essay, may be taken as an example of the mode in which the disease manifested itself, as well as of the treatment pursued.—*Eps.*]

Charles Stone, aged 22, a blacksmith, was seized with chills, which were followed by fever, pain in the fauces, difficulty of deglutition, pain in the head, inability to put the tongue out between the teeth, a teasing cough, great thirst, and inflammation of an erysipelatous character, extending from one temple across the forehead to the other. Eighteen hours after the attack I visited him, and found the pulse hard and full, bounding like the tense string of a musical instrument under the finger, face flushed, and some difficulty of breathing; complained of great soreness of throat

and, upon his attempting to swallow some fluid, it was driven with great force through the nose. Considering the case to be urgent, I immediately opened a vein, from which I took twenty ounces of blood; and, finding the pulse becoming soft and more compressible, I closed the orifice, and applied a blister to the throat. After the blister had taken effect, which was in about six hours, I again had recourse to bleeding, and finding my patient able to swallow, I administered five grains of proto-chloride of mercury every two hours until the bowels should be freely acted upon, and bathed the feet and legs in warm water, impregnated with salt. After wiping them dry, I applied sinapisms to the feet.

On calling the next morning I found the bowels had been acted upon; he had slept about two hours; deglutition not quite so difficult; pain in the head great; face very much swollen, and covered with small vesicles, containing a yellowish fluid; pulse full and rather hard. I repeated venesection, and administered antim. tartariz. in the quantity of gr. iiii. to a quart of water, one ounce of which to be taken every two hours; applied a blister between the shoulders, cotton wool to the face, kept wet with a solution of 10 grains of perchloride of mercury in a quart of water.

Wednesday morning.—The bowels had been evacuated two or three times; the deglutition much more tolerable; pain in the head relieved; patient complained of griping pain in the bowels, with a tendency to diarrhœa. Ordered 15 grains of rhubarb, 6 grains proto-chloride of mercury, and at night 20 grains of pulv. ipecac. comp.

After the operation of the purgative, next morning (Thursday) found the patient had rested well through the night; pulse eighty, and compressible, having lost its tense vibrating character; deglutition much more easy; the inflammation of the face less. Continued the tartrate of antimony once every four hours, and the application to the face as above.

Friday morning.—The patient had rested well, with the exception of a slight pain in the right temple, which increased through the day. In the evening, I removed the wool from the part; found the right side of the face much tumified, the right eye was nearly closed; the patient complained of a throbbing, beating sensation in the part; it was evident that the inflammation had assumed the phlegmonic type. Applied an emollient cataplasm to the part, with directions to renew it every three hours, keeping the wool on the left side of the face, and over the nose, which was very much swollen. Pulse 105, and jerking. Opened the bowels with sulphate of magnesia and antim. tartariz.

Saturday morning.—Pain and inflammation was much

the same as on the preceding morning. Parts much more tumified; fluctuation could be distinctly felt. I decided upon laying the parts open with the scalpel, in order to release the tension of the parts, and obviate the infiltration into the cellular substance, as experience had taught me that no distinct abscess would be formed, that no adhesive inflammation would take place so as to form a distinct cyst to prevent the escape of pus into the surrounding cellular tissue. I accordingly made an incision into the part, cutting in the direction of the fibres of the temporal muscles; a profuse discharge of blood, mixed with pus, took place, and the patient was greatly relieved. Continued the emollient cataplasms to the tumor, and the application to the left side of the face as above.

Sunday morning.—Patient much better; tumifaction mostly subsided; fever abated; pain in the fauces, and soreness of the throat gone; dressed the wound with simple cerate. He continued to improve, with little variation, until health was completely restored.

CASE OF GUNSHOT WOUND OF THE LUNGS: RECOVERY.

By GEORGE W. CAMPBELL, A.M., M.D.,
Lecturer on Surgery, McGill College, Montreal.

About half past five on the evening of the 12th September last, I was called to visit Mr. M., a young gentleman at the Exchange Hotel, who, a few minutes previously, had received a severe pistol shot wound under the following circumstances:—He was about to start on a journey into the country, and as he intended to travel all night, had provided himself with one of Colt's revolving six barrelled pistols. A companion requested the pistol to look at it, and during his examination, not being acquainted with the mechanism of the lock, it unfortunately went off, the muzzle being in the direction of Mr. M., who was at the time standing with his left side towards his friend, and about three yards distant. Mr. M. was about 20 years old, tall and spare, but muscular and active, with a well formed chest, although possessing a hereditary predisposition to pulmonary disease. Upon my arrival, I found him suffering much from pain and nervous depression, with faintness and difficulty of breathing. He was supported in the arms of a friend, in the standing position, and held his hand firmly pressed against his left side, towards which he leaned, and where, he said, the bullet had entered. I had him immediately carried up stairs to his bed room, and was in the act of undressing him, when Dr. Nelson, senior, who had also been sent for, arrived. Upon removing his clothing, we found that the bullet, passing through his vest, shirt, and woollen jacket, but without

apparently carrying before it any portion of these articles of apparel (as the rents made in each were mere slits), had entered the left side of the chest, about three inches below, and a very little to the outside of the nipple. The wound was small and circular, with depressed and livid margins, and the bullet, apparently, had passed through the intercostal muscles, in the space between the fifth and sixth ribs, close to their junction with their cartilages: the upper border of the inferior rib was grazed, and the bone was felt bare, but not fractured. Although a very careful examination of the wound with the finger and probe, failed in detecting the trajet of the bullet, either into the cavity of the thorax, or in any other direction, still, from the great severity of the symptoms, the position in which our patient was when he received the injury, and the ascertained power of the weapon, which, we were told, at a distance of twelve paces, could drive a bullet through an inch board, we thought it possible that the bullet, passing through the lungs, had lodged in the spine, we accordingly carefully examined the dorsal vertebræ, but without detecting any tenderness. A broad bandage was applied to the chest to restrain the motions of the ribs in respiration, with a bit of folded lint laid over the wound, and as our patient was still suffering from the shock of the injury, with pale countenance, rapid, feeble pulse, cold skin, hurried and difficult respiration, with great pain in the situation of the wound, we administered a drachm of laudanum, which Dr. Nelson had along with him, ordered heat to be applied to the extremities, and agreed to return within two hours, when we expected reaction would have commenced.

7½ P.M.—Upon our return we found that reaction had set in; the surface of the body had regained its natural heat; the pulse had become full and hard, ranging from 110 to 120; respiration hurried, being about 45 per minute; any attempt at full inspiration impossible; pain in side extending through to back much complained of; voice weak and suppressed; position in bed semi-recumbent; dyspnœa very distressing. The bandage, he said, had occasioned intolerable pain, and had been removed; there was no expectoration of blood, which we anticipated would, by this time, have shown itself, and very little oozing from the wound. Venesection was employed to about 2lbs. with relief, and he was put upon 1-6 of a grain of tart. antimon. and 2 grains nitras. potassæ every half-hour, with two drops of the solution of muriate of morphia added to each dose, to check a tendency to cough which greatly distressed him.

10 P.M.—It was proposed by the friends of our patient to associate Dr. Crawford with us in the treatment of the case; he was accordingly sent for; upon his ar-

ival, about 11 p.m., the symptoms were much as at last report; the pulse however was weak from the bleeding—120 in number. The breathing was so peculiarly spasmodic and catching, that it induced Dr. C. to believe that the diaphragm was wounded. The antimonial mixture was continued as formerly; and a scruple of calomel with two grains of opium was administered.

Sept. 13, 7½ A.M.—Had passed a very restless night; no sleep procured by the opium; slight occasional wandering; tongue still moist; pain and dyspnœa urgent; pulse had again become firm—120; no bloody expectoration. Upon percussing the chest a dull sound was elicited for some distance round the entrance of the bullet; and upon the application of the stethoscope, a crepitating rhonchus was audible for three inches around the same point; the crepitation was coarser and louder than in pneumonia, and in some situations it almost amounted to a bubbling sound. As the pulse had regained its firmness, venesection was repeated to upwards of 20 ounces; the antimony was increased to ¼ of a grain in the half hour, and a seidlitz was ordered to be administered every hour till the bowels were acted upon.

At our visit at one in the afternoon, we found him somewhat easier. The blood drawn was cupped and buffy; the seidlitz powders had not acted on his bowels; injections were ordered to assist them. Upon visiting him alone somewhat later in the afternoon, during the time that his bowels were being acted on, I found that he complained of very acute pain in the back, referred to the hand of the assistant who was raising him upon the bed pan. Upon making an examination at the point referred to, I discovered the rounded form of the bullet lying deep under the muscles of the back, and immediately cut down upon and extracted it; it had passed out of the thorax between two of the ribs, close to their attachment to the transverse processes of the vertebræ, about an inch and a half internal to the lower angle of the scapula, and about the same distance from the dorsal spines; the upper edge of the inferior rib was rough, but without fracture; the edges of the incision were brought into close apposition by adhesive plaster; bleeding from the wound was very trifling. The bullet was small, weighing little over a drachm, and of a conical or sugar-loaf form; it seemed to have passed through the body with the small end foremost, as some fine filaments of the woollen jacket were found sticking in a slight notch on its point.

10 P.M.—Bowels had been freely moved during the evening; felt altogether easier, and was in high spirits about the extraction of the bullet; respiration still very hurried, though not attended with so much pain; pulse

120 soft; slight moisture on skin; calomel and opium, 5 and 2 grains was repeated; the tart. antimon. mixture to be continued.

Sept. 14.—He passed a tolerable night, occasionally getting half an hour's sleep; dyspnoea still urgent; complained a good deal of pain in the side and back; pulse quick but weak; dulness of sound on percussion increasing in extent, and crepitating rhonchus heard over a greater space than yesterday morning; the same description of respiration was audible for some distance round the wound in the back; 12 leeches were ordered to be applied to the side; and the tart. antim., of which he had taken 12 grains during the last 24 hours, without either nausea or vomiting, to be continued.

In the evening he was much easier; the leeches had bled well with relief; 5 grains of calomel, with 10 of Dover's powder, were given at bed-time.

Sept. 15.—In the early part of the night, was quiet, though he did not sleep; towards morning pain returned with severity; respirations 40 per minute; pulse 130; fuller than yesterday; dulness of sound on percussion increased, and respiration quite inaudible for some distance round wound; crepitant rhonchus heard only at margins of effusion; was bled again from the arm to 16 ounces; the seidlitz to be repeated as the bowels had not been opened for 24 hours; the antimonial mixture to be continued as formerly.

Sept. 16.—Passed rather a good night; pain and dyspnoea less urgent, though any attempt at full inspiration was still impossible. For the first time, during the night had coughed up one or two small clots of blood. Pulse 112; heart's impulse stronger than indicated by the pulse; respirations 36; stethoscopic indications as at yesterday's report; bowels had been freely acted on by the seidlitz; tongue moist, partially coated with white aphthous spots; gums not at all tender; 20 leeches to be applied to the chest. In the evening, as the aphthous state of the tongue and fauces was much complained of, the vinum ipecac. and tincture of digitalis were substituted for the tart. antimon. in the mixture, and a borax and alum wash administered for the mouth, with the internal use of antacids.

Sept. 17.—Much improved in every respect. Pulse 108 soft, respirations 30; neither pain nor dyspnoea complained of; no more blood expectorated; able to lie with the head pretty low; requested something to eat; anterior wound discharging a bloody serosity in very small quantity; posterior incision quite cicatrized. To be allowed a little thin broth.

Sept. 18.—Still continues improving rapidly. Pulse and respiration diminishing steadily in frequency; pain no longer felt unless upon motion or full inspiration;

tongue becoming clean; skin moist; other functions natural. The case, after this, progressed most favorably. The space over which there was dulness on percussion, and want of respiration from day to day diminished, the breath sound being at first subcrepitant and gradually becoming natural.

Drs. Nelson and Crawford discontinued their attendance on the 21st. After this, nothing of importance occurred. The medicines were gradually diminished, and diet increased. On the 26th he was sufficiently recovered to take an airing in a carriage; and on the 1st of October he left for his home, a distance of 50 miles, (nearly all a land journey) quite free from cough or any other symptom of chest affection. The day before his departure, I examined his chest, and found, for the space of nearly an inch, around both the anterior and posterior wounds, dulness on percussion, and complete want of breath sound, but no rhonchus of any description was audible.

The above case is interesting to the practical surgeon in many particulars; it affords a good illustration of the value of the stethoscope as a means of diagnosis; in the first place, in determining the existence of a wound of the lungs at all, which, in the absence of bloody expectoration, and our not being able to trace the trajet of the bullet into the cavity of the thorax, could not have been, with any degree of certainty, made out without its assistance; and secondly, by enabling us daily to trace the progress of solidification, from engorgement of the lung, in the early stages of the injury, and the effect of the treatment, and the progress of the cure, by absorption of the effused blood, as the case advanced towards a favorable termination.

The absence, also, of bloody expectoration for the first three days, is a most unusual occurrence in injuries of this description. Hennen lays great stress on this symptom as a means of diagnosis: "A practical surgeon," he says, "will require but little investigation; bloody expectoration *immediately* on receiving the wound; and the terrible symptoms of dyspnoea," etc. etc. The only surgical author that I have met with, who considers "its absence as no proof of the lungs uninjured," is Professor Chelius.

The small size and pointed form of the bullet producing a wound through the intercostal muscles, which immediately closed upon its trajet, a mere separation, so to speak, without division of their fibres, completely prevented the occurrence of a common symptom in such injuries, the effusion of blood; and the escape of air from the wound. The same circumstance prevented the ingress of the atmospheric air, the collapse of the lungs, or the occurrence of emphysema. The form of

the projectile, also, by producing but a small amount of bruising or tearing in its passage through the chest, materially diminished the severity of the injury, contributed to the success, and shortened the duration of the treatment.

From the entrance and exit of the bullet, it is very difficult to conceive how the heart escaped injury, in its passage through the thorax. The heart's pulsation was distinctly felt, a quarter of an inch internal to the anterior wound, and the posterior orifice was somewhat superior, and nearer the mesial line of the body than the anterior. We can only account for its escape by supposing, that the elasticity and toughness of the pericardium protected from injury the important viscus contained within it.

I trust that the detail of the above case may prove useful to the medical student, and the junior members of our profession, by encouraging them to hope for success from active and energetic treatment even in serious injuries of vital organs, which are too frequently considered hopeless, and which, on that account, are apt to be less actively treated than they ought to be.

Montreal, 22d December, 1846.

THE PERMANENT RELIEF OF TOOTHACHE.

To the Editor of the *British American Journal*.

SIR,—In a country where so many are martyrs to this species of suffering, you will, I think, be conferring a general benefit, by making known through the medium of your journal, the following simple, and, as I have found it, successful method of securing carious teeth from the effects of cold and changeable weather, and keeping them perfectly free from pain at all times. This wonder-working remedy! consists in the daily and *habitual* use of a weak solution of creosote, saturating the tooth-brush with it and using it first; after which cold water and whatever tooth-powder the individual may be in the habit of employing.

This practice, in my own experience, and in that of others at my suggestion, I have found a very successful preventative to toothache arising from the presence of carious teeth. I am rather disposed to believe, too, (contrary to the opinion of some dentists) that the carious process is suspended by its employment; but on this head I would not be confident, although Reichenbach has recorded cases of caries cured by the use of the watery solution of creosote.—“Bulletin General de Therapeutique for May, 1835.” M. Fremanger is also of the same opinion as to its effects, and considers that it acts “by combining with the calcareous salts of the bones and forming a new combination, which, by its

solubility, tends to disengage the areolar tissue and stop the ulceration at the proper point for the commencement of cicatrization.”—“Cormack on Creosote.” I wish the profession in Canada would take up the subject.—Yours respectfully,

J. D. McDIARMID,
Staff-Surgeon, Prescott.

R. Creosote, ʒi.; Spt. Rectificat, ʒss.; Aq. Destillat, ʒviiss. m.

It may be colored with cochineal.

ANATOMY AND PHYSIOLOGY.

ON THE GANGLIA AND NERVES OF THE HEART,

AND THEIR ANALOGY TO THOSE OF THE UTERUS.

By ROBERT LEE, M.D., F.R.S.

The human heart was supposed by the Greek philosophers to be copiously supplied with nerves. Galen asserted that the heart has only one small nerve, which descends to it from the brain. Fallopius affirmed that a great plexus of nerves passes between the aorta and pulmonary artery from the par vagum and sympathetic nerve to the base of the heart, which it supplies with numerous branches. In 1792, Behrends, pupil of Soemmering, published an essay, entitled “Dissertatio Inauguralis qua Demonstratur Cor Nervis Carere,” in which he pronounced the heart to be a stupid and insensible viscus. “Cor stupidum,” he says, “et insensibile viscus.” In 1794, Scarpa’s “*Tabla Neurologica*” were published, in which branches of nerves from the great sympathetic and par vagum were represented passing to the heart, and accompanying the coronary arteries to its apex. In Scarpa’s engravings of the nerves of the human heart, only a few small filaments are represented, which proceed to the muscular structure, and which do not accompany the coronary arteries; but on the surface of the heifer’s heart large branches are represented passing across the bloodvessels and the muscular fibres. On one of these branches accompanying the left coronary artery, there is a distinct gangliform enlargement. In the engravings of the nerves of the human body, published by Mr. Swan, the bloodvessels and muscular substance of the heart are represented as nearly destitute of nerves. In 1839, Remak stated that he had discovered in the human subject small ganglia on the filaments of the cardiac nerves, as they ramify on the surface of the heart. These ganglia he described as very small, but when examined with the microscope, “the characteristic grey corpuscles placed among the filaments of the nerves left no doubt as to their nature.”

In vols. xli. and xlii. of the *Philosophical Transactions*, I have described and represented, in three engravings, numerous great ganglia and plexuses of nerves which enlarge with the coats, bloodvessels, and absorbents, during pregnancy and which return, after parturition, to their original condition before conception takes place. Recent dissections which I have made of the ganglia and nerves of the virgin and of the gravid uterus have enabled me, not merely to confirm the accuracy of these descriptions and delineations; but to discover the still more important anatomical and physiological truth, that there are ganglia situated in the muscular substance of the uterus and plexuses of nerves which accompany all the arteries, veins, and absorbents, distributed throughout its walls. It is demonstrated by these dissections that there are not only great ganglia at the neck and on the body of the uterus, but ganglia between the strata of the muscular fibres; and that the whole vascular and muscular structure of the organ are pervaded with ganglia and nerves. If the dissections which I have made of the ganglia and

nerves of the virgin uterus be compared with those of the gravid uterus, it will be seen that the nervous structures of the uterus enlarge during pregnancy upwards of seventy times.

There is still a small number of anatomists left in Great Britain, who assert that the uterus is an insensible organ, that it has no ganglia, and only a few small filaments of nerves, like sewing threads, which undergo no change during pregnancy. The exquisite sensibility and prodigious contractile powers of the uterus during parturition, they maintain, do not depend upon nervous influence. The heart has been adduced, as furnishing a striking example of a powerful muscular organ acting, without interruption, during a long series of years, though very sparingly supplied with nerves. None of these anatomists have ever dissected the nerves either of the uterus or of the heart; and plates of Scarpa and of Swan have furnished the only evidence they could adduce in support of their opinion, that the substance of the heart, like that of the uterus, is nearly destitute of nerves.

I resolved to dissect with a microscope the nerves of the heart, while covered with alcohol, as I had done those of the uterus; of the heart of the child at the age of six years; of the heart of an adult in a sound state: of the human heart greatly hypertrophied; and of the heart of the ox; warrant me in drawing the following conclusions:—

1. That the muscular and vascular structures of the auricles and ventricles of the heart are endowed with numerous ganglia and plexuses of nerves, which, so far as I know, have not yet been described.

2. That these nervous structures of the heart, which are distributed over its surface, and throughout its walls to the lining membrane and the columnæ carneæ, enlarge, with the natural growth of the heart, before birth, during childhood and youth, until the heart has attained its full size in the adult.

3. That the ganglia and nerves of the heart enlarge, like those of the gravid uterus, when the walls of the ventricles and auricles are affected with hypertrophy.

4. That the ganglia and nerves which supply the left auricle and ventricle in the normal state are more than double the size of the ganglia and nerves distributed to the right side of the heart.—*Lancet* November 7, 1845.

ON THE NERVES OF THE UTERUS.

By T. SNOW BECK, Esq., M.R.C.S., London.

The opinions of Dr. Robert Lee, and of myself, upon this subject, having been so frequently quoted in opposition to each other, perhaps it may not be inappropriate to give a short account of the opinions of each, and that they may be more readily compared, to place them in juxtaposition. Nor does it appear improper to add to this account the statements of the principal authors upon the same subject, and then to examine the points in which any difference of opinion exists.

The chief new statements, which are found in Dr. Lee's late papers, comprise assertions relative to the existence of large ganglia and plexuses, which completely cover the whole surface of the gravid uterus; the large size of the nerves which enter into the formation of those plexuses; the great increase which occurs in them during pregnancy, and their returning, after parturition, to the state in which they were previous to impregnation; and the large size of the ganglia at the neck of the uterus, and on the vagina. Each of these statements, however, will require a separate examination.

DR. LEE'S VIEWS.

The whole surface of the gravid uterus is covered with large ganglia and nervous plexuses, which are named as follows:—

The anterior subperitoneal ganglia and plexuses, which

MR. BECK'S VIEWS.

These various ganglia and plexuses described on the body of the uterus are not nervous structures, but a layer of organic muscular fibres, which, in many parts, adheres to the under surface of the perito-

cover the whole anterior surface of the uterus as high as the fundus.—These structures are firmly adhered to the peritonæum and muscular coat of the uterus at the upper part, but are separated from the muscular coat at the lower part by a thick soft layer of cellular tissue. The middle part of the ganglion is more than two lines in thickness, but it becomes everywhere thinner towards the circumference, and particularly at the inferior border. Large, broad, flat, and innumerable nerves are sent off from these structures to the uterus.

The posterior subperitoneal ganglia and plexuses, which cover the whole posterior surface of the gravid uterus, and are of similar structure and extent as those on the anterior surface.—The nerves are described as equally large, broad, and innumerable.

The left subperitoneal ganglion and plexuses.—A structure figured as one inch and three quarters in length, and described as numerous large branches of nerves which extend up the left side of the uterus from the cervix to the fundus.

The right subperitoneal ganglion and plexuses.—Structures of similar extent and situation as those on the left side of the organ.

The left spermatic ganglion. Figured as three quarters of an inch in breadth, by an indefinite length, and situated in the vicinity of the principal spermatic artery and vein.

The right spermatic ganglion.—That there is a similar structure on the right side "does not admit of doubt."

DR. LEE'S VIEWS.

The great transverse plexuses, which extend across the body or the uterus, and are described as a "white, pearly, fasciculated membrane, about one quarter of an inch in breadth."

The amount and size of the nerves going to the uterus.—The amount of nerves which is believed to be supplied to the uterus may be inferred from the previous description of the different ganglia and plexuses. Various terms are used—as, "numerous large nerves," "large flat nerves," "layers of broad nerves," "sheath of nerves," "innumerable nerves," "superficial and deep plexuses of nerves," &c. &c.

These ganglia and plexuses, together with the utero-cervical ganglion, constitute "the great and special nervous system of the uterus," and "are formed for the purpose of supplying the

næum, extends from thence to the proper muscular tissue of the uterus, in the form of broad, flat, fasciculated bands.

MR. BECK'S VIEWS.

The transverse plexuses are a band of fibro-cellular tissue which extends across the body of the uterus. This has only been seen in the gravid uterus.

The nerves which supply the uterus are very small, and measure from the 150th to the 200th of an inch in diameter. They are numerous, from 20 to 30 in number, and come off as distinct branches from the hypogastric plexus.

The special nervous system.

No special nervous system for the uterus exists. The nerves do not differ in any respect from those sent to the stomach, intestines, liver, &c.; and, con-

uterus, with that nervous power which it requires during labor."

The sources of the nerves supplying the uterus.—The nerves are derived from the hypogastric plexus, and branches from the sacral nerves.

The enlargement of the nerves during pregnancy.—As the various subperitoneal ganglia and plexuses do not exist, or but very imperfectly, in the unimpregnated uterus, the enlargement which is supposed to take place must be very great indeed, and equal to that of the other structures. This enlargement has been considered by John Hunter to be "probably fifty times." Also, the nerves "return after parturition, to their original condition before conception takes place."

Opposed to these views of Dr. Robert Lee, we have the opinions of all the previous authors who have directed their attention to this subject. Walter, in 1783, figured the nerves of the uterus and described them as very fine, and going to the neck of the organ and os uteri. Haller, in 1763, gives a very similar description to that by Walter. Dr. William Hunter, in 1794, to whom the previous descriptions were unsatisfactory, carefully dissected a female subject for the purpose of describing the nerves. He describes them as the continuation of the hypogastric plexus, and says—"They spread out in branches, like the portio dura of the seventh pair." No mention is made of large nerves or ganglia. John Hunter, about the same time, also speaks of the uterine nerves being small. Tiedemann, in 1822, figures the nerves, and describes them as fine, soft, and slightly red.* Lobstein, in 1823, says that branches of nerves are very rarely seen to enter the substance of the uterus, either in the unimpregnated or in the gravid state, and mentions that he could not find any nerves in the uterus of a woman who died twelve hours after parturition, although he carefully looked for them. In subsequent examinations, however, he was more successful. Oslander, in 1829, says, (I quote from Dr. Lee's folio, "On the Anatomy of the Nerves of the Uterus,") "Although it is very probable that the uterus possesses nerves, still, hitherto, they have been very unsatisfactorily demonstrated, either as regards their number or their nature. I myself, like others, deceived by the authority of more scientific persons, formerly stated that nerves were spread over the whole of the human uterus, since I believed that more skilful anatomists than myself had really seen them; for example, Walter, who speaks so confidently of nerves which accompany the larger arteries. But I know now that they have not been seen by others any more than by myself; and I can only assume that the uterus as an irritable organ, must possess nerves. But I have not seen, and it certainly does not possess, any nerves that are easily demonstrable by the scalpel, and still less any large branches."

It would be easy to add many more authorities, all expressing the same opinions, but these appear sufficient to show the univer-

sally, there is no evidence to show that the uterus receives any supply of nerves which can be supposed to especially influence or preside over gestation.

The uterus is supplied from the hypogastric plexus, which plexus is a continuation from the superior aortic plexus, and consists of gelatinous nervous fibres, partially derived from the ganglia in the aortic plexus, and tubular nervous fibres, derived from the lumbar spinal nerves. The branches from the sacral nerves are not supplied to the uterus, but are distributed to the bladder, vagina, perinæum, and some to the lower part of the rectum.

The nerves of the gravid uterus are of the same size as those of the unimpregnated uterus, and, consequently, either no increase has taken place during pregnancy, or no decrease has occurred after parturition.

The nerves of the virgin uterus are of the same size as those of the gravid uterus, and, consequently, they do not enlarge during pregnancy, nor do they undergo any change after parturition.

sal belief which prevails upon the subject. And when we consider that the authors already quoted, rank amongst the most celebrated anatomists and the most accurate observers, we cannot avoid asking the question, have they overlooked these structures described by Dr. Lee? or have they seen them, and not believed them to be nerves? Had it been one or two small branches of nerves, or one or two small ganglia, we might have considered they had been overlooked, and were now brought to light by our improved methods of dissecting. But it exceeds the possibility of belief, to suppose that John Hunter, William Hunter, Tiedemann, Lobstein, and Oslander, should have carefully dissected the gravid uterus, and not discovered structures which cover the whole anterior and posterior surface of the uterus; which pass up the sides of the organ as large broad nerves, and which form large ganglia, more than two lines in thickness. We are, then, forced to the conclusion, that they must have seen these structures, but did not consider them nerves. Dr. Lee describes them as "presenting the appearance of a layer of dense structure, composed of fibres strongly interlaced together, and having a yellowish-brown color;" "as a dense, reddish-brown colored mass, consisting of fibres firmly interlaced together," as "thick and solid, and consisting of a yellowish-brown substance." And, I would ask, what anatomists of the present day will have the hardihood to affirm, that tissues having these characters are nervous structures? But we might still have been left in uncertainty and doubt, had not Lobstein especially pointed out these structures, and cautioned anatomists from falling into the error of supposing them to be nerves. After mentioning the examination of two gravid uteri which he performed, he observes, (Addimentata, p. 169,) "On this occasion, I am led to observe, that when the external tunic of the uterus is taken away, there occurs many fibres which decussate in various ways with themselves, and are united by loose cellular tissue, both with each other, and with the denser and deeper substance of the uterus. These fibres, of whose growth I am ignorant, may be readily taken for the continuation of nervous branches, yet they differ from them, not only in their direction and greater thickness, but also by the greater flatness of their figure. Wheresoever the nerves of the uterus are finally distributed, it appears certain to me, that they do not interlace with each other in the substance of the uterus."

In making these remarks, I have endeavoured to place the question upon the "common sense" view, and to give the opinions of authors who wrote prior to the publication of Dr. Lee's papers. But I may now add, the improvements which have taken place in microscopes and in microscopical anatomy, since the time that Lobstein wrote, enable us to determine, that the layer of fibres, of the nature of which he was ignorant, are, in fact, a layer of organic muscular fibres. I am aware, that in consequence of hasty and imperfect observations, some difference of opinion has existed between microscopical observers upon this subject. But I am also aware, that the difference has not been nearly so great as some have endeavored to make it; for words and opinions have been attributed to gentlemen who neither spoke the one nor entertained the other.

The next question at issue is the condition of the nerves during pregnancy. Upon this subject John Hunter remarks, "The uterus, in the time of pregnancy, increases in substance and size, probably fifty times beyond what it naturally is; and this increase is made up of living animal matter, which is capable of action within itself. I think we may suppose its action more than double; for the action of every individual part of this viscus, at this period, is much increased, even beyond its increase of size, and yet we find that the nerves of this part are not in the smallest degree increased. This shows that the nerves and the brain have nothing to do with the actions of the part, while the vessels, whose uses are evident, increase in proportion to the increased size; if the same had taken place with the nerves, we should have reasoned from analogy." Dr. William Hunter observes, "I cannot take upon me to say what change happens to the system of uterine nerves from utero-gestation, but I suspect them to be enlarged in some proportion, as the vessels are." Whilst Tiedemann states that the nerves increase both in number and magnitude during pregnancy. Although Tiedemann mentions this enlargement, yet he is far from believing that they undergo the enormous increase which Dr. Lee mentions, or that a "great and special nervous system" springs up in the gravid uterus, and is "formed for the purpose of supplying the uterus with that nervous power

* Dr. Robert Lee remarks—"From Professor Tiedemann's work it might justly be inferred, that the human gravid uterus is more sparingly supplied with nerves than any other organ in the body." Dr. Lee has also quoted all the authorities in the first part of his folio brochure, with the apparent intention, of showing how much they differ from his own views.

which is required during labour." In these opinions, Dr. Lee stands alone: and when we remember that his views and opinions have been formed whilst tracing the gradual development of a layer of muscular fibres, which, as it were, springs into existence as the uterus increases in size, we have a ready explanation of the singular errors into which he has fallen. Had Dr. Lee but paid attention to Lobstein's caution he would have saved much time and much unpleasantness.

In addition to these structures upon the body of the uterus, large ganglia have been described as situated at the neck of the uterus, and on the vagina.

DR. LEE'S VIEWS.

The utero-cervical ganglia. At this junction of the hypogastric plexus with the branches from the sacral nerves, is situated a large ganglion; "it appears to consist of six or seven smaller ganglia, which are united together by nervous cords." "It is nearly two inches in breadth, exceeds in size the semilunar ganglia of the great sympathetic, and constitutes only a small portion of the nervous system of the human uterus." This ganglion is considered "as the centre of nervous supply to the uterus." (*The Lancet*, p. 457.) It enlarges during pregnancy, and returns after parturition to the original condition in which it was before conception takes place.

The vesical ganglia, called "the external middle, and internal ganglia." "Several large, flat ganglia are situated about midway between the os uteri and ostium vaginae." "From this great web of ganglia and nerves on the sides of the vagina, by which it is completely covered, numerous branches are sent to the sides of the bladder." The nerves to the vagina are described as "many large, broad nerves."

The plexus on the side of the vagina has been known since the time of Waller, who figured it in 1783. Tiedemann, in 1822, has also given a representation of it, and calls it a "plexus gangliosisus;" whilst Dr. Lee differs from these authors in the very large size which he gives to this "nervous ganglionic plexus," or "utero-cervical ganglion," and in the very large size of the nerves which pass from it.

In this instance, as in the preceding one, we are asked to believe that the distinguished anatomists, whose names I have already quoted, could carefully dissect these parts, and yet fail to discover a structure "nearly two inches in breadth, and which exceeds in size the semilunar ganglia of the great sympathetic." Had they committed so great a piece of inattention, we might, with great reason, have questioned the accuracy of the whole of their works. But it fortunately happens that the error lies with Dr. Robert Lee, who mistook a mass of fibro-cellular tissue, inclosing in its centre some small ganglia, for a true ganglion, consisting of "cineritious and white matter, like other ganglia." Whilst Dr. Lee has applied the term, "nervous ganglia and plexuses" to muscular tissue on the body of the uterus, he has descended lower down, and called a mass of fibro-cellular tissue a "nervous ganglion," and, descended still farther, he has described the fibro-cellular tissues on the side of the vagina as "large flat ganglia." Much confusion has thus arisen from the profuse mode of describing all tissues as nervous; but the real error lies in Dr. Lee not distinguishing one tissue from another.—*Lancet*, October 27, 1846.

MR. BECK'S VIEWS.

At the junction of the hypogastric plexus and branches from the sacral nerves, several small ganglia exist. The largest measure about the one-eighth of an inch in diameter. These ganglia, together with the plexus in which they are found, are surrounded with a thick layer of fibro-cellular tissue. This tissue is of considerable firmness, in consequence of the nerves and ganglia being in this situation, much exposed to injury. None of the nerves from these ganglia are sent to the uterus, nor does it undergo any increase in size in pregnancy, nor any change after parturition.

From the plexus formed by the junction of the hypogastric plexus and branches from the sacral nerves, branches pass off to the bladder, vagina, and rectum. Those to the bladder and vagina are about the one-sixtieth of an inch in diameter, those to the rectum being much smaller. Several minute ganglia are formed on these nerves.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Meeting at Southampton, September, 1846.

SECTION OF PHYSIOLOGY.—PRESIDENT: PROFESSOR OWEN.

Thursday, Sept. 10th.—Dr. Fowler read a paper "On the Relations of Sensation to the higher Mental Processes."—The author observed that man, when viewed as a whole, should be considered as consisting of a body constituting the instrument of the mind, as the telescope is of the eye *adjustable* but not *adjusted*; that its indications are perceived through the medium of the *muscular sense*, as the images reflected or refracted are the signs of external objects to the eye. Animals have adjustments ready made; man has to learn his. To see, to hear, and to touch, as an artist, or even in the common usages of life, a man just couched is as an infant; till he can adjust he sees, as we do with an unadjusted telescope, merely a vague sight. This gives rise to *search*. To see with intelligence we must *look*, that is, exert the combined adjustments; this constitutes an appreciable distinction between *sensation* and *perception*. The unadjusted impressions pass the mind as vague trains of thought, linked and associated sequences, the machinery of reveries and dreams. That searching to obtain well defined perceptions is effected by adjustments, attention to our own *working observation* will afford abundant proof; but a more protracted attention is necessary to prove, and to convince a man, that his *memory* and *powers of conception* equally depend on the mind's perception of a *reiteration of the adjustments of sensation*. But that this is so we have proof, in the *corporeal actions* induced by conception being like those produced by sensation by presence of the objects. This conception of savoury food excites secretion in the salivary glands—of insult, the gesture of anger, &c. In the *power of forming and giving fixity of tenore* to conceptions men differ widely. It is to this power Dr. Johns alludes, when he says, that whatever can make the past, the distant, and the future, prevail over the present, raises us in the scale of thinking beings. Now, Dr. Darwin and Dr. Brewster have shown that these conceptions are effected by adjustments of the body; in other words, that the "mind's eye," is, in fact, the body's eye. To have vivid conceptions disposable by our volition forms the orator, the poet, the sculptor, and the painter.

After numerous illustrations of this faculty and allusions to it by the poets, the author stated that these sensations, perceptions and conceptions do not exist in an insulated state; the adjuncts by which they are affected are so linked and associated by *retransmissions* that they reciprocally call up each other. This *linked association of adjustments* he took to be the machinery by which the *association of our ideas* is effected, and that the *propensity of our structure to these functional adjustments* constituted all we had of *ideas* which had been denominated *innate*; and he considered that this reciprocating perception from different sources of sensation (as the eye and ear,) gave birth to the ideal theory of "species, images of forms and colour of things without their matter" of the old metaphysicians. In conclusion, the author contended that Mr. Hume's opinion on the non-existence of the idea of power, and of cause and effect, (except as antecedent and consequent,) and the arguments and facts adduced against that opinion, receive an elucidation from the consideration of the modes of action of the muscular sense, of which both Mr. Hume and his adversary were quite ignorant.

The Secretary read a paper by Dr. Scarle, "On the Cause of the Blood's Circulation through the Liver." After alluding to the powers which circulate the blood in the system generally, the author declared it to be still a problem by what combined force the portal circulation was carried on in the liver,—one cause of the general circulation being apparently absent, namely, the oxygenation of the blood in the arterial system, in the portal system the blood being deemed wholly venous. The solution of the problem depended, he thought, on the fact that the stomach and bowels were (like the cutaneous,) a respiratory surface, by which the portal blood becomes oxygenated to the necessary degree. In support of this view he adduced the experiments of Majendie, who found 11 per cent. of oxygen in the stomach of criminals examined after decapitation, and carbonic acid and nitrogen in the intestines; the source of this oxygen he believes to be the air swallowed with the food and saliva, and in combination with cold water. This oxygen he believes to be absorbed by the veins and lacteals, and communicated as a source of power to the portal vessels. He deemed the absorbing power of the gastric and mesenteric veins

to be increased by the diminution of the quantity of blood in the vessels by the secretion of bile. In conclusion, he thought the ruminant animals required an additional supply of oxygen to maintain the respiratory function over their large gastro-intestinal surface, and that this was supplied from their peculiar function of rumination.

Dr. Carpenter read a paper "On the Physiology of the Encephalon." The object of this communication was to bring under consideration the inferences to which we are led by the study of comparative anatomy, in regard to the functions of different parts of the human encephalon. He first pointed out that our comparisons need not be restricted to vertebrated animals, since the ganglionic centres of invertebrata may be shown to be analogous with certain portions of the cerebro-spinal system of the vertebrata. He stated it to be a universal fact, that all organs of special sense have distinct ganglionic centres, which must be regarded as the instruments of their respective sensations and as the sources of motions directly connected with those sensations; and that the whole cephalic mass of invertebrated animals was composed of a collection of such ganglia, without any vestige (except in the highest,) of cerebrum or cerebellum. These organs make their first appearance in fishes, and bear at first but a small proportion to the chain of sensory ganglia, which forms the anterior termination of the spinal cord. In fishes we find distinct olfactory, optic and auditory nervous ganglia, together with thalami optici and corpora striata, the degree of development of which has no reference to that of the cerebrum; in fact, the bodies usually called the cerebral lobes of fishes are (except in the sharks, &c., which have the vestige of cerebral hemispheres,) entirely composed of the analogues of the corpora striata. Hence Dr. Carpenter considered that these bodies, instead of being appendages to the cerebrum, really belong to the group of sensorial ganglia, and are to be regarded as altogether making up the ganglionic centres of common or tactile sensation, and of the movements prompted or directed by it. This chain of ganglia, although comparatively small in man, with reference to the bulk of the cerebral hemisphere, still exists in him, and must be regarded as the instrument of the same operations as those to which it ministers in the lower animals. Arguing from actions in the latter, and analogous phenomena in man in health and in disease, the author attributes to the sensory ganglia the formation of sensations, and the origination of respondent movements, which may be distinguished as *consensual*. To this category the purely instinctive actions of the lower animals, which seem executed without any *idea* of purpose and in simple response to the promptings of sensation, appear referable, together with a variety of actions in man, such as that of yawning from the sight or sound of the act in another. Dr. Carpenter hence endeavoured to show that we must regard the cerebrum as the instrument of the formation of ideas, of the memory of ideas and sensations, and of the intellectual processes founded upon them which terminate in an act of the will; and he pointed out that *ideas* may produce the same effect on muscular movement as sensations themselves, as when the suggestion of the idea of yawning induces the action. He also showed how the anatomical connections of the cerebrum with the sensory ganglia would cause its communicating fibres to exert an influence on the latter, corresponding with that which is effected by the sensations directly received from the organs of sense. With respect to the *emotions*, he endeavoured to show that they may be regarded as compound states resulting from the simple feelings of pleasure and pain associated with certain ideas, or classes of ideas. The feelings of pleasure or pain he would locate with the sensations which commonly excite them, in the sensorial ganglia; whilst the formation of the ideas, which are essential parts of the emotions and propensities, is clearly a cerebral operation; and he showed, in conclusion, how this view of the functions of the principal parts of the encephalon harmonizes with the known duplex action of the emotions,—first, in producing involuntary movements; and second, in stimulating and influencing the reasoning processes.

A lengthened discussion followed, in which Dr. Laycock denied that we had yet a sufficient number of facts ascertained either to deny the higher mental processes and emotions to the lower animals, or to induce consent to the physiological distinctions drawn by Dr. Carpenter from the anatomical structures in man and mammalia. He defended his dissent by facts in natural history, and physiological and anatomical views relative to the encephalon published by himself, two years ago, in papers read before the Association.

Tuesday, Sept. 15th.—Professor Matteucci submitted a *résumé* of his latest researches in Electro-Physiology. In the first place he described the experiments which prove that the development of electricity in living animals is a phenomenon peculiar to all organic tissues, and principally to muscular fibres, and that it is a necessary consequence of the chemical processes of nutrition. Professor Matteucci particularly wished to prove that the development of electricity in the muscles can never produce electric currents which circulate either in the muscular *mass*, or in the nerves. It is only by a particular arrangement of the experiment that we succeed in obtaining a muscular current. Further, all experiments contradict the opinion of an electrical current existing in the nerves. M. Matteucci proved that the current said to be proper to the frog is, on the contrary, a general phenomenon which exists in all the muscles that have tendinous extremities unequally distributed, and that this current supposed to be peculiar to the frog, is only a particular instance of muscular current.

In the second place, the Professor laid before the Section his last researches "On Electrical Fishes." He showed that the laws of the electrical shock of these animals are a necessary consequence of the development of electricity which is produced in each cell of the electrical organ under the influence of the nervous power.

In the third place, professor Matteucci showed the relation which exists between the electrical current and nervous power. He proved that muscular contraction is always produced by a phenomenon analogous to the electrical spark, and that the electrical current does but modify the nervous excitability. On these facts Professor Matteucci establishes a simple theory of electro-physiological phenomena.

In the last part of his communication, the Professor treated of Inducted Contraction; and, after having demonstrated that these phenomena cannot be explained in supposing an electrical discharge of any kind indiscriminately, he concluded, that inducted contraction in an elementary phenomenon of the nervous powers which acts in muscular contraction, and is analogous to all actions of induction of physical powers.—*Provincial Medical and Surgical Journal*.

PRACTICE OF MEDICINE AND PATHOLOGY.

EPIDEMY OF MUSCULAR CONTRACTIONS IN BELGIUM.

Translated for the St. Louis Medical and Surgical Journal from the Gazette Medicale de Paris.

There prevails at this time, in Belgium, principally in the prisons, a singular malady, worthy of attention. The disease commences with a sensation of numbness and pricking, and sometimes with shooting pains in the hands and feet. Generally, this sensation extends along the leg and thigh, fore-arm and arm. In some patients, it extends also to the parietes of the abdomen and chest, to the face and over the scalp. In this last case, the patient experiences vertigo and extreme debility. The sense of touch is frequently modified in such a manner, that the act of feeling and walking gives rise to all kinds of sensations, more or less strange. A prisoner of St Bernard, weaver by trade, believed he held in his hands his shuttle, that he had laid aside. Another thought that he walked on stones or nails. With a few, sensibility was entirely destroyed.

To these symptoms invariably succeed—and this is the dominant character of the disease—a muscular contraction of the limbs, presenting two distinct varieties, to wit:—simple contraction, and spasmodic contraction. The first, consisting in a simple morbid contraction of the muscular fibres, commences generally in the superior extremities, and only extends gradually to the inferior. At other times, all limbs are affected simultaneously. In every case, the fingers are flexed on the hand, the hand on the fore-arm, the fore-arm on the arm, the whole number occupying an intermediate position between supination and pronation. Similar phenomena are observed in the inferior extremities. The toes are bent, the foot extended, the leg flexed upon the thigh, and the thigh upon the pelvis. In the angles,

formed by the various positions of the skeleton, in the palm of the hand, wrist, elbow, sole of the foot, above the heel, in the hams and groins, are felt muscular, or tendinous cords, elevated and stretched. The rigidity is apparent, especially at the wrist, in the tendons of the *palmaris longus*, and *pulmaris brevis* muscles, the *flexor profundus*, and *flexor sublimis*, and the cubitalis anterior; at the elbow, in the insertion of the *brachialis anticus*, and at the biceps; above the heel, in the tendon of *Achilles*, in the popliteal region, in the tendons of the *semi-tendinosus* and *semi-membranosus*, and of the biceps; at the groin, in the insertion of the *gracilis*, of the *rectus*, and of the *aponeurotic tensor*. All of these muscles offer a manifest resistance to attempts at straightening them. The elevation and rigidity of the tendons upon the dorsal face of the radi-carpal articulation, and upon the instep, caused M. Tasquinet, the author of one of the reports, to suppose that the extensor of the fingers and toes participated in the state of contraction.

The limbs, thus flexed, offer to the touch a general and deep-seated hardness, which appears to invade, in different degrees, the whole of the muscular mass, being more distinct upon the fore-arm than elsewhere.

Sometimes the contraction is neither preceded nor attended with pain; nor do the efforts of extension occasion any. With some patients, this forced distention of the contracted muscles produces even an agreeable sensation. At other times, this contraction announces itself at once, by violent cramps extending from the elbow to the extremities of the fingers, and from the knees to the toes; and, if the attempt is made to bring the members to their normal position, the most violent pain results.

The contraction of the limbs is, as we have just said, permanent; but it does not always limit itself to these parts. There are cases where the thoracic and abdominal muscles, those of the neck and of the face, become hard and stretched. A considerable oppression, and a sense of contraction at the base of the thorax, have at times led to the belief of a contraction of the diaphragm. With certain patients, the tongue, next after the limbs, receives the stroke. With others, finally, a general tetanic state has been observed.

To judge from all of the reports, the contraction is generally fixed and permanent. It persists during many days, many weeks, many months, and then gradually subsides. But sometimes, it assumes a remittent, or an intermittent, form. Thus, it is seen to diminish, at times in the morning, then in the evening; or, truly, only to make its appearance by attacks, very manifest, distinctly marked, lasting from a few moments to several hours, and even for a greater part of the day. Ordinarily, these attacks supervene at night and towards morning, lasting till near noon, and disappearing for the rest of the day. M. Mareska observed two cases of true periodic contraction treated with success, with the sulphate of quinine.

As we said above, the contraction assumed, sometimes, a spasmodic form. Then, instead of a permanent flexion of the limbs, a hardness and permanent tension of the muscles, there are violent convulsive contractions, transient, with or without pain, and returning by attacks at greater or less intervals, or simple starting, such as sometimes takes place in disturbed sleep. This form, noted by M. Tasquinet, is encountered only with a few patients.

The symptoms, just specified, are invariable: they form the particular character of the epidemic, and constitute, thus to speak, its individuality. But there are others, although accessory, which cannot, nevertheless, be abstracted from the picture without a serious alteration of its physiological expression. Thus, some patients are affected with general or partial œdema, and ascites; others complain of *rachialgia*. With many, cyanosis of the extremities has been observed. With two, only, spontaneous gangrene:

one of these two patients lost the skin of the scrotum, and the other almost the whole of that of the left foot and leg.

As to the general state of the patient, apart from considerable weakness, there is nothing particular. The pulse and temperature remain in their natural state, and the principal functions are regularly performed. Still, this is not always the case: with certain subjects, the temperature is lowered, and the pulse sinks to fifty, and even forty pulsations; with others, on the contrary, either by the direct effect of the disease, or under the influence of the pain, or from some visceral complication, fever is established. The patients often complain of an intense headache. With others, finally, there is a loss of appetite, nausea, vomiting, colic, constipation or diarrhœa, either serous or sanguineous. M. Mareska has determined that the fibrine of the blood was not augmented. A member of the Academy, M. Craninx, has even affirmed, in the discussion which followed the communication of M. Vleming, that the blood lost its fibrine; but it does not appear that chemical experiments support this assertion.

The disease presents in general, thus far, nothing serious. It almost always ends in cure, and relapses are rare. Yet there are many instances of fatal termination. In some cases, death supervened suddenly, under the forcible contraction, doubtless, of the respiratory muscles, and perhaps also, according to the judicious remarks of M. Torquinet, from a contraction of the heart; in others, death came on slowly, after some days of fever; and there is room to suppose notwithstanding the insufficiency of the reports on this point, that it was the result of consecutive organic alterations. With some patients, the affected limbs remain paralyzed.

Few autopsies have been made. The only indication that we find on this subject, in the documents we can consult, is yet another assertion of M. Craninx before the Academy:—"The liver and spleen have been found diseased: all the viscera of the economy were more or less altered." But the greater part of the other members do not appear to attach the least importance to these post-mortem examinations.

It is the same with the therapeutical results. M. Staquez, practising at the prison of St Bernard, where typhoid fever is endemic, and meeting in the new affection only a peculiar manifestation of the habitual morbid constitution, has had recourse to saline purgatives. M. Mareska, practising at Gand, and free from this pre-conception, has employed cold baths, ligature of the limbs, amica, camphor, opium, sulphate of quinine, and had recourse to purgatives but as secondary means. But it cannot be said, if one is to judge from the debates on this subject, before the Belgian Academy, that any method of treatment has had any marked influence upon the duration or termination of the disease.

To complete our sketch, it only remains to point out certain differences, according to the locality. It is at the prison of St Bernard, thus far, that it has been most serious. It is there that it is sometimes accompanied with fever; that the contraction exists for weeks and months; that it is complicated with cyanosis, or gangrene of the extremities; that it terminates often in death. In the prison of Gand and Namur, the affection, although more painful, takes the intermittent form, rarely lasting more than eight days, and never ending fatally. "This difference, does it not depend," said M. Vleming, to the Academy, "upon the fact that the original cause of the disease, whatever it may be, has found in this prison a more ready prey, a ground better disposed, men more deteriorated, upon whose constitutions the whole of the causes which there reign, and which render the prison the most detestable of the country, had already made deep inroads?" Some cases have been observed at the Hospital St Pierre, at Bruxelles, and in the city by M. Seutin; in the lunatic asylum at Gand, and even at St Bernard, without the prison, by different practitioners. In all these cases, the contraction took the permanent form.

A profound obscurity still envelopes the causes and nature of this epidemic malady. A discussion is in progress at the Academy of Medicine and the Society of Medicine, at Gand. The Academy has even decided that this question shall have the priority in the order of the day, at the approaching session. From this period, new studies will be undertaken, and new facts gathered. We will await this additional knowledge; and, in making known, in time and place, the result, we shall seek to establish the resemblances and differences existing between the present epidemic affection, and certain affections, equally epidemic, which bear the greatest analogy to it; such as acro-dynia, raphania, pedionalgia, &c.

CASE OF ABSENCE OF THE SPLEEN.

By ROBERT LEBBY, M. D., Surgeon U. S. Engineer Service, Charleston Harbor.

Bolies without Spleen.—Dr. Meinhard, of Petersburg, says a German paper, has made a *post mortem* examination of a woman, in whom the spleen and splenic vessels were totally missing. Since reading the above, in *la Gazette Medicale de Paris*, we found a similar observation, by Dr. Leiby, in the *Southern Journal of Medicine and Pharmacy*.—Eds.—*St. Louis Medical and Surgical Journal*.

In August, 1834, Jack, the slave of Mr. ——— White, a runaway, committed murder upon the body of one of his comrades, who was likewise a runaway. Not long after the fatal act, one of the party surrendered himself to his owner, and communicated the fact of the case. Jack, likewise, went in to his owner. The owner of the murdered man gave the information of the murder, and the unfortunate murderer was arrested, arraigned before a magistrate's court, tried, found guilty of the murder, and sentenced to be executed, and his body to be delivered to any surgeon who would demand it. At the request of two young gentlemen, who were prosecuting the study of medicine, I applied for the body, after the sentence of the law had been carried into effect, and obtained it. Before detailing the *post mortem* examination, I will give a brief outline of the history of this unfortunate criminal, as obtained from those who knew him best; and, without making any comments, or offering any opinion upon the peculiar development, leave others to draw such inferences as they deem proper.

Jack was about five feet eight inches high, full chest, narrow hips, and at the time of his trial of a very spare make, rather emaciated in his appearance, but enjoying good health. He had lost nearly all of the molar, and a few of his front teeth. He had, in life, suffered from bilious intermittent and remittent fevers, which negroes generally do, in this climate, during the summer and fall months, and pleuritis in winter. He was of a surly, irritable disposition, and frequently would take the woods when his work pressed hard. It was during one of these wandering jaunts, that he committed the melancholy deed, for which he atoned with his life.

Autopsy one hour after death.—General appearance of the body, emaciated and thin. An incision was made from the chin to the pubis, turning the flaps back, and exposing the neck, thoracic, and abdominal viscera. The neck was carefully examined, and found not to be dislocated. The ligaments and vessels very much contused; and the larynx, above the prominence, or *pomum adami*, particularly so; as the cord compressed this part of it very much, in consequence of the knot of the rope slipping around, on the back of the neck, as he dropped. The lungs presented a healthy hue except the left, which was turgid, and the pleura costalis of this side, adhering to the walls of the ribs. The heart was normal; the pericardium containing about a half gill of fluid. The stomach empty, and the lower third slightly inflamed; with the pylorus thickened. The liver, on its right lobe, healthy in appearance; the left enlarged, and studded with small white specks, not unlike tubercles sometimes seen on the lungs. The gall-bladder empty. The vessels of the omentum enlarged and injected; the pancreas increased fully one-third of its usual size, and of a pinkish color. The spleen wanting. Contiguous to the pancreas, was a sac, of the size of a large orange, oblong in form, of a dark ash color, shrivelled in appearance, and imparting to the hand the sensation of squeezing a decayed orange: upon opening this sac, it was found to contain pus of a creamy hue and consistency. The

ducts were entirely obliterated, and the internal coat of the sac presented the same appearance of a common abscess. The duodenum was slightly inflamed, on its external and internal mucous surface, but not to much extent. The peritoneum and intestinal canal presented nothing remarkable. The kidneys were normal: the bladder empty, and healthy in cast. The hemorrhoidal vessels enlarged, and the remains of two tumors or piles prominent.

The weather, at the time, being extremely hot, our examination was, consequently, interrupted; and, although many parts of the viscera were selected as specimens, they were lost before they could be put in spirits.

I have thus, Messrs. Editors, given you the result of this extraordinary autopsy. It affords ample scope for the physiologist to speculate, and, particularly, that class who have supposed that the spleen was a useless appendage to the animal system. I have no favorite theory to support, and, consequently, have given to your readers a correct transcript of the examination of the body of this unfortunate individual, who satisfied with his life the stern requisition of civil and Divine justice, that "whoso sheddeth man's blood, by man shall his blood be shed;" and, to the medical world, the strange phenomenon of a man having lived without a spleen.—*Southern Journal of Medicine and Pharmacy*.

ELEPHANTIASIS, ITS HISTORY AND TREATMENT.

By HENRY G. DALTON, Esq., M.R.C.S. Eng., Georgetown, Demerara.

Where elephantiasis has advanced to any great extent, there is generally noticed considerable enlargement of the glands in the groin; but these rarely advance to suppuration. Abscesses, however, are apt to form in such swollen limbs, and give rise to much suffering. Although the skin becomes greatly hardened in the progress of the disease, yet if the patient scratch the leg (which he is apt to do from a sensation of itching or tingling,) an ichorous, fetid, serous-looking fluid is discharged, and sometimes very copiously. Even where no abrasion or cracking of the skin takes place, an exudation of such fluid frequently occurs. If "rose," as it is termed, be identical with elephantiasis Arabica, which can scarcely be doubted, it will be found of frequent occurrence among all classes of persons in the West Indies. Many causes here give rise to it,—exposure to wet, suppressed perspiration, chills, bites of insects, or other local irritation. The part affected becomes swollen, painful, red, and hot, with general febrile disturbance of the system. Such attacks, where they proceed no further, in persons subject to the disease, prevent, in many instances, the approach of graver maladies, and often are noticed by the patients to lead to an improved state of health, especially when before they had been labouring under dyspepsia, torpor of the system, lassitude, and slow internal fever. It may, perhaps, be questioned, whether the remedies employed for the removal of the "rose" may not have some influence in this change. In some persons, the attack is periodical, and it comes on frequently without any assignable cause. The patient awakes in the morning with a sudden unaccountable swelling, and occasional morbid redness, as of the hand, arm, foot, &c. There is at first, in mild cases, more itching than actual pain. This may last for a few days, when the swelling disappears with slight desquamation. Sometimes a glandular swelling follows, or hardness or puffiness marks the seat of the malady. This mild form may be developed in almost any part of the body, as the ear, nose, hand, or scrotum, being modified according to its seat. Where the skin is naturally thin, the swelling comes on quickly, and subsides as soon: where the skin is thicker, it is more chronic, and is difficult to be removed. The parts where the greatest swelling is observable, are those where much loose cellular tissue exists, as in the scrotum, groin, arm, &c. When it attacks the scrotum, the swelling obtains sometimes a great size, and proceeding from the incipient stage, "rose," with slight oedema and infiltration, to a more advanced form—elephantiasis. This part of the body sometimes weighs sixty pounds. The same changes take place as in the leg, and this organ attains great magnitude. The testicles are rarely dragged down, but remain at the upper and back part of the swelling, and very frequently they are atrophied. The penis is obliterated from the skin, being drawn down, and presents only a slight prominence, if not a navel-like appearance, on the anterior and upper part—sexual intercourse being thus prevented. The

urine, when required to be voided, is assisted by lifting up the tumour.

The causes of rose and elephantiasis may be divided into the predisposing and exciting. The first depend on a certain condition of climate, where damp and heat prevail, where intermittent fever is common. A debilitated state of constitution is favourable to the attack. Improper or insufficient food, languid circulation, an impoverished state of the blood, the nervo-lymphatic temperament, a long residence in warm latitudes, absent or deficient transpiration,—all predispose to elephantiasis.

The exciting causes are, local irritation, exposure to damp, febrile attacks, suppressed evacuations, long standing, or continued pressure. Drs. Hillary and Henty add sudden changes of temperature.

Treatment.—The treatment of elephantiasis Arabica has hitherto led to very imperfect results, and has varied according to the view taken of the disease by different practitioners, until, at last, the greater number of patients have fallen into the hands of quacks and ignorant persons; and it is perhaps owing, in a great measure, to the apathy which the medical practitioners in the West Indies have evinced towards its consideration, that the unfortunate sufferers are forced to apply to any system which holds out a prospect of amelioration, if not recovery. It has been made a reproach to the medical profession, that failing to remove a disease by the aid of medicine, they too often resort to the knife, which cuts through many a Gordian knot without lessening it. It is hoped that the sketch of the following plan of treatment will induce others to give it a trial:—

The treatment of elephantiasis Arabica varies according to its primary and advanced stage, and is divided into local and constitutional means. At its commencement, when febrile attacks are common, when little swelling is present, and where no marked or permanent change of the skin is observable, it is necessary to have recourse to mild antiphlogistic remedies, as purgatives, emetics, diaphoretics. Venesection is rarely required; generally speaking, it does harm. Calomel and jalap, or the compound jalap powder, with small doses of tartar emetic, are useful: also, saline draughts, with sudorifics, followed up by the administration of quinine; afterwards, nauseating medicines should be given with bitter infusions and occasional tonics. The diet should be light and nourishing, and when it can be had recourse to, change of climate proves of the greatest benefit. The local treatment should consist in astringent lotions to the part affected, as Gonlard water, sulphate of iron washes, spirits of wine and water, &c.; but these should never be applied cold, for they generally increase the pain. For this reason ordinary fomentations are useful. The swollen part should be supported by gentle bandaging, and when the pain is removed, if much swelling persists, increased pressure, with occasional stimulating or astringent frictions, should be had recourse to. Rest and the recumbent position should be enjoined. It is very necessary to watch the condition of the general health, and every means must be taken to improve it, by moderate exercise, bathing, and diet. A rheumatic or aguish diathesis should be guarded against. Where, however, the disease has advanced further; where the swelling is great, and the skin has become rough, hardened, and thickened; in fact, where it has assumed that condition peculiar to the disease, recourse must be had to the following measures:—The patient is to be confined to his room, and in severe cases to his bed, but only for a short time; a strong, firm bandage (made of Osnaburgh, or other strong cloth) should be provided, and careful pressure made from the toes upwards; a few strong purges may be given at first. It is wonderful to observe the remarkable changes soon produced. In severe cases, it is better to soak the leg freely in warm aromatic decoctions, and after careful drying and moderate friction, to apply the bandage tightly. The bowels are to be kept freely open; the state of the skin is to be watched, and diaphoresis should be induced by gentle means, if necessary. It is sometimes found useful to employ diuretics, although frequently the flow of urine is materially increased, inasmuch as the repression of the swelling seems to eliminate the fluid by the kidneys; the diet should be at first low, and afterwards gradually increased. In the course of a few days, under such treatment, the huge, misshapen limb is generally so much reduced as to require the bandage to be readjusted, which must now be done frequently, increasing the pressure each time, even to slight pain. The swelling subsides at first like magic, some inches every week, but, as it lessens, the treatment becomes more tedious, and requires patient, persevering

pressure. The ordinary mode of bandaging in these cases will be of little use; the pressure must be as severe as is consistent with safety. The patient at first bears an extraordinary degree of force without much inconvenience, but complains sometimes of great numbness and pain in the part, which, however, soon wears off; should it not do so, it will be necessary to slacken the bandage. As the swelling diminishes, the patient should use exercise more freely; but evacuations are still necessary, especially purgatives and nauseating medicines, with preparations of iodine, especially the iodide of potassium. Should the health appear to suffer, tonics, and even stimulants, may be required. After a time, the bandage may be used less often; and stepping the limb in fluid, with powerful friction, becomes useful: but the bandage should never be discontinued for more than a few hours, and never during exercise, except it be to accustom the joints to return to their usual freedom. In the course of a month or more, the swelling, under such treatment, will be found considerably reduced; the excrescence and unevenness of the skin become less marked, and at the distance of a few paces scarcely any difference can be recognised between the sound and the previously affected limb. But the bandage is not, on this account, to be laid aside, for, if so, the swelling returns rapidly. It is necessary to continue its application for many months, perhaps always; or a laced stocking, or some such contrivance, may be used with advantage. In some cases, it may, perhaps, be necessary to establish a small running sore, by means of a blister, or the potassa fusa, or the introduction of a seton may be substituted. It often happens, that patients whose legs have been thus reduced, become thin and debilitated, in which case the general health must be carefully attended to, and tonics or other medicines administered, as the case may require. By such simple means, then, as bandaging and evacuations, this frightful deformity may be so far removed as to insure to the patient much comfort, and physical as well as mental relief; and this circumstance is surely sufficient to urge its employment, where no more permanent recovery can be hoped for. It is not pretended that, by the resolution of the swelling, the disease is completely obliterated; for unfortunately, in most instances where the use of the bandage is not persisted in, a tendency to swelling recurs; but to know that, by such a method, a person so disfigured can be so far benefited as to enable him to mix in society, and to follow his customary avocations, without the usual disfigurements of the disease, is surely an object to any medical practitioner.

Where severe ulceration exists with the disease, it will be first necessary to diminish the size of the sore by ordinary means before proceeding with the bandage. Poulitices, in the first instance, with stimulating lotions afterwards, will generally be found sufficient. A lotion of a drachm of nitric acid to a pint of water is of great service applied to the part, with strapping to approximate the edges of the sore, or a weak solution of the chloride of soda or lime may be substituted. It is seldom found that the ulceration resists such treatment, when combined with nourishing diet, occasional opiates, and ammonia internally. Small ulcers, when present, afford no obstacle to the application of the bandage; for with the contraction of the skin, and other tissues, they become obliterated. Dr. Musgrave speaks highly of mercury internally, to act upon the absorbents, and, in some cases, its use may be judiciously employed; but alone it will effect but little improvement. On the whole, as the treatment above advised never fails to insure marked improvement, it is scarcely necessary to suggest the use of mercury, unless under particular circumstances. Bandaging of the scrotum may appear difficult, but, considering the great size to which this organ obtains, it is more manageable than might be supposed. Amputation is scarcely ever required; severe cases of ulceration of the leg, or intolerable pain, may, however, call for its employment. When the swelling has been diminished by the application of the bandage, the disappearance likewise of the warty, rough, and fungous condition of the integument is remarkable.

Morbid anatomy.—When a limb affected with elephantiasis is dissected, the following appearances present themselves:—The integument is hard, rough, uneven, with irregular folds and creases; a warty or mouldy condition will be observed in some parts; little or no hair; the skin cracked, scaly, and raised up in some places; constriction observable across joints, bulging out elsewhere; nails, in appearance, like horn; marks of pores in some places, with a moist greasy feel; toes compressed into an almost solid mass. The integument, when cut through, presents

a dense white cartilaginous appearance, to the depth of from half an inch to an inch and a half; hardest towards the surface, and correspondingly softer towards the centre. A soft adipose-looking tissue is next observed, distinct from the other, but having an appearance of gradual transition. Loose pale fat incision is carried deeper, when loose cellular tissue is met with, infiltrated with a serous-looking fluid, which rapidly coagulates, and becomes like jelly, at a heat of 84° Fahr. This exists in enormous quantities, and requires to be removed, in order to proceed with the dissection: The muscles are found pale-looking, and rather atrophied, in some cases considerably so, and with much fat and cellular tissue around them. The veins, except the larger ones, are diminished in size, and appear less numerous, the superficial ones being almost obliterated. The arteries are small, compared with what might be expected from the abnormal hypertrophy of the parts they supply. The nerves are somewhat flattened by compression. The outer skin is not at all mobile: it seems glued to the part; the thickness becomes less marked towards the borders of the foot. When a portion of the skin is removed, and sliced horizontally, it seems to be composed of layers, and has the appearance of sheets of pasteboard, soaked and firmly compressed together. The epidermis is less affected than the cutis vera, which has the physical characters of marked hypertrophy, although the epithelia of the former are greatly enlarged, and present an appearance not unlike the scales of a fish.—*Lancet* November 7, 1846.

ABSCESS OF THE LIVER, POINTING BETWEEN THE SIXTH AND SEVENTH RIBS.

Reported by W. SMITH, Esq., Surgeon,

Fellow of the Royal Medical and Chirurgical Society of London, and Consulting surgeon-accoucheur to the Bristol Dispensary.

Anne B——, aged forty-one, married, was admitted to the Bristol Dispensary, September 1st, 1846, and became a patient under the care of T. Martin, Esq., surgeon to that institution, from whom the history of the case has been obtained.

Symptoms on admission.—A dull continued pain, increased by deep inspiration, on the right side. It extended from the hypochondriac region upwards to the fifth or sixth rib, and from the sternum backwards to the costal angles. There was œdematous swelling, without defined margin, over the same extent, with tenderness on pressure, greatest between the sixth and eighth ribs, about one inch and a half external to the sternum. The whole of the right side of the thorax exhibited some dulness on percussion, which was peculiarly evident at the lower part. There was diminished respiratory murmur, bronchial respiration on the affected side, and slightly puerile respiration on the opposite one. The heart's sounds were distinctly heard on the right side of the chest. The tongue is pale and flabby, coated at the back part. The pulse 80, small, weak, and irritable; countenance is muddy, and rather expressive of anxiety, with a heavy expression of the eye: coldness and slight œdema of the extremities; bowels very irregular; motions clay-coloured; urine high-coloured and scanty; no abdominal tenderness; short, dry, cough, and some dyspnoea. Her general position is semi-recumbent, but she is able to lie down in any way except on the right side. There are thirst, loss of appetite, and absence of sleep, with anæmia and emaciation.

Previous history.—She stated, (so far as Mr. Martin could collect for she manifested much mental hebetude,) that about four months since she first felt the pain, which had since gradually increased, her health, previously good, failing in the same proportion. Shortly after this date, she applied at St. Peter's Hospital, and was there blistered, and, by her description, also slightly pyralized: but from this, and subsequent treatment she received little benefit. She had been dismissed, on refusing to enter the house, about three weeks before Mr. Martin saw her. Since that period the swelling had made its appearance.

Treatment.—Ordered, mercury with chalk, and castor oil; followed by soda gentian.

Sept. 3rd.—Bowels freely acted on by the oil, but motions still clay-coloured; pulse very small, 90; the other symptoms unaltered. Ordered, ten leeches; a mixture of carbonate of ammonia, rhubarb, and gentian; and five grains of Plummer's pill night and morning.

5th.—Felt better; pain rather less since the leeches; urine healthier, and in larger quantity; tongue cleaner; pulse 80, rather more full. The local symptoms otherwise unaltered. Treatment to be continued, with the addition of a blister on the 7th inst.

9th.—œdema has subsided, leaving a more circumscribed swelling, extending over the sixth, seventh, and eighth ribs, and about the size of the palm of the hand; at the lower margin of this swelling, indistinct fluctuation could be felt. The other symptoms were much as before, with the exception of slight tenderness on pressure over the region of the liver, which had not been the case previously. The secretions were improved. Mr. Martin found, on very close questioning as to any injury, that shortly before she became ill, between five and six months since, she had received a kick on the back part of the right hypochondrium. Ordered quinine daily, and a pill of extract of henbane at bedtime.

10th.—Feels rather better; sleep improved. From this time to the 13th, Mr. Martin saw her daily, and she seemed slowly improving in all respects but the pain, which remained the same.

On Sunday, 13th, at five P.M., Mr. Martin was suddenly called to her, as she had been seized in the night with pain in the bowels, which had been getting worse ever since. He found her with a pale and extremely anxious countenance; pulse 110, scarcely perceptible; extremities cold; pain increased on pressure, especially in the left hypogastric region; surface cold and clammy; bowels not acted on for twenty-four hours, and no urine had passed for the same time, although the bladder was not distended. Administered half an ounce of brandy with some hot water at once, and ordered warmth and friction to the extremities. A dose of castor oil to be given, and aromatic spirit of ammonia every hour.

14th.—Ten A.M.: Felt somewhat better: pain less; bowels acted on; less tendency to collapse. Continue treatment.—Eight P.M.: Found her again changed. She was rapidly sinking, and died in the night.

Post mortem, twelve hours after death, by Mr. Martin and myself.—The body is sallow, and somewhat emaciated. The tumour evidently contains fluid; but seems about one-half filled. Mr. Martin observed that it was formerly quite tense. On making pressure over the region of the liver, the swelling became much more prominent. On dissecting the integuments from the tumour, it was found to contain pus, supplied from an opening between the sixth and seventh ribs, about the shape, and a little larger in size, than an almond. There was permanent adhesion between the peritonæum lining the diaphragm and abdominal parieties, and that covering the superior surface, right extremity, and anterior margin of the liver: The right-lobe of the liver was converted into the sac of an enormous abscess, containing, as near as we could judge, about three pints of pus. It extended up to the fifth rib, having pushed the diaphragm before it, and compressed the lung. The pus had formed a passage along the process of peritonæum, extending from the diaphragm to the upper surface of the liver. It had then passed through the substance of the diaphragm, had separated the periosteum from the seventh rib, to the extent of two inches, and forming an oval aperture between the sixth and seventh ribs, eventually produced the external abscess under the integuments of the thorax. On examining the thorax, tough pleuritic adhesions were found existing on the right

side, to such an extent that the lower portion of the pleuritic cavity seemed obliterated. We therefore had a good reason why the pus passed through the intercostal space rather than through the pleura. The left lobe of the liver was congested, with a slight tendency to the nutmeg appearance. The gall-bladder was full of dark-coloured bile.

The stomach and intestines were distended with flatus; the other abdominal viscera were tolerable healthy. There was no trace of peritoneal inflammation. In the thorax we found, besides the numerous adhesions of the right pleura already alluded to, some recent adhesions on the left side. The lungs were generally congested; the lower portion of the right was in a state almost approaching hepatization.

Remarks.—There was a want of many of the symptoms denoting hepatic abscess. There was no rigor or hectic, at least during the time Mr. Martin attended her. There was no abdominal tenderness; nor was there any marked difficulty in lying on the left side. No swelling was noticed in the region of the liver. With respect to the first symptom, it has been suggested, the rigors generally occur only at the time when pus is forming, not when it is formed. But as it is most probable that there was a gradual extension of purulent formation throughout her illness, this argument loses its weight. Nor will it at all apply to the absence of hectic, as we well know that this symptom is present, not only when puss is forming, but when it is already formed.

There were, however many symptoms of hepatic disease present in this case. The long-continued pain is a symptom noticed since the time of Galen. (Ponos chionios hepatos, page 393.). The stools were clay-coloured; the tint of the skin muddy and pallid, not distinctly jaundiced; in fact, it was more a want of the proper tint—what the Greek author before mentioned calls “achroa”—than a positive discoloration. At the post-mortem, another symptom presented itself—viz., upon making pressure over the liver, the tumour became prominent, and at once induced us to consider that it was connected with an abdominal abscess. An empyema would, perhaps, do the same, were it pointing between the ribs; but then it points higher up than the present tumour, and, during life, no prominence could be given to it by pressure during an inspiration, as the descending diaphragm would prevent it from being pushed up. If, therefore, we make our pressure during an inspiration, and find a prominence of the thoracic tumour whilst we are so doing, we may consider it diagnostic of fluid in the liver communicating with the parieties of the chest.

Place of pointing.—We can hardly employ the term “pointing” in this case, as, although pus was under the integument, the skin became neither red on the surface, nor thin, as it usually is, before the contents of an abscess are evacuated. The place where this hepatic abscess poured out its contents was a most unusual one. Still cases of the kind are on record. Senac describes several cases of abscess of the liver, where the pus passed under the pleura, after having made an opening through the diaphragm. Portal relates a case of this kind. “A person was attacked with inflammation of the liver, which was treated with copious bleedings, and he appeared perfectly cured, with the exception of some difficulty of breathing, and a slight pain in the right side. Some months after, an inflammatory tumour appeared in the right axilla; it suppurated, and was opened, when more than three pints of pus escaped. The opening cicatrized, and the patient was cured.”—Portal, *Anatomic Medice*, tome v. p. 304.

Cause of the Disease.—Probably chronic inflammation of the liver was the immediate cause of the formation of pus. The blow was, in my opinion, the exciting cause which developed this inflammation. Her system was predisposed by habits of intemperance, for she drank both beer and spirits in excess.

The late hot summer probably contributed its share in congesting the hepatic circulation.

Immediate cause of death.—We certainly anticipated, from the sudden failure at last of the vital powers, and the acute pain about the abdomen, that effusion of the contents of some viscus had taken place into the peritoneal cavity, and consequent peritonitis had resulted. But nothing of the kind was elicited by our post-mortem investigation. It is not unusual for patients, whose system are undermined by extensive disease, to continue in poor health for some time without any marked suffering, and then suddenly to sink without any known aggravation of the original disease. In the present case, an attack of spasmodic pain, probably induced by vitiated secretions, was sufficient to turn the scale in favour of death.

Treatment.—Should the tumour have been opened: Mr. Martin had determined on examining the nature and contents of the tumour with an exploring needle, with a view to evacuating its contents. He had fully ascertained the presence of fluid in it, and had kindly requested me to see the case with him, when the last severe attack precluded the possibility of resulting to an operative proceeding. To a certain extent, benefit might have resulted from opening it. We had not to dread imperfect adhesion, for that was most complete. But as Dr. Budd has pointed out, in his excellent work on disease of the liver, “the walls of abscesses of large size are generally firm and unyielding, and cannot collapse, so as to close the cavity when the abscess is opened.” We therefore get suppuration continued after the contents have been discharged, and the patient dies worn out by the profuse drain on the system. That this is not invariably the case, the relation which I have extracted from Portal will prove; but I have no doubt of its general correctness. Amongst the ancients, the abscess was opened by burning; if the pus were pure and unmixed, a satisfactory result was anticipated; but if it resembled dregs or grounds, (amorgé) death was expected, (Hippocrates, Aphorism xlv. sect. 7, p. 1260.) Celsus, however, mentions that some opened it with a scalpel, and then cauterized the interior, (Liber iv. cap. 8.) With our own unsatisfactory practice in view, we cannot stop to censure these cruel modes of treatment.

ECTROTIC TREATMENT OF SMALL POX.

To the Editors of the Montreal Medical Gazette.

Gentlemen.—Since I communicated my ideas to you, on the subject of the application of the tincture of iodine in small pox, I have not had many opportunities of further testing its efficacy, as (fortunately for the community) the disease has not been prevalent in this city. The occasions, however, that I have employed it in have been attended with very satisfactory results. I am now desirous of knowing the opinion of such members of the faculty, as have given a fair trial to the application, and for this object I have to request insertion of this invitation, to those, who may have made trial of the application. The favorable opinions I have heard expressed by several of my professional conferees, strongly support the belief I have already advanced, that this remedy possesses cosmetic (if not prophylactic) powers superior to any other application with which I am acquainted, in addition to which it has the advantage of more easy application,—and I trust I do not over estimate its value, when I add further, that it has also antiphlogistic powers, which promise to obtain for it a more than ephemeral favor.

During the course of the last month I treated a severe case of confluent small pox, which assumed a malignant or hemorrhagic character, before its termination, notwithstanding the unfavorable nature of the case, for testing the application, I had the satisfaction of witnessing the most decided good effects from it, in controlling the inflammatory action in the parts to which it was applied; the face, eye lids, and fore-arm, remaining throughout free from tumefaction; the patient had neither delirium nor salivation, and the parts painted were comparatively comfortable. On the 8th day, while everything seemed favorable, the pustules assumed a

hæmorrhagic appearance, which continued to increase till the 12th day of the eruption, when he died, having preserved his intellect to the last. The post mortem inspection showed that the inflammatory action had not involved the deeper seated structures, and in all probability there would not have been any scars or pits, had the patient survived.

Several medical gentlemen visited the case, and expressed their conviction of the beneficial effects of the application. I now invite the test of further experience, which can only be obtained by others trying fairly the application, and candidly giving us the results of their trials.

I would again beg to notice, the necessity there is, of applying the tincture in the very earliest stages of the eruption, if the full benefit is to be expected from it; when late applied, it does not stop the puffing of the face, nor control the inflammatory action, as it does when used early.

I am, Gentlemen,
Your obedient servant,

J. CRAWFORD, M. D.

St. James's Place, December 25th, 1844.

—*Montreal Medical Gazette*, Jan. 1. 1845.

ON A REMEDY (the *Ambrosia Trifida*) FOR MERCURI- AL SALIVATION.

By WM. ROBERTSON, M. D., of Harrodsburgh, Ky.

One of the most common plants on our farms, possesses, as I have discovered, more prompt and efficacious remedial powers, in the cure of mercurial salivation, than any article I have ever seen tried for that loathsome disease. During a practice of forty years, I have seen the disease in all its forms, and various remedies employed for it, but do not recollect to have ever witnessed an obvious curative influence exercised by any of them.

The remedy I have lately adopted in every case in which I have tried it, has proved a speedy and effective cure, relieving the patients in from six to eight hours, removing every symptom of salivation. However, I would observe, that all these cases have been of a mild character, or in the incipient stages. What influence this remedy would exert in those violent cases of the disease, occasionally met with in practice, attended with extensive swelling, ulceration, sloughing, and falling out of the teeth, I am unable to say, having met with no such case since my adoption of the article; but I think it probable that such a case would call for the use of other remedies. Nevertheless, the use of this remedy, in the commencement of such cases; would, very probably, arrest their progress, and prevent their attaining an aggravated form. In this view, I am sustained by the result of a case, that came under my notice within the last month. In this case, the power and influence of this medicine, to control mercurial salivation, were most strikingly exemplified. It was that of a female, aged thirty-five, in the eighth month of her pregnancy, of delicate frame and phlegmatic temperament, and predisposed to hysteria. She was advised, for habitual costiveness and torpid liver, to take one or two doses of calomel, milder purgatives having procured only momentary relief. The calomel was retained about thirty hours, although followed by a large dose of castor oil, in ten or twelve hours. The consequence was, a violent attack of mercurial salivation. Within twenty-four hours from the attack, some unusual symptoms having manifested themselves, the family became alarmed, and I was hastily called to visit her, five miles in the country.

The bowels having been evacuated by injections, I found the patient without fever, and only complaining of the salivation. The gums and mucous membrane of the mouth were inflamed, a little swelled, and had a soft, puffy appearance; the whole surface was covered with thick viscid mucus, adhering with unusual firmness, and so offensive in smell and taste to the patient, that every effort to discharge it was at-

tended with nausea and vomiting; a putrid effluvia was exhaled with every breath, along with the mercurial fetor, perceptible and offensive to the bystanders. It was this symptom that had alarmed the family: they concluded that mortification had already taken place. All perception of taste had ceased, and food and drinks were rejected with disgust. The putrid smell perceptible in the breath, evidently proceeded from the viscid mucus, adhering to the mouth and throat, acquiring a putrescent tendency, from being detained there long after the secretion was thrown out from the secreting glands, &c. This was proved by an examination of the secretion; when discharged (as it was with great effort) into some vessel, the same putrid smell was present, and the mucus was about the consistency of the white of an egg.

This case of pure mercurial salivation—I say pure, because this disease is very generally accompanied by other diseased conditions of the system—afforded me the best opportunity I had seen of testing the powers of the remedy. I immediately procured, from an adjoining field, a large handful of the green leaves; poured on them, in a suitable vessel, one quart of boiling water; as soon as it was cooled sufficiently, the patient was directed to wash the mouth and throat, freely, every half hour; nothing else was used, except the common soda powders; they were given every three hours, in an effervescing state.

I remained with the patient six hours. By that time, the mouth and throat were cleared of the thick viscid mucus; the nausea and vomiting had ceased entirely; the natural taste was nearly restored; the patient felt greatly relieved, and partook of some light food with relish. The next day, she was still improving and comfortable, and, on the third day, within forty-eight hours from the time of commencing the use of the remedy, every symptom of salivation was removed, and the female was engaged in her usual domestic avocations.

I will give another case, which occurred within the last two weeks, because there is a fact connected with it, giving rise to an opinion that the remedy may prove beneficial to inflammation in mucous membranes, arising from other causes than mercury. A gentleman, from bathing in a river, took cold. He called on me, complaining of headache, sore throat and a stiff neck. He was bled; some active cathartic pills, containing a small quantity of calomel, were given, with direction to use them so as to keep the bowels in a solvent condition; to use a light diet, and apply vol. liniment to the throat. Three days afterwards, he called on me to inform me that the pills, as used, had not been active enough, and that he was salivated; the sore throat still continued without abatement.

I gave him a handful of the fresh leaves, and directed him how to use the infusion. He afterwards informed me that twenty-four hours' use of the remedy removed every symptom of salivation, and that the sore throat had also been cured. He further informed me, that, at the time he received the remedy, he felt so badly about the mouth and throat, that he did not expect he would be able to preach for a week (he is a minister of the Gospel), but that, after using the remedy, he found himself as able to preach at the end of two days, as ever he had felt in his life.

May not this remedy prove beneficial as a local application in leucorrhœa, prolapsus uteri, and gonorrhœa, also in various affections of the throat? I shall, certainly, in future, extend its use to diseases of this character, and I hope that practitioners of medicine, especially those residing in districts where the plant abounds, may be induced to give it a trial, and report to the profession the result of their practice.

This plant is known in all parts of Kentucky, and is known to all our farmers, under the popular names of horseweed, richweed, horsemint, and horsecane, but it is an entirely different plant from that described in the appendix to the

fourth edition of *Wood and Bache's Dispensatory*, page 1137, under the title of *Collinsonia, Canadensis*, and vulgarly known by names similar to those applied to the Kentucky plant.

I was induced to make a trial of this plant in mercurial salivation, from the fact that this plant, when given to a horse affected with a disease called slabbering, effects a complete cure of the disease in a few hours.

This salivation, or slabbering disease in the horse, doubtless proceeds from some diseased condition of the salivary glands. About two years ago, passing a field where the plant was abundant, its effect on the salivated horse occurred to my mind, and, immediately, a question suggested itself—that, if this remedy can exert so speedy, and such surprising effects, on the salivary glands of the horse, may it not possess properties that would render it useful and beneficial in salivation in the human subject? Under this impression, I resolved on a trial of its powers, in the first case that should present itself. The trial convinced me that it possessed powers for relieving and curing mercurial salivation, greatly surpassing any means I had hitherto used, and subsequent experience has firmly established that conviction.

The effects produced by the local application of the infusion in the human subject, induces me to think that the effect it produces on the horse does not arise from the plant taken into the stomach, and reaching the diseased glands, through the medium of the circulation, but that the direct application of the juice of the plant, while the horse is chewing it, effects the cure. It has so happened, that all the cases in which I have had occasion to use the remedy, have occurred during the spring, summer, or fall, when the plants are in a green state. I have the dried leaves, but have never used them; whether the leaves lose any of their virtues by drying, I am unable to say. I have never heard of the plant being used in any shape, as a medicine, until I tried it as a remedy for salivation.

[Dr. Robertson was polite enough to send us, with the above communication, some dried specimens of the above plant, which we submitted to our friend, Dr. R. E. Griffith, an able botanist, from whom we have received the following note:—

Dr. Hays:—Dear Sir.—The plant you left with me appears to be *Ambrosia Trifida*, though, from the absence of flowers or fruits, it is difficult to decide with absolute certainty; at the same time, the characters of the leaves and stem are so striking, as to leave little doubt on the subject.

Torrey and Gray (*Flor. Nor. Amer.*, ii. 290) describes it as follows:—"Stem tall and stout, hairy, rough; leaves scabrous and hairy, deeply three-lobed; the lobes oval, lanceolate, acuminate, serrate; the lower leaves often five-lobed; petioles narrowly winged, ciliate, racemes often paniculate; fruit (fertile involucre) turbinate-obovoid, with a short conical pointed apex, six-ribbed, the ribs terminating in as many cristate tubercles.

"Low grounds, and along streams, Canada to Georgia, and west to Louisiana and Arkansas. Aug.—Sept. annual."

It is also noticed by Riddell (*Synop. Flor. West. States*, No. 1014) as every where abundant: he gives the vulgar name of bitter-weed to it. Rafinesque (*Med. Flor.*, ii. 190) speaks of it, and says that it is called horse-weed, one of the names given by Dr. Robertson, and states that the species of *Ambrosia* are antiseptic.

The *A. Trifida* has not, as far as I can ascertain, been employed as a remedial agent, though some of the other species have been used, with some success as febrifuges. Should the present plant, on a more extended trial, be found to be as successful, in cases of mercurial salivation as is shown by Dr. Robertson, it will be a very important addition to the *materia medica*. It is to be found in abundance in the

vicinity of Philadelphia. It is probable that the *A. Elatior*, or rag-weed, so common in all our fields, would prove still more efficacious, as its sensible properties are much more developed than in the present plant.

Yours, &c., R. E. GRIFFITH, M. D.]

Am. Jour. of Med. Science.

ON THE CURE OF ERUPTIONS ON THE HEAD AND FACE IN CHILDREN.

M. Trousseau makes some interesting remarks, in his *Journal de Medecine*, upon the rules that should guide the practitioner in endeavouring to heal the eruptions, sores, &c., which affect the head and face of young children. To avoid circumlocution, we will employ, in the extracts we make from the paper, the term by which these are designated in France—*les gourmes*—equivalent to our appellation "breakings-out."

It is a popular opinion that danger attends the attempt to heal these, and this is sometimes true when their manifestation is connected with a morbid diathesis. Others, however, unconnected with this, do much mischief, and should be healed at once. A diathesis may be acquired or congenital; and the *suppurative diathesis* is that which of all others is most evidently acquired. The "*gourmes*" are, indeed, generally one of the manifestations of this; while in other cases the *dartrous diathesis*, which is usually hereditary, plays an important part in generating the eruption. The form of the "*gourmes*" will vary, according as one or other of these prevail. Impetigo, ecchyma, impetiginous eczema, intertrigo, furunculus, superficial phlegmon, and ophthalmia, are more especially connected with the *suppurative diathesis*; while lichen, psoriasis, eczema rubrum, pityriasis favus, and chronic inflammation of the eyelid, are more often dependant upon the *dartrous diathesis*.

1. When, from distress, neglect, or other cause, a superficial phlegmasia becomes, in the course of several months, converted into a suppurating sore, in the groin, behind the ears, or upon the scalp of the child, the economy, which at first suffered from the presence of an useless discharge, accustoms itself to it to such an extent, that, although its suppression at an early period would have been very advantageous, this must now be accomplished cautiously, or disease and ill health will result. 2. Again, when an impetigo suddenly develops itself in a child previously in ill health, and becomes chronic, the health may become manifestly improved, as long as the eruption continues. It is evident that, for a certain period, at least, it should not be meddled with, and even then that its cure should be very cautiously undertaken. 3. The development of the "*gourmes*" may be the signal of serious disorders in a child prior to this in good health. In this case their cure, if fever be present, should be set about at once, without any fear of the pretended effects of a retrocession. 4. When a child's health is good, we must endeavour by every means to prevent the establishment of the "*gourmes*," for, if suppuration be accidentally established, it may give rise to other suppurations—in fact, generate a suppurative diathesis. This diathesis, again, may manifest itself, not only on the skin and mucous membranes, but also in the internal organs; and thus, in children suffering from "*gourmes*," variola, rubeola, scarlatina, &c., are always more fatal. 5. When the "*gourmes*" invade important parts, as the eyes, nasal fosse, auditory canal, &c., we must use every means to prevent their extension.

Treatment.—The superficial excoriations which are found behind the ears and between the folds of the skin in young children, usually arise from negligence, and often disappear upon the mere observance of cleanliness. Soapy baths, dusting them with lycopodium, or the interposition of lint

moistened in olive oil, usually suffice to dry them up; but when they are obstinate, white precipitate ointment, (drachm 1 ad drachms 10 axung,) or Galen's cerate, may be employed. Frequently, to cure the intertrigo behind the ears, it suffices to take care that the string of the cap be not too tightly tied, or to prevent the surfaces of the skin from coming in contact with each other.

Impetigo, impetiginous eczema, and ecthyma, in their acute form, require special treatment. Dr. Trousseau, regarding the first two as true eruptive fevers, just as scarlatina, variolæ, &c., is careful in not suppressing them too rapidly, although he does not encourage their development. So far from this, believing with Sydenham that our object should be to prevent eruptive diseases becoming confluent, he prescribes prolonged baths, abstinence, acid drinks, and mild laxatives. The children are not to be too much covered up, nor to be kept in bed. Excessive cleanliness is to be observed, and great care taken that they do not scratch the pustules, and diffuse the disease with their nails over other portions of the body. When the febrile action has ceased, we have to do with a mere local disease, and must get rid of it as soon as possible. Unfortunately, however, impetigo oftentimes succeeds to measles and scarlatina; in which case, our proceedings must be more circumspect. If the impetigo be too rapidly healed, in this case, the lungs, or some other internal organ, will very probably become diseased, we having thus destroyed the revulsive affection of the skin, which acted as a preventive, or as a curative, if they were already affected. There are circumstances, however, in which such caution would be misplaced. Thus, a violent inflammation of the ocular mucous membrane may spread to the eye itself, or a very severe eczema behind the ear may give rise to dangerous or even fatal enlargement of the cervical glands. In both these cases we must at once cure the eruption, as it gives rise to greater evils than we have reason to fear from its repercussion.

When the *impetigo* and *eczema* become chronic, and the condition of no internal organ causes alarm, I treat them with baths, ointments, lotions, purgatives, blisters, or depuratives. *Alkaline baths* are the best of remedies when the disease is attended with itching. To 75 or 100 quarts of water I usually add from 12 to 20 drachms of sub-carbonate of soda or potash. These baths most effectually clean the skin, soften the crusts, and relieve the pruritus. The dreadful suffering this last causes proves its relief alone is no slight advantage. With a solution rather stronger than that employed for the baths, lotions may be made and locally applied two or three times daily. These baths are suitable for the dry forms of *eczema*, for *lichen*, and for *pityriasis*. But when the *eczema* is very acute, and is accompanied by great redness and abundant discharge, *mercurial baths* are to be preferred. I prepare these by adding to 50 or 70 quarts of water 3 or 4 scruples of corrosive sublimate, dissolved in 1 oz. or 1½ oz. of alcohol. I have used these baths for fourteen years in every variety of dartsrous affection of the skin, with the greatest advantage. Some practitioners consider them dangerous, but I order about a thousand annually, and even for women in the weakest state, and children of the earliest age, without ever seeing any accidents result from their employment; I have had children placed in these baths, half the skin of whose bodies had been destroyed by *eczema*, and no injurious absorption of the mercury has taken place, while the epidermis has become regenerated in a few days. Very young infants should not be kept in the bath more than a quarter of an hour, at the farthest, but those who are more than a year old may be retained in it for half an hour. The severest forms of *eczema*, *lichen*, *erythema*, and *impetiginous eczema* soon yield to these baths, and they form the most appropriate treatment of the *syphilides* of infancy. In simple, chronic, *impetigo*, I find sulphureous baths, formed of 1 or 2 drachms of sulphuret of potash to 50 or 70 quarts of

water, best. But they are especially indicated in children covered with furunculi, or little sub-cutaneous abscesses. The action of these baths is no doubt chiefly topical, for ointments composed of the same materials, and applied to circumscribed spots, are as useful; but when we find the alkaline baths correcting acid urine, and the mercurial baths relieving syphilis, it is evident that some portion of their material is absorbed, as is also shown by the odor which the sulphureous baths impart to the secretions. Indeed, experience has proved the efficacy of alkalies and mercurials, taken internally, in moderating the dartsrous diathesis, which manifests itself in herpetic eruption.

When the affections of the skin are very limited, *lotions*, composed of the same materials, in larger proportions than in the baths, may be substituted. The strength of these must depend upon the susceptibility of the skin, and condition of the lesion; but the practitioner must not be afraid of using them pretty strong, as the temporary irritation they excite is often advantageous to the affection. In the treatment of "*gourmes*" of the hairy scalp, the sulphuret of potassium may be employed in such strong solutions as to be almost caustic. The temperature of these lotions should be as high as can possibly be borne. This may seem strange advice at first, but doubtless much of the efficacy of the vapor bath in cutaneous affections depends upon the great heat thus produced, and the success attendant upon the employment of infusions of simple herbs by empirics, in like manner results from their using these very hot.

Among the *ointments*, those containing *mercury* occupy the very first place. White precipitate and calomel are usually to be preferred to red precipitate; but nothing absolute can be stated, for in apparently identical affections, sometimes the one and sometimes the other preparation proves most efficacious. The two former may be used in the proportion of one part to five or ten of cerate; and the red precipitate half as strong. In some children, lard, and in others cerate, forms the best vehicle. In some diseases of the hairy scalp, alkaline or sulphureous ointments are preferable to the mercurial ones, and this is the case especially in the moist and scabby forms. In the dry and squamous forms, ointments formed of mercury, of pitch, or of sulphate of copper, are highly useful. But I cannot too often repeat, that we must try various means, and neither allow ourselves to be too much encouraged by former success, nor discouraged if we find a remedy useful in some cases of no avail in others. Even for the same disease, the practitioner should always be provided with a certain variety of remedies, which will all, some day or other, be required.

I now come to the consideration of the employment of *blisters*. And first, let it be observed, that a substance, such as Burgundy pitch, croton oil, or mercurial ointment, which, when applied, sometimes gives rise to the production of a local crop of vesicles, occasionally also leads to a *general eczema*, first acute and then chronic. This is a rare occurrence in men, rather more common in women, and very frequent in children. A few months seldom pass without my seeing, in hospital or private practice, an acute, simple, or impetiginous *eczema* attack children, after the unavoidable employment of a temporary blister in pneumonia. Generally the disease assumes a chronic character; and if we consider that, up to this time, the child was not the subject of any cutaneous affection, we must admit the blister has been at least the occasional cause of its production. Seeing, then, that in a healthy skin, a blister may develop a chronic cutaneous affection, ought we to attach much importance to this means for the treatment of "*gourmes*," and rather ought we not reject it in the majority of cases? I have now in my wards a young child, who, when the subject of a slight lichen upon some few points of the skin, was ordered a blister by its attendant. A few days after, the arm to which this had been applied was covered with *eczema*, which quickly spread over

the rest of the body. I have frequently, in obedience to routine or theory, applied blisters to children affected with "gourmes," but have often repented doing so, and seldom seen benefit result. Believing, then, blisters only cause additional irritation, without relieving that already existing, I prescribe them in cutaneous affections; but I employ them in treating the "gourmes" of the mucous membranes. Experience has often shown me disease behind the ear, or of the hairy scalp, alternating with ophthalmia or chronic eczema of the nasal fossæ, as if the two effections were incompatible. In this case, a blister to the arm is generally useful, although sometimes the derivation will not establish itself in the direction chosen by the attendant, but obstinately tends towards its original route. We may leave the blister on the arm, at the same time endeavouring to encourage the fluxion where it seems most willingly and beneficially inclined to place itself. But if blisters are of use in the cure of these, so to say, alternating "gourmes," they are not so in "gourmes" resulting from propagation. Thus, we may often see an impetiginous eczema gradually invade the forehead, eye-lids, conjunctiva, the rest of the face, and penetrate into the nose. I call this propagation, and in such a case blisters are of no avail. But if an ophthalmia replaces the eczema of the skin, which in its turn acquires predominance when the ophthalmia is relieved, I call it alternating or compensating, and here blisters are in general useful. If they are useful here, they are imperiously demanded, when a bronchitis, an enteritis, a pulmonary, or intestinal catarrh is set up, and alternates with a cutaneous "gourmes;" for all these are but other manifestations of the same diathesis which a true pathologist must never overlook.

To decide upon the exhibition of purgatives is also somewhat difficult. The popular idea is, that these medicines constitute our sheet-anchor in treating "gourmes." If a somewhat severe diarrhœa occurs in a child subject to these affections, we observe on the very first day the eruption becomes paler, and if it continue, the inflammatory fluxion entirely disappears, and the cure may be effected without any topical remedy. If, however, the diarrhœa is naturally, or under the influence of medicine, arrested, you find the cutaneous affection almost immediately take on all the marks of activity it had lost. So that the antagonism between the skin and the gastro-intestinal mucous membrane is evident enough. With some practitioners, an artificial and spontaneous diarrhœa are the same things—in both, there is an intestinal flux. But the observer sees things differently. In spontaneous diarrhœa all the economy is prepared for this new fluxionary movement, and when it is established, it draws within its sphere of action a multitude of secondary vital acts. In artificial diarrhœa the economy resists the cause provoking it. There is doubtless a flux from the intestinal canal established; but it is isolated, all other acts of the economy retaining their independence. Compare the condition of the man who becomes the subject of a diarrhœa with his who takes a bottle of Seidlitz water, observe the exhaustion and *malaise* of the one, and the little inconvenience which a much greater number of stools causes to the other. A woman has not her menstrual discharge, or a man his hæmorrhoidal flux at their usual period; will the taking away a far larger quantity of blood than that usually lost from the vulva of the one, or the anus of the other, have the same effect on the economy? Some persons are affected several times in a year with an erysipelateous swelling of the nose or ear; substitute for such spontaneous irritation that produced by a large blister, and see if the effect will be the same. In a spontaneous act there is such a condition of the economy, that every function is in some measure subordinate to the actions about to take place, which can hardly ever be the case when the effect is sought to be produced by a therapeutic agent, unless indeed the indication has been well prepared and skillfully seized.

I have said enough to show that we must not judge of the influence which a purgative will exert by that which a spontaneous diarrhœa produces. But, if in lieu of the transitory action of a purgative given from time to time, we produce effect from day to day, or almost continuously; or again, if a temporary action be very energetic, and frequently renewed, we may produce results less marked, it is true, than those proceeding from spontaneous diarrhœa, but yet considerable enough to be of great importance to the practitioner. It remains to inquire whether a plan so acted upon is applicable to ordinary cases? I reply, it is not. It is dangerous for young infants, whether they are at the breast or have been weaned. Gastro-intestinal phlegmasiæ, at this age are of a grave character, whether considered as preventive of the active nutrition so requisite at this period of life, the acute, and often fatal affections they gave rise, or the chronic ailment they predispose to. Purgatives, to be of service in "gourmes," must be active, and it is easy to give rise to greater disorders than those we are seeking to combat. Such precautions are not required for adults, adolescents, or even for children above their third year, in whom these gastro-intestinal phlegmasiæ are established with difficulty, usually exempt from danger, and easily curable. If in an infant a slight diarrhœa, which had caused neither exhaustion nor wasting, and yet had much improved the condition of the "gourmes," becomes arrested, we must endeavour by the aid of purgatives, to reproduce it, and maintain it as nearly as possible in the same state it had previously existed in.

Various vegetable pitans have acquired a reputation as *depuratives*, and many of these, as bitter-sweet or wild pansy, and also chicory-juice, are very useful adjuvants when taken for a long time by the children who have passed their first infancy. But I must protest against the employment of cod's-liver oil and *hydriodate of potass* to this end, even when the "gourmes" can be traced to a scrofulous origin. I have almost always found these two therapeutical agents produce vesicular and papular eruptions; and, during the treatment of rickets, I have frequently been obliged to suspend the administration of cod's-liver oil, because the skin has become covered with eruptions sufficient in many cases to excite considerable febrile action.—*Bulletin of Medical Science.*

SURGERY.

INSENSIBILITY DURING SURGICAL OPERATIONS PRODUCED BY INHALATION.

A certain Dr. Morton, a practising dentist in Boston, is advertising in the newspapers of this city, that he has secured a *patent* for what he calls "his improvement, whereby pain may be prevented in dental and surgical operations," and he now offers to sell "licenses to use said improvement," to "dentists, surgeons, and other suitable persons." Looking upon this as nothing more nor less than a new scheme to tax the pockets of the "enlightened public," we should not consider it entitled to the least notice, but that we perceive by the Boston Medical and Surgical Journal, that prominent members of the profession in that city have been caught in its meshes.

From a paper by Dr. H. J. Bigelow, "one of the Surgeons of the Massachusetts General Hospital," contained in the Boston Journal of the 18th of November, 1846, we derive the astounding information that Dr. Warren and Dr. Hayward—men at the very top of our profession—have allowed Morton to administer his "preparation"—"a secret remedy" for which he has taken out a patent—to patients on whom they were about to operate. Dr. Bigelow says, in extenuation of the course pursued by Morton in taking out a patent, that "it is capable of abuse, and can readily be applied to nefarious ends;" that "its action is not yet thoroughly understood, and its use should be restricted to responsible persons;" and that, one of its greatest fields is the mechanical art of dentistry, many of whose processes are, by convention, secret, or protected by patent rights. It is especially with reference to this art, that the patent has been secured."

Now we would like to know of Dr. Bigelow, whether any such restricted object is contained in the patent? None such appears in the proprietor's advertisement, and we apprehend that time will show that the sale is only limited by the price and disposition to purchase.

"We understand," says Dr. B., "already, that the proprietor has ceded its use to the Massachusetts General Hospital, and that his intentions are extremely liberal with regard to the medical profession generally." Not a word of the sort is in the proprietor's advertisement. Did not Swaim give his panacea to the poor gratis, and a lot of ground to build a church on to boot? And did not John Williams, the oculist, with a trunk full of seals and royal testimonials, invite all the reverend clergy to come to him, and to bring with them all the poor blind people of their parishes, that he might cure them without money and without price?

The "preparation" is inhaled from "a small two-necked glass globe," and smells of ether, and is, we have little doubt, an ethereal solution of some narcotic substance. The patient is rendered insensible for a period of from five or ten minutes to an hour; the pupils are dilated; "very young subjects are affected with nausea and vomiting," and for this reason Dr. M. has refused to administer it to children." In one case, a patient of Dr. Dix, "the respiration was very slow, the hands cold, and the patient insensible." Various active measures were found necessary to restore the patient, and "complete consciousness returned only at the expiration of an hour."

We are persuaded that the surgeons of Philadelphia will not be seduced from the high professional path of duty, into the quagmire of quackery by this will-o'-the-wisp; and if any of our respectable dentists should be tempted to try this new "patent medicine," we advise them to consider how great must be the influence of an agent over the nervous system, to render a person unconscious of pain—the danger there must necessarily be from such overpowering medication, and that if a fatal result should happen to one of their patients, what would be the effect upon their conscience, their reputation and business, and how the practice would be likely to be viewed by a Philadelphia court and jury? We cannot close these remarks, without again expressing our deep mortification and regret, that the eminent men, who have so long adorned the profession in Boston, should have consented for a moment to set so bad an example to their younger brethren, as we conceive them to have done in this instance. If such things are to be sanctioned by the profession, there is little need of reform conventions, or any other efforts to elevate the professional character—physicians and quacks will soon constitute one fraternity.—*Philadelphia Medical Examiner, Dec., 1846.*

CHEMISTRY.

GUN-COTTON—XYLOIDINE.

It is rather more than two months since we inserted a notice of a remarkable chemical discovery reported to have been made by Professor Schönbein of Basle. We allude to the preparation of cotton so as to give it fulminating properties, and to render it a safe, inexpensive, and simple substitute for gunpowder. We then announced it as probable, that the professor would give a full account of his alleged discovery at the meeting of the British Association at Southampton. To the surprise and disappointment of all scientific men, this meeting was converted into an advertising medium for the so-called gun-cotton; and the professor declined to give the least intimation respecting the preparation of the substance, as it was his intention to take out a patent for it, and thus render it a commercial speculation. After the noble example of Sir H. Davy, who declined to patent his safety-lamp, we should have thought scientific men would have hesitated before resorting to the patent laws for a pecuniary remuneration; and we certainly think that the British Association committed a grave error in allowing the subject to be brought publicly forward, when there was no intention, on the part of the alleged inventor, to describe the process by which the gun-cotton was prepared.

Within the last week, public attention has been much directed to the subject. It is reported that the German Diet has conditionally awarded 100,000 florins as a reward to the inventor. The *Athenæum* informs its readers that a hundred-weight of the

gun-cotton is now on its way from Basle to Woolwich, having been ordered by our government with a view of testing its applicability to heavy ordnance.

In the meantime, although it does not appear that Professor Schönbein had divulged his secret, Dr. Otto, professor of chemistry in Brunswick, has addressed a letter to the *Hanoverian Gazette*—since published in the *Times*—in which he states that he was led, from the researches of Pelouze, to infer that the cotton was soaked in nitric acid of a certain strength, washed, and dried. Thus the secret of the gun-cotton became at once public. On the 4th of October, Dr. Otto performed certain experiments with his preparation, the results of which satisfied him that it must be identical with the gun-cotton of Schönbein. At a late meeting of the Academy of Sciences in Paris, M. Arago gave an account of certain experiments performed with prepared cotton by M. Morel, the results of which satisfactorily showed that it was capable of forming an admirable substitute for gunpowder; and with all that enthusiasm which characterises our Gallic neighbours, M. Arago pictured an army entering on a campaign, with a few balcs of cotton and a few gallons of nitric acid, making their own explosive cotton as they required it! M. Morel, it is stated, has secured a patent for France; and, so far as we can ascertain, he has acquired his knowledge of the subject independently of any communication from M. Schönbein. The latest intelligence is that the last-mentioned gentleman has procured a patent for England and her colonies.

Having thus given a slight history of what has transpired publicly on this subject, we now propose to consider how far M. Schönbein has a claim to be regarded as the inventor of gun-cotton, assuming that he employs nitric acid like Dr. Otto and M. Morel.

About six or seven years since, it became pretty generally known to the chemists of England, from the researches of M. Pelouze, that when woody fibre, whether as paper, sawdust, or linen, was saturated with strong nitric acid, washed, and dried, its properties were considerably altered. A principle called *xyloidine* was produced; and the woody fibre, although all the acid was washed out of it, burnt rapidly, and often with explosive violence. We saw this experiment made about six years since; but from that time the subject appears to have received from chemists no particular notice, until the alleged invention of Schönbein recalled the attention of Dr. Otto and others to the researches of Pelouze.

In various chemical works published in 1842-3, the action of nitric acid on woody fibre is especially mentioned. Thus, in Turner's Chemistry, it is stated, in reference to woody fibre,— "In strong nitric acid sawdust dissolves; and on the addition of water, a white insoluble powder is deposited, which contains nitric acid, and explodes when heated." In Graham's Chemistry the facts are more explicitly stated, as the following extract will show:—"Nitric acid, in its highest state of concentration, exerts no violent action upon certain organic substances, such as lignin or woody fibre and starch, for a short time, but unites with them, and forms singular compounds. A proper acid for such experiments is procured with most certainty by distilling 100 parts of nitric acid with no more than 60 parts of the strongest oil of vitriol. [These are exactly the proportions recommended by Dr. Otto.] If paper is soaked for one minute in such an acid, and afterwards washed with water, it is found to shrivel up a little, and become nearly as tough as parchment, and when dried, to be remarkably inflammable, catching fire at so low a temperature as 356 deg., and burning without any nitrous odour (Pelouze)."

Professor Graham here, it will be seen, gives, in 1842, an outline of Pelouze's discovery, and by the substitution of cotton for paper, it becomes the so-called discovery of another in 1846!

We shall now give an extract from the *Traité de Chimie* of M. Dumas. At page 12, tome vi., published in 1843, this author says:—"When cloth (either linen or cotton,) or a sheet of paper, is soaked for a few minutes in nitric acid of a specific gravity of 1.4, and afterwards washed in water, the xyloidine formed at the expense of a part of the vegetable tissues remains locked up in the fibre, rendering the paper and the cloth impermeable to water, and much more combustible. These properties suggested to M. Pelouze the idea of employing them in the manufacture of cartridges for artillery!"

* Lorsqu'on trempe pendant quelques minutes un morceau de toile ou une feuille de papier dans l'acide azotique à 1.4 de dens.

M. Schönbein may have known nothing of Pelouze's researches; nevertheless, it appears to us clear that Pelouze was the real and original inventor of the process for preparing gun-cotton. His countryman, M. Dumas, informs us that he even announced the plan of applying these substances to the very purpose for which M. Schönbein has taken out a patent.

With respect to the process for preparing this substance, we have found that the acid best adapted for the purpose, is that recommended by Pelouze. It is obtained by distilling ten parts of dry nitre with six of sulphuric acid: and it is, strictly speaking, the acidum nitrico-nitrosum. The cotton wadding should be thoroughly steeped in this acid for about three minutes, then plunged into water, and washed under a current, until litmus paper is no longer reddened by the washings. The cotton should be well squeezed in a cloth—picked out and gently dried before a fire. It requires some time to dry a mass of it thoroughly; since the porous material is very retentive of water. When at all humid, it burns slowly and without explosion. When dry it burns suddenly with a bright yellow flame, a feeble detonation, and leaves no residue. Compared with its bulk, its explosive properties do not appear remarkable; but when compared with its weight they are greater than those of gunpowder. The explosion is less rapid than that of the fulminating compounds of the metals; but more rapid than that of gunpowder. When well prepared it explodes at a very moderate heat (about 420 deg.), gives off scarcely any visible smoke, and leaves no residue. This substance has a great advantage over gunpowder in the fact that when well prepared the whole of it is dissipated in gas—carbonic acid and nitrogen. With gunpowder there is always a residue of carbon and sulphuret of potassium,—the latter tending to corrode metal. Experiment only can determine the relative gas-producing powers of the two substances. The gun-cotton may be inflamed over gunpowder without igniting it. There is nothing extraordinary in this; hydrogen may be inflamed in contact with gunpowder without kindling it, and a small quantity of alcohol may be burnt over it with a like negative result. Gunpowder requires a red heat for its ignition, and unless one particle of the mass reaches this temperature it does not explode. There can be no doubt that the gun-cotton explodes at a much lower temperature than gunpowder, and as percussion will produce the same effect as heat, it should be cautiously handled when thoroughly dry.†

It is altogether a remarkable substance; and may, upon trial, entirely supersede gunpowder. Should this be the case, it may have the effect of rendering nitric acid cheaper and more abundant, since the employment of nitre for the manufacture of gunpowder would be no longer necessary.

We have prepared this substance with the strongest nitric acid, 1.52,—with the acid at 1.4, distilled as above stated, and with a mixture of nitric and sulphuric acids; but according to our experiments, the most certain and satisfactory process is that above described. The cotton is undoubtedly highly oxygenised, and it may be worth inquiring, whether in a highly dried condition, it may not be liable, in masses, to spontaneous combustion. It might be hazardous to keep a large store of it completely dried. The presence of a very small quantity of moisture is sufficient to counteract its explosive properties; and as cotton from its porousness, is very hygroscopic, it will be proper to consider how far this property may interfere with its employment as a substitute for gunpowder. If it be true, as it is reported, that the government have ordered a hundred weight of this substance from Basle in Switzerland, the cost of transport will far outweigh the cost of the materials. This quantity might have been made at Woolwich under the superintendence of M. Schönbein, and rendered fit for use at a small expense in the course of a few hours.

In conclusion, we shall observe that although we think the merit of the discovery is due to M. Pelouze, yet M. Schönbein deserves credit for having at least called public attention to the subject. He has, however, been the involuntary means of mak-

ing the practical value of M. Pelouze's researches well known. His secret has transpired in spite of his attempt to conceal it. *Suum cuique.*—*Medical Gazette.*

THE British American Journal.

MONTREAL, JANUARY 1, 1847.

ECTROTIC TREATMENT OF SMALL-POX.

From the December number of the Philadelphia Medical Examiner, we extract the following recognition of Dr. Crawford's claim to priority in the employment of the tincture of iodine as an abortive in the eruptive stage of small-pox. While we take this opportunity of assuring Dr. Jackson, whose observations on this subject (copied in the last number of this Journal) drew our attention to the matter, that it was not our intention to impute to him a plagiarism, for we do not doubt their perfect originality as far as he is concerned, we would now further remark, that the treatment, as suggested by Dr. C., has been very frequently adopted in this city by several physicians. We have ourselves, both in public and private practice, repeatedly employed it, and watched its use in the hands of others. We have ourselves gone further—we have instituted, as Dr. Crawford also did, comparative trials between the iodine and nitrate of silver, and our testimony is decidedly in favour of the former, as a more certain and more manageable ectrotic. We notice these facts, to exhibit to our respected contemporary and his correspondent, that the practice is invested with no novelty here, and we regret that it made on Dr. Dunglison's mind an "impression" so little commensurate with its importance; for this, it will, we think, be conceded, neither Dr. Crawford nor ourselves can with any propriety be deemed responsible.

The imputation of want of courtesy towards Dr. Crawford, is easily disposed of. The circumstances of the case will be found to tell otherwise. Dr. Crawford's paper was published in the Montreal Medical Gazette in April, 1844. Our Journal was not "cast upon the waters" until April, 1845. We surely were not called upon to re-publish the papers which appeared in the former Journal, which ceased to exist in May, 1845; we had a right to presume, upon a more extended interchange and editorial intercourse, than it would appear that journal actually possessed, especially with the leading periodicals of the United States and Great Britain; this limited interchange cannot, however, be laid

sis, puis ensuite dans l'eau, la xyodine formée aux dépens d'une partie des membranes végétales, reste interposée et rend le papier et la toile imperméable à l'eau, et beaucoup plus combustibles, propriétés qui ont suggéré à M. Pelouze l'idée d'appliquer ces enveloppes à la confection des gargousses pour l'artillerie.

† In two experiments since made with a mercurial bath, gun-cotton exploded at 425 deg.; but gunpowder did not explode until the thermometer rose to 545 deg.

against us as a fault, nor with any greater fairness can its consequences, of which this present case is one. We have, on the first occasion which has presented itself, endeavored to remedy the latter by the only method in our power, and in acting as we have done, we are at a loss to conceive wherein we have exhibited a want of "courtesy" towards Dr. Crawford, whose claims to priority we have been advocating.

We think it proper, in connection with this subject, to give insertion in our *Periscope* to a second letter from the pen of Dr. Crawford on the same topic, which appeared in the tenth number of the *Montreal Medical Gazette*; and which will be found to embody the results of further experience.

ECTROTIC TREATMENT OF SMALL-POX.

Our readers will remember, that in the August number of the *Examiner* we published some observations on the "Ectrotic treatment of small-pox by tincture of Iodine," from the pen of our much respected townsman, Dr. Samuel Jackson, late of Northumberland. In the last number of the "British American Journal of Medical and Physical Science," published at Montreal, (to the well stored pages of which we are frequently indebted for valuable articles, published in our *Record*), the article is copied, with a claim of priority in that mode of treatment for Dr. Crawford, of Montreal. Dr. Crawford's paper is republished by our contemporary, and bears date at Montreal, March 15, 1844, and of course takes precedence of the published observations of our townsman; nevertheless, no one who knows Dr. Jackson will suppose for a moment that he had the least knowledge that Dr. Crawford or any one else had preceded him, or he would have taken pleasure in awarding to him the fullest credit. Dr. Dunglison, through whom Dr. Jackson's paper came to us, had seen the "Montreal Gazette," and made a note of Dr. C.'s observations, but did not deem it necessary to mention the circumstance. That no intention; however, existed on his part to withhold from our Canadian brother the credit due to him, is apparent from the fact, that his paper is expressly referred to and the date given, in the last edition of Dr. D.'s "New Remedies," under the head of "Iodine," page 491, as follows; "Dr. Crawford, of Montreal, tried the comparative merits of tincture of iodine, and nitrate of silver, (in variola,) and gives the preference to the former. He found the application very manageable and very bearable." Having shown our contemporary's remarks to Dr. Jackson, he has sent us the following Card, which we have much pleasure in publishing; and in order to do full justice to Dr. Crawford, as well as for the sake of the valuable remarks which it contains, we have likewise transferred his paper to our *Record*.

"Dr. Jackson begs leave to state, that he never saw the 'Montreal Medical Gazette,' and that he never heard of it till to-day; that it was never known to one of the learned editors of this city; that in April, 1845, he took Drs. Nancréde and Bond to see his case of small-pox aborted by tincture of iodine; that neither of these, nor one of many others to whom he mentioned the subject, had heard of this medication; that he proposed to several physicians to repeat the experiment, which they did not, except Drs. Goddard and Sargeant; that for himself, he saw during the late epidemic only a few cases of mild varioloid, in which it was not important to experiment; that he is surprised to find, that of all the numerous periodicals of America and England, not one, as he believes, has noticed Dr. Crawford's

experiments; surprised too that the editors of the the 'British American Journal, his fellow citizens, should have withheld this courtesy; that though the small-pox has prevailed as an epidemic in New York, Baltimore, and Philadelphia, since the publication of Dr. Crawford, and every ectrotic was tried, no intimation of Dr. Crawford's paper got abroad in these places, that hence he has reason to hope that the editors of the British American Journal will not accuse him of appropriating Dr. C.'s labors; that he, Dr. Jackson, most cheerfully accords the priority of the experiment to Dr. C., on the authority of the British American Journal; that he is thankful to Dr. C. for having made more decisive experiments than his own; that he should not have published his solitary case, had not professor Dunglison requested him to do so, that he might have it to refer to in the fifth edition of his *New Remedies*, which was then in the press; that some time after he had given his paper to Dr. Dunglison, and after it was printed, the Dr. spoke of Dr. Crawford's experiments, but he had lost the journal in which they were printed, having merely retained a memorandum; that the experiments of Dr. C. could not have made a strong impression on Dr. Dunglison, for he neither practised them in our late epidemic nor taught them to others; that he, Dr. Dunglison, never heard of Dr. C.'s experiments till his own was printed; that even Dr. Dunglison never saw more than one number of the *Montreal Medical Gazette*, and that the omnivorous editor of the American Journal of the Medical Sciences says, 'I saw it mentioned in a Boston paper, and this is all that I ever heard of.' 'O curas hominum, O quantum est in rebus inane!'"
—*Medical Examiner*, December 1846.

DEATH FROM LAUDANUM AT THE MONTREAL GENERAL HOSPITAL.

Coroner's Inquest—An inquest before Joseph Jones Esq., Her Majesty's Coroner for the District of Montreal, was held, on Thursday last, the 10th, and by adjournment on Friday, the 11th ult., at the Montreal General Hospital, on the body of Alexander Campbell, aged 32, a seaman, who died that morning from the effects of an over-dose of laudanum, accidentally administered to him in place of wine, by another of the patients. The facts disclosed at the inquest, indicate, in the strongest manner possible, the urgent necessity of a reform in the mode in which the medicines are dispensed in the institution, while we have not the slightest doubt, that the possibility of a similar occurrence will be for the future most carefully guarded against by the adoption of the proper and obvious precautions. We publish the case, however, as an instructive warning to all institutions of a similar kind elsewhere. It is the first mistake attended with fatal consequences which has occurred in the Hospital since its establishment, a period of about twenty-four years, during which about 40,000 in-door patients have received the benefit of medical treatment in it. This fact is announced, but not urged in extenuation of the error, which has been attended with such lamentable results on the present occasion.

The conduct of the Coroner throughout the investi-

gation, entitles that gentleman to great praise; we have heard it spoken of in high terms by a member of the jury empannelled for the occasion. The case was obviously one of great moment, and involved considerations of the highest importance to the community. It was conducted not only with a due regard to the interests of the public and the Hospital, but with strict fidelity as regards the discharge of his own important, and very often most unpleasant, duties.

The following Jury was sworn:—

William Kingsford, Foreman: Joseph Brown, William Brown, John Marlow, George Collins, Edward Ferns, James Conroy, David Irwin, James Clandinen, Edward Clement, Jacques Desautelles, Theodore Gibeau, François Jollicœur, Alexander Campbell.

After the Jury had viewed the body, the following witnesses were examined:—

Alexander Long, M.D., sworn.—I am a Doctor in Medicine; I am House Surgeon of the Hospital. Alexander Campbell, the deceased, had been in the Hospital several weeks. He had an affection of the knee joint; he was in the Richardson Wing, Ward 12; the whole wing is under the charge of Doctor Crawford, who prescribed for him. The medicines which were ordered for this wing were prepared and dispensed by Dr. Gibb, of the Hospital. This is the general rule, some being purchased already prepared. I do not know exactly what medicines were prescribed for this patient. It is not my duty to interfere in the wing, except in cases of operations; or if any complaint is made to me on my visit at night, I attend to it. In this case, I knew nothing of what had been ordered, until I was informed of the circumstance of his having swallowed laudanum. About eleven o'clock, I was informed that one of the patients had taken some drops, and that they were making a noise in the ward, and wanted me to go up and see. The orderly told me; I went up stairs immediately. I spoke to the patient, who was quite sensible; he told me himself that he had just awoke out of his sleep, and that he wanted some wine, and had got something else. He did not say who had given it. When I was told this, I went and examined the bottle where the wine was, and there was an empty bottle beside it; I smelt it, and poured some drops, which were in the bottom, into my hand, and smelt them; I found that it was laudanum; I inquired how much he had taken, and from the quantity pointed out by patients in the ward, I thought it was about an ounce. They showed me what depth the liquid had been in the bottle. I immediately came down to the Surgery, and prepared half a drachm of sulphate of zinc: while preparing it, I sent for the nurse, and she administered the emetic. Dr. Crawford shortly after came in, to whom I communicated the circumstance. When we went up stairs, the nurse was giving hot water to the deceased, who was vomiting freely. I was then obliged to leave to attend to other duties. Dr. Gibb attended him till the afternoon; in the afternoon, Drs. Crawford and Gibb, and myself, applied the stomach pump. I saw him frequently during the evening; he partook of coffee, vinegar, and warm water, and also a little brandy; some ammonia was also used; the two latter were used later in the evening, owing to the pulse being low; these liquids were partly administered by stomach-pump, and partly by spoon. Dr. Gibb attended him until twenty-five minutes to two, when the man appeared better. I took his place until six o'clock, when the man died. The system adopted in the Hospital is, that when the physician prescribes, the apothecary prepares the medicines for the ward, and the house surgeon for the main body of the Hospital. The medicines are then delivered to the nurses with the requisite instructions, who have charge of them; lotions are laid in various parts of the room; but the medicines which are taken internally, are left upon a table, under charge of the nurse; mixtures, which are dangerous, owing to their being compounds of poison, are not left within reach of a patient, but are placed on a table by the nurses. The rules of the Hospital are to this effect. The rules were not observed in this instance; the bottle was on the same table as the wine; the wine bottle and the other bottle were both of the same size—viz. six or eight ounces. The wine bottle had the man's name marked,

with the quantity prescribed. There was no label of any kind on the laudanum bottle. Sometimes we send laudanum bottles with a label, sometimes not. If we have an old and experienced nurse, we give merely verbal instructions; if a new nurse, unaccustomed to the Hospital, we label it. The nurse has been perhaps three years here. The bottles were on a table close to the bed of the deceased; it divides, in fact, his bed from the adjoining one. The deceased was confined to his bed. The rule of the Hospital is, that the nurse should wait upon all the patients; but there is a regulation existing that convalescent patients must assist the nurse; it was, therefore, so in this case: the deceased was labouring under a painful disease, and it perhaps might have broken his spirits, but I do not think that his mental faculties had been affected. The laudanum was given by one of the patients in the ward; I only know his name by hearsay.

Louis Boyer, M.D., sworn.—I am a resident in Montreal; I have studied in France and Ireland; the names of the Hospitals in Paris were Hotel Dieu, Charité, Saint Louis, Hôpital des Enfants, &c.; and in Dublin, the Lying-in-Hospitals in Great Britain Street. The custom generally is for the physicians to prescribe the medicines; the apothecary prepares them, and delivers them to the nurse, who administers them to the patients. The prescriptions are labelled on the bottle, with the quantity to be taken; I never saw a bottle labelled "poison" either at Paris or Dublin: great care, however, ought to be taken, and is taken, to keep it out of the way of the patients. I have never seen four drachms of laudanum in a ward; never knew an instance of a bottle containing laudanum left by the bed of a patient; in fact, I never saw a bottle contain more than two drachms.

Edward Quincy Sewell, M.D., sworn.—I have studied in Hospitals in Edinburgh, Paris, and New York—at the former place, the Infirmary; in Paris, l'Hotel Dieu and La Charité; and in New York, the City Hospital. As far as I could observe in these Hospitals, the usual way was for the Doctor to prescribe and the apothecary to make up the medicines, who gave them to the nurse. When the ward was very large, it was impossible for the nurse to attend to every patient, and she was assisted by the convalescent. I have seen bottles without labels, but the general system is to mark them with the prescription and the man's name. You sometimes see bottles without labels; they generally label poisonous drugs with the name. Active medicines are given to the nurse's particular charge. She might have a particular place to put it, without a label being necessary. I should say that they generally remove these poisons out of the reach of the patient. I never knew an instance of an ounce of laudanum being left by the bedside of a patient, without a label. The general quantity put into a bottle, I should say, is about a couple of drachms.

The inquest was adjourned to the following day at 10 o'clock. On Friday morning the examination of witnesses was resumed.

George Duncan Gibb, M.D., sworn.—The deceased, Alexander Campbell, was admitted as a patient 4th November last; his disease was white swelling, with afterwards, great suppuration. After he had been in some time he was so weak that he was forced to be supported with wine. On the 7th December, he complained of acute pain and loss of sleep at night. The attendant Physician, Dr. Crawford, ordered as an anodyne, twenty-five drops tincture of opium, every night. On that day I gave the nurse about half an ounce of laudanum, with instruction to administer twenty-five drops every evening. On the morning of the 9th, Dr. Crawford and myself went into the ward about a quarter past eleven. We were told when coming up the stairs, that the deceased had taken laudanum. Dr. Long told us, and added, that he had given him an emetic. When we entered the ward we found the deceased vomiting freely, and the nurse giving him hot water. The attending physician, Dr. Crawford, recommended the treatment to be continued, and went his round of the Hospital. The fluid vomited, partook of the smell of laudanum. At the time the man was vomiting he had none of the actual symptoms of having taken poison. It was presumed that the case would do well. After the visit was over, about 1 o'clock: I was then informed by the matron that the patient was "very low." I immediately went up stairs and saw the man suffering from all the symptoms usually observed in taking laudanum. I found him exceedingly stupid and drowsy. His pupils were very much contracted and his eyes were turned upwards. Among many other symptoms not necessary to relate, he had the dead rattles in his throat. I

lost no time in applying the usual remedies, with the advice of Dr. G. W. Campbell and Dr. Long. By about half-past two P. M., the man was much better. We sent down for Dr. Crawford, who came up at half-past three, P. M. Upon his arrival the stomach pump was used to inject a quantity of coffee-vinegar—ammonia and brandy at times; and when the Doctor left, the man appeared much easier, but still drowsy. He got worse towards night; I spoke to the attendant physician, who directed me to keep two men sitting up with him and to sit up myself. At twelve o'clock, at night I looked upon the case with despair; and I saw no hope for the deceased. At two o'clock, A. M., the deceased was much improved; he was lying on his right side with his right hand under the head in a gentle dose. He appeared to be doing well. His pupils were more dilated. I then called the house surgeon, who took charge of the case for the rest of the night. After this I went to my room. About half-past five, I was told by the man who made the fire in my room that the deceased was almost well. But at eight o'clock I heard he was dead. I am the apothecary of the Hospital. The house surgeon and myself go round the Hospital with the attendant physician. The house surgeon in the body; myself in the wing. The physician gives the prescriptions, which each prepares for his own department. We have all the nurses in the surgery, and give them medicines, with the necessary directions. When there is more than an ordinary number, the prescriptions are written on the label of each bottle or packet. Generally speaking, we only give verbal directions. When, however, we use poison, we always tell the nurse. These are the rules which are observed. The nurses proceed up stairs to administer the remedies. If they are ordinary medicines, they are put on the table by the bed of the patient. When there is laudanum or other poison, the nurses have instructions to keep them separate. When I gave the laudanum to the nurse, Susan, in this case, I particularly enjoined her to be careful. The day I saw the bottle in which the laudanum was, on the table, by the bed of the deceased, was after he was poisoned, I did not see it before. There was no label on it, I think the man must have taken three drachms for the reason, that there were fifty drops taken out previously and ten drops adhered to the bottle. I put in originally half an ounce. The nurse has been in the Hospital more than two years, for I have been here that time myself. She was one of our best nurses, careful, industrious, attentive, and with an excellent memory. The name of the man who gave the fluid was Halloran. I never give wine out at all, except, I may add, in cases of necessity, when the matron cannot be asked. The matron gives out the wine. The bottles which I saw on the table were alike, but I cannot say positively. I think so. The wine bottle was labelled. I think three drachms of laudanum with a healthy man, who received the remedies which the deceased received, would not have been sufficient to cause death. The deceased was very weak. The nurse gets the wine from the matron. I had no opportunity of seeing the bottle of wine before it was taken up stairs. I have often given laudanum to that nurse, and I never omitted to give her the requisite instructions. I generally give it in a two ounce phial, and the nurse attaches it to a nail above the patient's bed. I gave the laudanum forty-seven hours before the accident occurred. I did not see the laudanum between the period that I gave it to the nurse, and after I saw the empty bottle. I inspect the ward morning and evening. I made no inquiries about the laudanum. I spoke to the deceased three times within each of these two days. I observed bottles at this time on the table. I had such confidence in the nurse that I did not think it necessary to enquire about the laudanum. I dare say within the two years I have given the nurse laudanum fifty times. I think sometimes the bottle has been labelled; generally not. It is possible that I may have given laudanum to the nurse twice before, in an eight ounce bottle; I cannot say positively. I generally give it in a two ounce phial. When giving her the laudanum, I think I told her to put it into a phial; I cannot swear it. From the benumbing influence of the poison, I do not think the man suffered much. At this moment I cannot recollect any mistake in the administration of medicines within the last two years. I speak this without equivocation.

Susan Oliver, sworn.—I am unmarried; I have been four years in Canada; I have been nearly two years in the Hospital as nurse; I came in as a patient; I have been in wards 11 and 12, in the Richardson Wing; I cannot remember how long Campbell has been in the Hospital; I receive the medicines in the Surgery;

I have done so often for the deceased, from Dr. Gibb; I get instructions at the same time; sometimes the directions are written, sometimes not; I received some laudanum; I only recollect having received laudanum but once, from Dr. Gibb, for the deceased. The directions given me were, that I was to give twenty-five drops every night; I received it two days before the death of the deceased, and I gave him twenty-five drops every night for two nights; I cannot say how much was in the bottle; the quantity looked small; I have sometimes to go down for water, and other purposes. On Wednesday, the 9th instant, about eleven o'clock, I left the ward with my vessels, and went down for water; I availed myself of this opportunity to go to my sleeping room to put on a gown. While I was there, Dr. Long sent for me to bring up some hot water; I went up stairs immediately, and Dr. Long asked me if I knew what had happened, that the man had taken poison. He gave me an emetic to administer to the man; I gave it him; and also a quantity of hot water. A good deal was done; a stomach-pump was applied. Dr. Crawford came with it himself. The laudanum bottle was on the table by the bed of the deceased. There was another bottle containing port-wine and one with some quinine, three altogether. The wine was to be given when he asked for it. The patients who are not sick assist me in doing work; and if I am busy, and a man confined to bed asks for anything, they would give it; such as a drink; I do not know of a patient giving medicine to another; but drinks are often so given; for instance, if anything is warming on the stove; I am not sure whether I ever saw wine taken off a table and given to a sick person. The man who gave the laudanum, I was told in the ward, was Halloran; he has sore eyes. One is very bad, the other is not so bad; I never heard deceased say he wished he would die. He suffered a great deal, for he was very feeble; I have received laudanum frequently from Dr. Gibb. Sometimes I get it in a little bottle, and always keep it hung up. On this occasion I did not hang it up; I do not remember receiving instructions to put this particular laudanum in a phial. Sick people in a ward are always willing to assist each other. The man Halloran was very kind in attending to deceased. My impression is, that he gave it by mistake; I was speaking to the deceased a little before his death; I was up all night with him; I asked him if he knew what he had taken. He said he did know. He said, it is well I got better, that it did not kill me. This was a few minutes before his death. He did not blame the man for giving the laudanum. The doctor did not tell me to put the laudanum away. He is in the habit of telling me, and I am always in the habit of doing it. The patient took the hot water willingly after the emetic. He appeared to know his danger, and seemed somewhat frightened, and even put his finger down his throat to assist the vomiting; I was never aware that laudanum was rank poison; I knew it was dangerous too much of it. The doctor has often given me instructions to be careful. He has so often given them me, that I was always careful, in not giving a drop too much. In measuring it, if I made a mistake, I poured back the liquid in the bottle, and measured it over again. Nobody in the ward besides deceased was taking the laudanum; I thought it was safe to put it on the table, because the other bed adjoining was unoccupied. To the best of my knowledge I never received laudanum in such a bottle before; I never put a phial on a table; it was always put on a string, and hung up to a nail; I did not forget laudanum was in the bottle, because I had twice given the deceased some drops. We do not look upon wine exactly as medicine; and, therefore, I did not think it wrong for one patient to assist the other with wine; I have received more laudanum in a less bottle than was in the large bottle.

[At the request of the Jury, the three bottles were sent for and examined. They were all eight ounce bottles. The wine bottle had a label; the laudanum bottle was without a label.]

William Halloran, sworn.—I have been in the Hospital since the 2d day of November. I have sore eyes. I cannot distinguish any person across the room. I was in the same ward as Campbell. I am in the habit of assisting the other patients when the nurse is absent. On Wednesday morning last, the deceased said to me, "William, give me my wine." I got up and went to the table, and asked him where it was, meaning which bottle. I was then at the table, and I could not see. He turned round in the bed, and, pointing to a bottle, said, "there it is." I gave the bottle to which he pointed, and he took a draught; he then took another and finished it. He took it in two drinks. He gave

to me and I put it on the table. In a few minutes afterwards he said, "My God, I have taken the drops instead of the wine," and he begged somebody to go down and ask the Doctor if any accident would happen. I have often heard the deceased say that he was suffering greatly. I have often done much to assist him: I have never heard him say, "I wish I was dead." I knew nothing about the bottles or the contents of them.

James Crawford, M. D.—I attended the Richardson Wing of the Hospital in my capacity as physician. In ward No. 12 there was a man named Campbell. On the 7th inst. I ordered him a composing draught at night, which was to consist principally of laudanum. The quantities are marked in the book of the apothecary. Wine was also ordered for the patient, quinine also. These medicines were necessary to obtain sleep for the deceased. I saw the deceased after he had taken the laudanum. An emetic had very properly been administered, which was acting satisfactorily. I did not anticipate, from the small quantity which I had been informed had been taken, and from the effects of the emetic, that any bad consequences would result. I saw him again at three o'clock. He was then labouring under the narcotic effects of opium. The stomach pump was used, both to inject and eject, and to administer the requisite medicines. I think, if the man had been in health, he would have recovered. But the preceding evening to his demise, I anticipated the effects would be fatal on account of his weakness. We could not make him walk about, as is usual in such cases, on account of his knee. I have seen much worse cases recover. Directions ought to be put on all bottles containing medicine: It was not my order that a certain quantity of laudanum should be put in a bottle. When I order twenty-five drops of laudanum, that quantity only should be taken up stairs each night. I mean that if the apothecary mixed six times twenty-five drops, with six spoons of water, he would have done right. I never anticipated that half an ounce of laudanum should be given to the nurse to dispense. I believe that there is no rule affecting this matter. I never knew a rule existing in any Hospital except in Military Hospitals. Had I ordered the quantity of laudanum which was put in the bottle, I would have directed that it should be mixed with water, and the particular dose marked. All bottles containing medicines should be so marked, that the dose, and the person for whom it is intended, should be known. It is the duty of the apothecary, in all cases to mix the draught himself, except in cases where he sends up the number of drops prescribed for one draught unmixed. I have never had occasion to find fault with the nurse, Susan Oliver. I consider her attentive and careful.

Jane Tweedie, sworn.—I am unmarried. I am a night nurse. I make rounds of the whole hospital. I was with deceased occasionally during the night, before he died: Towards morning he spoke to me. I heard him say twice, "I had my mind made up." He died within a quarter of an hour. He was in his senses. He looked me full in the face from the pillow; I stooped down, I was so glad to hear him speak. These were his last words.

Alexander Long, M. D., sworn—re-examined—The deceased told me, that he got up from his sleep and asked for some wine. A person might have taken the poison in place of wine, even taking two draughts. Thinking it was port wine, and his mouth being parched, the deceased might have done so. It is impossible to give a direct answer, but I should say that a man awakening from sleep has not a proper sense of taste.

Angus M'Donnell sworn.—I am a student of medicine. I am in the habit of visiting the Hospital. I often saw Alexander Campbell. I come every day. I sometimes speak to the patients. The deceased spoke to me about two days before his death. I remarked to him that his leg was more swollen than it was before. He asked me if I thought his leg would get any better. I said that I could give no information. He said that if he had to get his leg amputated, that he would rather poison himself. I made no reply. I did not think it was any thing serious. I took no further notice of it. I said nothing to the nurse or doctor.

The Jury remained in deliberation for upwards of an hour and a half, at the expiration of which time they returned the following verdict:—

That the deceased died from the effects of laudanum, improperly and through ignorance of its nature, administered to him, by William Halloran in the belief that the bottle contained port wine. In rendering this verdict, the Jury feel it their duty to remark upon the great want of caution evinced, in leaving so large

a quantity as half an ounce of laudanum within reach of a patient. And as it appears from the evidence, that no regulation exists in the Hospital, on the method of dispensing medicines, they conceive themselves bound to recommend the adoption of such wholesome rules for the proper labelling of bottles containing poisonous fluid, and otherwise, as may prevent such fatal mistakes for the future.—From the Times Newspaper.

FEEs AT CORONERS' INQUESTS.

The subject matter of the following communication which we have received, is one of great moment to the profession of Canada West; and we think they ought to adopt some immediate steps to obtain such an amendment of the Act, 9 Vic. cap. 58, as will rectify the oversight, for we can hardly look upon it in any other light. While the fact cannot be disputed, and is everywhere recognised, that the most important evidence at Coroners' Inquests, is furnished by the medical witnesses, and that this testimony must be based, in the majority of cases, upon the evidences revealed by dissection, the value of which is to be decided by the utmost nicety of scientific discrimination, it can hardly be supposed that such services could, or ought to be obtained without ample remuneration. The case is otherwise, however, in Canada West, as any one may perceive who refers to the Act passed at the last session of the Legislature; but we apprehend it to be rather a fault of omission than one of commission on their part. A proper representation would, we doubt not, be attended with good effect.

A similar case of difficulty has occurred, in the Dalhousie District, in which a like charge, allowed however by the auditors, has been objected to by the Government, in consequence of not having been provided for in the Act. The whole matter, however, is "en-delibere" by the Executive Council. We are at a loss to conceive how these charges can in the meanwhile be paid out of the public funds of the Province, as no provision whatever is made for them in the Act referred to already. They have always hitherto been defrayed out of the local District funds, against which, we apprehend, they should still be charged, until an alteration of the Act, to include them as items against the public funds of the Province be made, to the defrayment of which these funds are more legitimately applicable.

To the Editor of the British American Journal.

SIR,—You will perhaps have the kindness to bring before the public a matter of no small importance to the community generally, as well as to the Faculty in Canada West.

At the last meeting of the Quarter Sessions for this District, two accounts of medical men, for attendance and holding *post mortem* examinations at inquests, were presented, duly authenticated, for payment, when the auditors appointed by the Government for examination of the District accounts, although admitting the correctness of the claims, declared that they could not be paid.

It appears that in the Act passed at the last meeting of the Legislature, 9th Victoria, cap. 58, p. 917, of the Provincial Statutes, being for the payment of expenses incurred in the administration of Justice in Canada West, a schedule is given of items chargeable upon the revenues of the Province; among the number are enumerated the fees of the coroner who holds the inquest, and the bailiff who summons the Jury while the surgeon, who really performs the most important part, is omitted.

It is not very probable that a surgeon will take the trouble of making examinations requiring the greatest nicety of judgment, and often much disagreeable labour, without remuneration. Surely the public will not submit to be deprived of what is frequently the most important testimony in criminal cases, where the lives of fellow-subjects are involved, because, forsooth, our sage legislators consider it of more importance to have the services of the bailiff, who delivers a few summonses, than to have the attendance and judgment of an intelligent medical man, who, in many cases, can alone determine the guilt or innocence of a party.

THOS. REYNOLDS, M.D.

Brockville, Dec., 1846.

The Beauport Asylum for the Insane.—This institution, in the neighborhood of the city of Quebec, progresses favorably in public estimation. The number of patients at present in it amount to 122; and there have been discharged from it, during the fourteen months since its establishment, twenty-seven, who were either cured or greatly relieved. In the absence of statistical documents, or any authentic statement of its operations, we are not able to furnish any more explicit information. The economical arrangements of the establishment are excellent, and the various varieties of moral treatment, which constitutes so striking a feature in the modern management of the insane, are here called into requisition. One thing is still wanting, however, to render the institution complete, namely, a resident physician, and this addition to its medical staff is the more required, when we consider the distance of the asylum from the city, some five or six miles, if we mistake not, and the probable difficulty which might be experienced in obtaining the assistance of one of the regular medical attendants in cases of emergency. This desideratum we believe it is intended to supply, at as early a period as possible; some steps have, we are informed, been already taken with this object in view.

Law Report.—We are indebted to a legal friend for the following report of a case recently decided in the Court of Queen's Bench. Having promised us his able assistance, we will be enabled to keep our readers supplied with authentic information on these points of interest, although we must plead guilty to entertaining the hope, that the occasions for them may be few and far between.

Law Report.—*Montreal, Q. B. Inferior Term, 4th Dec. 1846. Dykeman, Q. T. Plaintiff, vs. Force, Defendant.*—Action by plaintiff, a medical practitioner, against defendant, a country store keeper, for selling medicines, *to wit*, senna, pink root, epsom salts, and castor oil, without a license, contrary to the ordinance. Proof was made last term of defendant's having sold the articles.

To-day *Rolland J.* rendered judgment. The learned judge remarked, that, in a vast country like Canada, it would be most mischievous if none but a doctor, or apothecary could sell such things as defendant had: that in practice, all store keepers in the country sold such things, which were, in fact, of use otherwise than as medicines: that castor oil might be used instead of olive for many purposes, and *vice versa*: that the law, prohibiting selling medicines, entails the penalty rather on persons acting as medical practitioners or advisers, than

on persons merely selling, for there is no express penalty attached to selling only; the words being, "Every person acting in any of the professions aforesaid, without license, shall forfeit," &c. Action dismissed, with costs.

Meeting of Montreal Medical Board.—At a meeting of the Medical Board for the district of Montreal, held at the Court-house, on the 4th and 5th of November last, the following gentlemen received certificates for license to practise as physicians, surgeons, &c.:—

Alfred Malhiot, M. D.; John W. Wilsam, M. D.; Geo. D. Gibb, M. D.; Henri Paradis, M. D.; P. D. Moffat, M. R. C. S. L.; A. C. Lloyd; Edward Bull; Panteleon Cadieux; C. E. N. Courteau; Samuel David; Charles Brown.

NOTICE TO SUBSCRIBERS.

We beg to announce to our subscribers, that two collectors, Mr. Cherrier and Mr. Gemmil, will shortly leave this city, the former on a tour through Canada East, and the latter through Canada West, and will wait upon them, as far as practicable, individually. A very large amount, when collectively considered, is now due to the journal, which it is a matter of importance should be early received. We earnestly call the attention of our supporters to the circumstance; and if, from unbiassed testimony, our journal be worthy of the annual subscription demanded for it—a sum barely adequate to meet the publisher's expenses—we trust that the call upon them will be promptly responded to.

NOTICE TO CORRESPONDENTS.

Communications have been received from Dr. Evans (Richmond, C. W.); Dr. Sewell (Quebec); and from Dr. Grussell (Toronto). Dr. Sewell's paper will appear in the ensuing number; with some others which now lay on our table. They are for the present excluded, from having reached us some days after the original matter for this number had been placed in the hands of the publisher; that department of the Journal having been "made up" this month earlier than usual.

We take this opportunity of acknowledging the reception of Professor Croft's letter (Toronto), received in the early part of last month. Nothing further has yet come to hand. Prof. C. will understand our meaning.

Letters are hereby acknowledged, with enclosures, from Dr. McIntyre (Williamstown); Dr. Gilbert (Hatley); and through Messrs. Lyman & Kneeshaw, Toronto, from Drs. Hodden and Bettridge.

BOOKS, &c., RECEIVED DURING THE MONTH.

Boston Medical and Surgical Journal. December 2, 9, 16, 25.
The Medical Examiner. December.
The St. Louis Medical and Surgical Journal. November.
Southern Medical and Surgical Journal. December.
New Orleans Medical and Surgical Journal. November.
Provincial Medical and Surgical Journal. November 4, 11.
Dublin Medical Press. November 4, 11, 25. December 2.
Hydropathy or the Water Cure. From the British and Foreign Medical Review. By John Forbes, M.D., Philadelphia.
The Medical News and Library. December.
Summary of the Transactions of the College of Physicians of Philadelphia, from September to November, 1846, inclusive.
Buffalo Medical Journal. December.
Missouri Medical Journal. December.
The Dublin Quarterly Journal of Medical Science, August 1846.

☞ The New York Medical and Surgical Reporter has not come to hand lately.

Erratum.—In last number, page 204, line 32, for "later sinuses" read "lateral ventricles."

BILL OF MORTALITY for the CITY of MONTREAL, for the month ending NOVEMBER 30, 1846.

DISEASES	Males	Female	Total	Under 1.	1 & under 3	3 - 5	5 - 10	10 - 15	15 - 25	25 - 35	35 - 45	45 - 55	55 - 75	75 upwards
EPIDEMIC OR INFECTIOUS.....	Measles.....	1	2	1		1	1							
	Small Pox.....	1	3	1		1	1							
	Fever.....	7	12	19	5	3	5	1		1	1		1	1
DISEASES OF BRAIN AND NERVOUS SYSTEM.....	Hydrocephalus.....	2		2				1	1					
	Dentition.....	4	1	5	3	2								
	Convulsions.....	4	1	5	4	1								
	Paralysis.....	1	1	2								1	1	
DISEASES OF RESPIRATORY ORGANS...	Apoplexy.....		1	1								1		
	Consumption.....	13	22	35	8	1		1	5	10	6	3	1	
DISEASES OF ABDOMINAL VISCERA,	Diarrhœa.....	1	2	3	1		1		1					
	Dysentery.....		1	1							1			
	Dropsy.....	1	2	3					1	1			1	
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED.....	Inflammation.....	10	5	15	3	4	1	1	1					
	Sudden Death.....		1	1								1		
	Debility.....	1	4	5									3	2
	Drowned.....	2		2							2			
	Still-born.....	6		6										
	Unknown.....	1	1	2	1					1				
	Burn.....		1	1										
	Abscess.....	1		1		1								
Accidental.....		1	1											
Total.....	55	59	114	26	12	9	5	3	11	14	8	6	7	3

MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR NOVEMBER 1846.

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+30	+45	+41	+37.5	30.66	30.54	30.45	30.55	E. N. E	E. N. E	E. N. E	Fair	Fair	Rain
2,	" 40	" 50	" 45	" 45.-	30.35	30.25	30.18	30.59	E. N. E	E. N. E	S. E.	Fair	Fair	Rain
3,	" 50	" 65	" 55	" 57.5	30.16	30.13	30.13	30.14	S. E. by E	S.	S. S. W	Fair	Fair	Fair
4,	" 51	" 56	" 43	" 53.5	30.21	30.25	30.41	30.29	W. by S.	W. by S	W.	Fair	Fair	Fair
5,	" 34	" 54	" 47	" 44.-	30.50	30.43	30.41	30.46	W.	W.	W.	Fair	Fair	Fair
6,	" 33	" 51	" 39	" 42.-	30.48	30.49	30.37	30.45	W.	W.	W.	Foggy	Fair	Fair
7,	" 31	" 52	" 40	" 41.5	30.37	30.39	30.27	30.34	W.	W.	W.	Foggy	Fair	Fair
8,	" 30	" 48	" 40	" 39.-	30.25	30.20	30.16	30.20	W.	W.	W.	Fair	Fair	Fair
9,	" 39	" 45	" 43	" 42.-	30.15	30.18	30.12	30.15	W. N. W	W. N. W	N W by W	Rain	Rain	Rain
10,	" 42	" 49	" 47	" 45.5	30.16	30.13	30.14	30.14	N. W.	N. W.	N. W.	Rain	Rain	Rain
11,	" 45	" 53	" 47	" 49.-	30.12	30.19	30.15	30.15	N. W.	N. W.	N. W.	Rain	Cloudy	Fair
12,	" 42	" 51	" 42	" 46.5	30.24	30.27	30.27	30.36	N.	N. E.	E.	Cloudy	Fair	Fair
13,	" 31	" 48	" 33	" 39.5	30.30	30.24	30.26	30.27	E. N. E.	N. E.	N E by E	Fair	Fair	Fair
14,	" 29	" 46	" 35	" 37.5	30.27	30.29	30.23	30.26	N E by E	N E by E	N E by E	Fair	Fair	Fair
15,	" 33	" 42	" 38	" 37.5	30.20	30.17	30.16	30.18	N E by E	N E by E	N E by E	Fair	Fair	Fair
16,	" 35	" 46	" 37	" 40.5	30.20	30.21	30.22	30.22	N E by E	E. N. E	E. N. E	Fair	Fair	Fair
17,	" 30	" 37	" 25	" 33.5	30.32	30.13	30.14	30.20	N E by E	N E by E	N E by E	Foggy	Foggy	Fair
18,	" 33	" 50	" 45	" 41.5	30.05	29.94	29.92	29.97	S. E.	S. E.	S. E.	Foggy	Fair	Fair
19,	" 43	" 47	" 42	" 45.-	29.86	29.69	29.39	29.65	W. by S.	N. W.	N. W.	Rain	Rain	Rain
20,	" 35	" 34	" 32	" 34.5	29.05	29.34	29.65	29.35	N. W.	N. W.	W. N. W	Sleet	Snow	Cloudy
21,	" 29	" 41	" 37	" 35.-	29.20	29.72	29.72	29.77	W. N. W	W. N. W	W. N. W	Fair	Fair	Fair
22,	" 35	" 40	" 38	" 37.5	29.60	29.54	29.50	29.55	W. N. W	W. N. W	W. N. W	Rain	Cloudy	Fair
23,	" 34	" 37	" 26	" 35.5	29.60	29.66	29.84	29.70	W.	W.	N. W.	Fair	Fair	Fair
24,	" 23	" 30	" 23	" 26.5	29.77	29.79	29.73	29.76	N. W.	N. W.	N. W.	Fair	Fair	Fair
25,	" 18	" 22	" 20	" 20.-	29.68	29.57	29.24	29.50	N. W.	N. W.	N. W.	Fair	Cloudy	Snow
26,	" 17	" 20	" 22	" 18.5	29.12	29.21	29.36	29.23	W. N. W.	W.	W.	Fair	Fair	Fair
27,	" 24	" 36	" 30	" 30.-	29.65	29.77	29.83	29.75	W. N. W.	W. N. W.	W. N. W	Fair	Fair	Fair
28,	" 31	" 33	" 32	" 32.-	29.80	29.81	29.89	29.83	S. W.	S. W.	S. W.	Snow	Snow	Fair
29,	" 33	" 37	" 32	" 30.5	29.87	29.87	29.86	29.87	S. W.	S. W.	S. W.	Fair	Fair	Fair
30,	" 28	" 29	" 23	" 28.5	30.14	30.11	30.20	30.15	W.	W.	W.	Snow	Snow	Fair

THERM. { Max. Temp., +65° on the 3d.
 { Min. " " +17° " 26th.
 Mean of the Month, +38° 3.

BAROMETER, { Maximum, 30.66 Inches on the 1st.
 { Minimum, 29.12 " " 26th.
 Mean of Month, 30.03 Inches.

MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W. NOVEMBER, 1846.
 Latitude 43°. 39' 4". N. Longitude 79°. 21' 5". W. Elevation above Lake Ontario, 108 Feet.

DAY.	Barometer at Temp. of 32°.			Temperature of the Air.			Tension of Vapour.			Humidity of the Air.			Wind.			Rain inch on surf.	WEATHER.			
	7 A.M.	3 P.M.	10 P.M.	7 A.M.	3 P.M.	10 P.M.	7 A.M.	3 P.M.	10 P.M.	7 A.M.	3 P.M.	10 P.M.	7 A.M.	3 P.M.	10 P.M.					
1.	29.964	29.831	—	44.0°	48.6°	44.0°	2.78	2.84	—	96	90	—	N. E.	N. E.	—	1.275	Densely clouded. Raining till 2 pm			
2.	29.680	29.646	29.688	48.6	53.1	50.8	3.16	3.82	3.57	95	96	97	N. E.	N. E.	—	0.130	Density c'd. Ring 4 am till 7.30 pm			
3.	29.800	29.795	29.830	47.0	52.3	49.4	4.71	3.04	3.12	95	79	90	S.W. by S.	N. E.	—	0.175	Very densely clouded all day			
4.	29.950	30.031	30.115	50.0625	42.1	53.1	4.478	2.42	2.21	92	56	80	Calm.	N. W.	—	—	Part. c'd. am. Unc'd. & fine pm			
5.	30.174	30.147	30.077	30.1249	37.0	49.4	3.36	1.97	1.54	90	72	90	Calm.	E. by N.	—	—	Clear & uncd. all day. Very fine			
6.	30.658	30.042	29.987	30.0024	31.8	50.0	4.107	1.62	1.41	92	70	90	Calm.	N. E.	—	—	City, exc. a few clouds & wind hor. Very fine			
7.	29.950	29.883	29.815	29.8302	40.5	50.0	4.829	2.02	2.78	81	77	60	Calm.	E. N. E.	—	—	Mostly clear am. Overcast from 2 pm			
8.	29.734	29.662	29.750	29.7152	41.5	47.2	3.30	2.97	—	92	93	—	E. N. E.	E. N. E.	—	—	Den. o'cast. Ring const. fr. 10.30 am			
9.	29.657	29.690	29.677	29.7152	49.9	53.9	5.217	3.45	3.86	84	97	92	Calm.	Calm.	—	1.450	Raining till 6 am. Den. o'cast all day			
10.	29.754	29.677	29.646	29.6909	49.9	53.9	5.241	3.41	3.50	85	89	85	Calm.	E. N. E.	—	—	Den. o'cast. Sheet'g fr. 6 to 11 pm			
11.	29.670	29.735	29.836	29.7722	51.2	52.6	5.005	3.49	3.64	94	91	81	Calm.	N. W.	—	0.500	Ring const. till 7 pm. Dens. overcast			
12.	29.902	29.884	29.889	29.8866	45.4	48.2	4.687	2.37	2.71	85	79	81	Calm.	N. by W.	—	0.055	Densely overcast. Very gloomy day			
13.	29.866	29.789	29.768	29.7946	46.2	47.0	4.62	2.56	2.71	86	85	86	E. by S.	E. by N.	—	—	Density overcast. Very gloomy day			
14.	29.752	29.694	29.677	29.7310	43.5	45.6	4.469	2.52	2.15	90	70	78	E. by S.	E. 1.5 lbs.	—	—	Mostly clouded.			
15.	29.664	29.661	29.661	—	45.2	45.6	—	2.79	2.84	94	93	—	N. E.	E. by S.	—	0.180	Overcast. Raining slightly all forenoon			
16.	29.834	29.878	29.832	29.8658	43.9	46.6	4.472	2.64	2.81	93	90	92	N. E.	E. by S.	—	0.520	Density clouded all day			
17.	29.817	29.690	29.590	29.6711	41.1	47.7	4.80	2.87	2.86	93	89	93	E. by S.	E. by S.	—	—	Mostly clouded. Slight r'n. 4 & 5 pm			
18.	29.659	29.590	29.609	29.5811	42.8	50.2	4.630	2.94	2.98	88	93	88	E. by S.	E. by S.	—	—	Generally overcast. Foggy			
19.	29.451	29.072	29.041	29.1715	41.4	41.3	3.79	3.89	2.33	91	81	86	Calm.	N. by W.	—	0.310	Moderate or slight rain all day			
20.	29.319	29.464	29.506	29.4485	36.8	42.4	3.52	3.787	1.99	90	74	93	Calm.	N. W. by W.	—	1.050	Consid. rain'g 1 am. Clouded till 9 am.			
21.	29.510	23.403	23.271	23.4107	36.4	43.0	3.53	1.72	2.20	80	80	79	NW by W.	W. by N.	—	—	Purthly clear pm			
22.	29.245	29.176	—	—	36.8	42.4	—	3.03	1.83	94	68	—	S. W.	S. by W.	—	—	Gen. c'd. Very s'ly fr. 10 & 11 pm			
23.	29.531	29.604	29.514	29.5311	29.7	36.2	3.41	1.41	1.40	85	85	80	W. by N.	N. W.	—	not ap.	Lightly overcast.			
24.	29.259	29.385	29.346	29.3566	32.1	31.8	3.356	1.65	1.80	82	81	82	W. by S.	N. N. W.	—	0.025	Partially clouded till 10 am. Clouded pm			
25.	29.386	29.168	29.195	29.2013	22.3	21.3	1.88	2.03	0.92	93	84	78	Calm.	N. N. E.	—	—	Generally c'd. Halo fr. 10 am to 7 pm			
26.	29.223	29.213	29.334	29.3076	19.3	27.5	2.50	0.82	1.14	108	111	76	N. N. E.	NNW. 4.0	NNW. 2.0	—	S'ly snow fr. 2 to 10 am Halo fr. 4 to 6 pm			
27.	29.554	29.439	29.355	29.4279	32.6	32.4	3.34	3.15	1.51	81	83	81	W. N. W.	WSW. 8.0	WSW. 3.5	—	S'ly snow fr. 10 am Wind very high fr. no to 7 pm			
28.	29.366	29.521	29.552	29.6200	36.4	33.4	3.15	3.00	1.81	95	85	85	S. W.	S. E. by S.	S. W.	—	not ap.	Mostly clouded. S'ly fr. 10 & 11 pm		
29.	29.612	29.726	—	—	35.3	37.0	3.40	1.92	1.40	94	64	84	Calm.	W. N. S. W.	—	0.045	Mostly clouded. Halo round noon 6 pm			
30.	30.036	30.039	30.102	30.0752	25.3	28.3	1.98	1.22	1.27	88	81	83	Calm.	W. N. W.	NW by W	—	—	Raining slightly am. Gen. clouded, Gen. clouded. Particles of snow falling		
Mean	29.6827	29.6578	29.6550	29.6714	38.53	44.35	40.24	40.82	2.19	2.39	2.22	2.27	89	79	85	85	2.5 lbs. + 1.5 lbs.	2.0 to 3 lb	5.805	Snow, 25th, not ap. 26th, 0.6 inch.

Under the head of 'Tension of Vapour,' is given the elastic force of the Aqueous Vapour at each Observation, in decimals of an Inch of Mercury, of the proportion of the Barometrical pressure due to its presence. The Instruments are Standard Instruments. The Rain Gauge is 27 l. c. above the soil. The Means entered are the Means by 24 hourly Observations, from 6 a. m., to 6 a. m. The Observations entered at 7 a. m., on Sundays, are actually taken at 9 a. m. The two Observations taken on Sundays are not included in any of the means.

Under the head of 'Humidity of the Air,' is given the proportion the Aqueous Vapour bears to the quantity the air is capable of containing at the existing temperature, saturation being represented by 100.

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The Instruments are Standard Instruments. The Rain Gauge is 27 l. c. above the soil. The Means entered are the Means by 24 hourly Observations, from 6 a. m., to 6 a. m. The Observations entered at 7 a. m., on Sundays, are actually taken at 9 a. m. The two Observations taken on Sundays are not included in any of the means.

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