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THE

UPPER CANADA JOURNAL

OF

MEDICAL, SURGICAL AND PHYSICAL SCIENCE,

1851–52.

CONDUCTED BY

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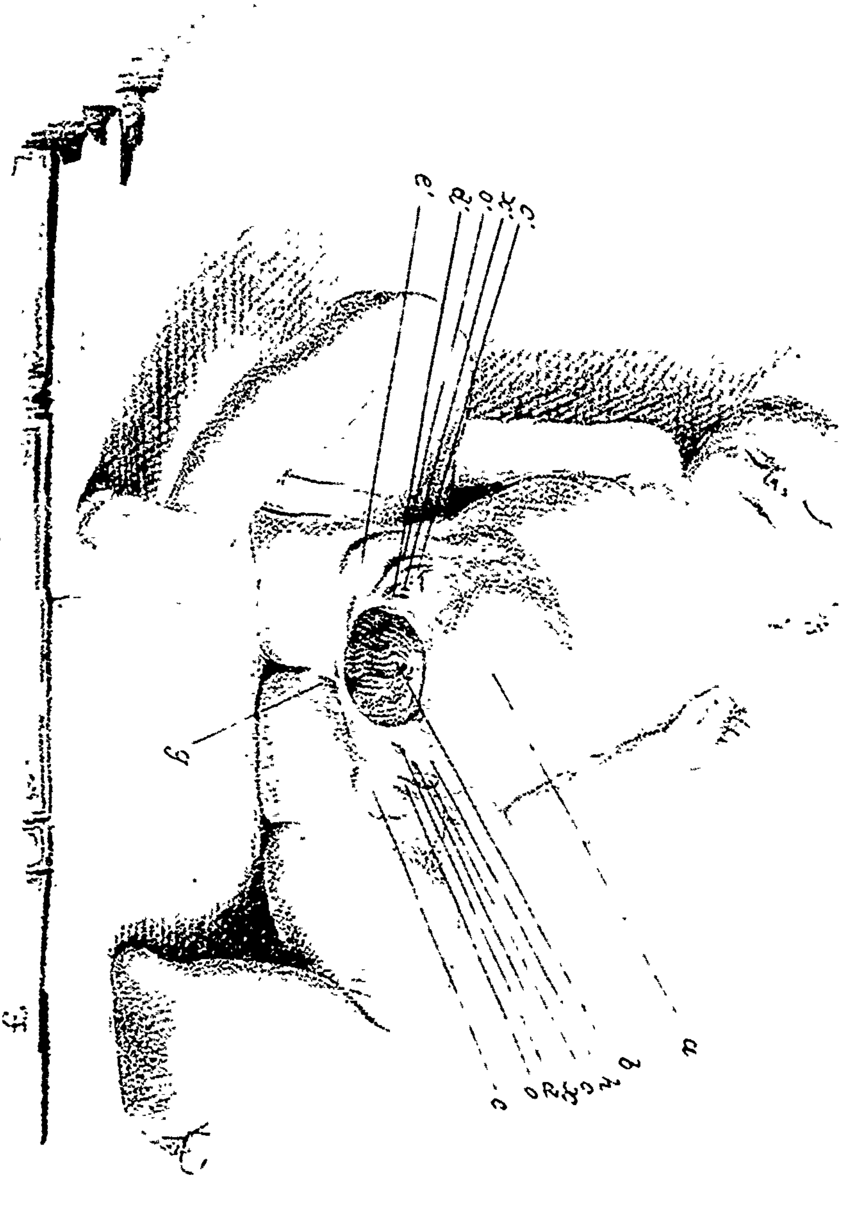

THE

UPPER CANADA JOURNAL

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Medical, Surgical, and Physical Science.

APRIL, 1851.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*An Account of a Female Child, presenting certain singular anomalies of conformation.* By NORMAN BETHUNE, M. D., EDIN.

N. B.—The letters in brackets refer to the corresponding ones on the Drawing.

The subject of the following dissection was brought from one of the frontier towns of the State of New York, in the month of December of the past year (1850). The total period of extra-uterine life had been two months and eighteen days. With the exception of the remarkable anomalies to be presently noticed, the child was perfectly well developed in all its parts, was abundantly supplied with the adipose tissue, and weighed, when received in Toronto ten days after its death, rather more than eight pounds. A smooth and even cicatrix marked the position of the umbilicus, immediately beneath which, and occupying the whole of the hypogastric and both iliac regions, was seated a soft, doughy tumour, of a dusky colour, measuring nine inches in circumference, and about five in depth.(*a*) A want of resistance at its lower or pubic margin indicated an absence of the ossa pubis in their usual position; they could be felt, however, through the integuments laterally, forced from each other to the extent of three inches. In the usual position of the symphysis, there appeared the anal aperture, dilated to about four inches in circumference, and projecting through it a portion of the large intestine.(*b*) The parieties of the tumour were altogether made up of the ordinary integuments, cellular tissue and peritoneum, there being a total deficiency of the

muscular tissue throughout its extent; an absence of the sphincter muscle about the anal orifice, accounted for its patency, and the consequent prolapse of intestine. Proceeding downwards in the middle line, beyond the inferior margin of the anus, a smooth but shallow groove passed backwards between the nates, bounded at its commencement anteriorly by a projecting cariniform raphe, (*g*) which inclined forwards somewhat to the left of the median line, so as partly to bound the lower margin of the anal aperture on that side.

The external urino-genital organs, of which there were two sets, were situated one on each side of the anus, in a line with the symphyseal edges of the ossa pubis; each set consisting of a labium majus, a rudimentary clitoris and appended nympha, a vaginal and a urethral orifice; the two latter leading by their proper canals respectively to a uterus and bladder occupying the pelvic cavity. These organs will be described in their places. The relative positions of the external organs are correctly delineated in the accompanying drawing. The Labium majus (*e e'*) limits the set of its own side externally, its distance from its fellow of the opposite side being about two inches. The next organ, the nympha, (*o o'*) is single on either side, and arching over the clitoris (*c c'*) fuses into the common integument; a rudimentary nympha, or prominent fold of skin, (*h*) bounds the clitoris internally on the left side. The vagina (*d d'*) formed the lowest and largest of the orifices beneath the clitoris. Somewhat constricted at its outlet, the vagina soon dilated into a canal, sufficiently capacious to admit a goose quill; of the two or three other orifices above the vaginal opening, some were depressions or shallow pits. The largest, however, on either side, (*x x'*) and the one immediately above the vaginal opening, was found to be the termination of the urethra.

The contents of the tumour were made up of a portion of the right lobe of the liver, superiorly; the remainder being small intestine and colon. A uterus was found on each side of the rectum, lying obliquely upwards, and backwards against the plane of the ischium, and tightly bound down in that position by the pelvic layer of the peritoneum. Each organ, measuring about an inch in length and a quarter of an inch in breadth, presented a well marked neck, os externum and internum, and intervening arbor vitæ uterinus; the remaining portion or body was a somewhat flattened cylinder, and terminated near its fundus in a single cornu, which communicated with a Fallopian tube; a rudimentary broad ligament, enclosing an ovary of the size of a split pea. The Vagina measured an inch and a quarter in length, and presented the ordinary characters of the normal organ. The two urinary bladders, which were also distinct, were found tightly contracted, and of the size and shape of a common almond, occupying a position with the broad extremities uppermost, in the wall of the tumour between the

pelvic bones and close to the symphyseal edge of the bone on their respective sides. In other words, the two organs occupied the symphysis pubis, but were separated from each other by an interval. Their upper or broad extremities extended somewhat above the crest of the ossa pubis, and projected from the wall of the tumour into the abdominal cavity, but the greater portion was closely bound down by the peritoneum lining the abdominal tumour. The ureters were large, and took the usual course, each being directed to the organ of its own side. The point of entrance of the ureter was at the apex of the inverted cone, and about a line behind the vesical extremity of the urethra. The latter canal, about an inch in length, coursed along the upper wall of the vagina, and terminated as before described.

The colon was remarkable in many respects: it measured but ten inches in length. (The colon of a fœtus at the full period, which was dissected at the same time, measured thirty-two inches.) It moreover preserved the longitudinal bands, characteristic of this portion of the alimentary canal, to its termination at the anus, there being no true rectum. It was provided with a vermiform appendix at its cœcal extremity, and was suspended in its position in the pelvis by two media; one posteriorly to the spine by the mesentery in common with the small intestine, and another anteriorly by an *anterior* meso-colon to the lower half of the venter of the tumour; both anterior and posterior folds contained vessels, the anterior enclosing minute branches derived from the neighbouring epigastric artery. The colon was thus enclosed in a median partition, which divided the pelvic cavity into two lateral pouches of equal dimensions. The remaining portion of the alimentary canal was normally developed, with the exception of a portion of the ileum, ten inches above the cœcum, at which spot it presented a lateral process an inch and a half in length, somewhat more capacious than, but in other respects similar to the appendix vermiformis. The only other viscus requiring especial notice is the liver. Though not of large size, it was nevertheless remarkable for the extreme development of that portion of the right lobe, termed lobulus quadratus; its shape very much resembled that of a man's thumb, and projected two inches beyond the anterior margin of the organ. This process constituted a portion of the contents of the tumour already noticed.

Lastly, the umbilical vein reached the horizontal fissure, by perforating the upper or convex surface of the liver, and at the distance of a quarter of an inch beyond its anterior margin.

From what could be gathered of the history of this child, it appears that it had been ailing more or less from birth, more particularly, however, during the last three or four weeks of its life. It constantly laboured under symptoms indicative of irregular alvine action. The greatest difficulty was experienced in keeping

the bowels regular, and the parents noticed that defecation and *micturition from both sides* were always simultaneously performed.

The preceding case affords us a well-marked instance of arrest of development in the mesial line, with reduplication of organs, some of which were effective, as shown by the history of the child during life: the absence of the rectum and brevity of the colon being the other most remarkable characteristic features. It was evident that an attempt had been made by nature to effect the formation of a colon of greater length at the point of supplemental appendix, from a marked difference in the character of the mucous membrane above and below that spot.

ART. II.—*A Case of Apoplexy, terminating fatally, in which the Cæsarean operation was performed with a favourable result to the child. Communicated by* EDWARD M. HODDER, M.C., M.R.C.S., ENG., &c.

Mrs. D., aged thirty-six, stout muscular figure, and plethoric habit, in the commencement of the ninth month of her sixth pregnancy, called and requested my attendance in her approaching accouchement, which she expected to take place about the end of the month (June).

She had always enjoyed good health, her previous labours having been easy, and not followed by any unfavourable circumstance.

Ten days before the period of her expected confinement (the 19th) I was hastily summoned to see her, as she had suddenly fallen into a fit.

I reached the house at nine p. m., about ten minutes after the seizure, and found her labouring under all the well-marked symptoms of apoplexy. Her breathing was laboured and stertorous, her eyes prominent and injected, the pupils widely dilated and insensible, her features swollen, the pulse slow and oppressed; she was perfectly unconscious, and a little frothy mucous, tinged with blood, issued from her mouth.

Losing as little time as possible in useless enquiries, as to whether she had complained of indisposition prior to the attack, being assured in reply that she had not, but that she had fallen as if shot,—I made the necessary arrangements for bleeding, and to my astonishment I was told by her husband and sister, that on no consideration whatever would they allow blood to be taken from her, either by bleeding, cupping, or leeching, alleging as their only reason for refusing, that they had always heard, that taking blood from a person after the "*sun had gone down*" was invariably fatal.

In vain were my remonstrances to overcome their superstition; the only answer I received was, that I might call as early, and take

as much blood from her in the morning, as I pleased, but as for bleeding then, it was out of the question. I therefore took my leave, after having ordered the head to be shaved, and pounded ice to be applied, with large and repeated doses of calomel and croton oil to be given until the bowels should be freely acted upon; the head and shoulders to be raised, and the lower extremities to be kept warm, and mustard poultices to be applied to them.

20th, eight a. m. As might have been expected, I found my patient the following morning in a state of profound coma, her breathing slow and stertorous, with perfect loss of sensation and voluntary motion.

Hopeless as her condition was, I thought it my duty to try the effect of a copious bleeding; accordingly I took about twenty-five oz. of blood from her, with little or no perceptible result. The bowels had not been acted upon; the croton oil was continued in larger doses, enemata of turpentine ordered, a large blister applied between the shoulders, the catheter passed, and the opportunity taken to ascertain the state of the os uteri, which would barely admit the tip of the finger, and did not feel inclined to yield.

At this time the motions of the child were vigorous and strong, so much so as to be seen by the persons around the bed.

Noon. She remained much in the same state as in the morning.

Eight p. m. She was evidently sinking, pulse small and weak, surface of the body and extremities cold, bronchial tubes loaded with bloody and frothy mucous, sphincter muscles beginning to relax, the os uteri in the same condition as in the morning, the action of the fœtus strong, yet not so much so as in the morning.

As it was evident that the mother must die, it appeared to me that the life of the child might possibly be saved by the Cæsarean section; it was therefore proposed to the husband, who immediately gave his consent, and requested that everything might be done to preserve the life of his offspring.

Accordingly the friends were told to have everything in readiness, and to send for me as soon as they perceived the approach of death.

At eleven p. m., I was sent for, as they thought she could not survive many minutes; and just as my medical friend and myself reached the house, we were met by the husband, who told us that she had that moment breathed her last. We were also told that the movements of the child had been felt a moment or two before.

No more time was lost than was necessary to assure ourselves that her dissolution was complete; and being satisfied that the vital spark had fled, I commenced the operation in the usual manner, beginning the incision about two inches above the pubes, and continuing it to the same distance above the umbilicus. The uterus being freely exposed, an incision to nearly the same extent was

made through its walls, the membranes ruptured, and a full-grown female child was easily extracted by the legs, they being the parts most readily taken hold of.

A ligature was immediately placed on the cord, the child separated from the placenta, and handed to my friend. It showed no signs of life, was pale, and beautifully clean. It was immediately placed in the warm bath which had been prepared, and artificial respiration, by means of the tracheal tube commenced; the chest and upper portion of the spinal column being alternately rubbed with a stimulating liniment.

At first our endeavours to resuscitate the child appeared unavailing, but in about seven or eight minutes from the time we began the inflation of its chest, an occasional sob took place, and in a few minutes more, the breathing and circulation were fairly established, the child ultimately recovering completely.

The placenta was removed from the uterus, and the external incision brought together by a couple of sutures, the intestines not protruding, or in any way annoying us during the operation.

Permission was then obtained to examine the head.

Post mortem twelve hours after death.

On removing the calvarium, the membranes of the brain were found most highly congested, the glandulæ pacchioni were unusually large, and the little pits on either side of the longitudinal sinus, so deep, as to lead to the belief (at first sight) that the bones were diseased.

On raising the brain, a very considerable coagulum of blood was observed, occupying the whole of the base of the skull, together with a small quantity of high-coloured and bloody serum. The vessel from which the extravasation had taken place could not be detected. Both the lateral ventricles were distended with bloody serum, the colour of arterial blood, but no blood was effused into the substance of the brain, which in other respects appeared firm and healthy. The uterus was found to have contracted as firmly and as equally as it would have done after a natural labour; although at the time that the sutures were put into the abdominal parietes, it had rather the appearance of a collapsed state than that of a firm contraction.

The other abdominal organs were healthy. The chest was not examined.

Remarks.—The principal point of interest in this case, was the preservation of the child's life, under circumstances the most unfavourable. Numerous cases are recorded, where women have died suddenly, or been killed by accidents, when in the last month of their pregnancy, and the children saved by immediate recourse being had to the Cæsarean section, but I have not met with any recorded instance where the mother had been in a state of profound coma for twenty-six or twenty-seven hours, previous to her death,

and where, in fact, she had been dead to every external impression, the animal functions alone being maintained chiefly through the medium of the nerves of organic life.

Nothing can more clearly prove the independent existence of the child, from that of the mother, except so far as the placental circulation is concerned.

In a case mentioned by Dr. Blundell, where a woman, in the last month of her pregnancy, was run over, and died a few minutes afterwards, the child was removed by the Cæsarean section thirteen minutes after the mother breathed her last, and in fifteen minutes from the mother's death, artificial respiration was commenced.

Dr. B. continues: "During fifteen minutes longer I continued it, ultimately resuscitating the child completely."

This case shows, that we must not be deterred from making an attempt to save the child, even fifteen or twenty minutes after the death of the mother; and, on this continent, where steamboat explosions and railway accidents are of constant occurrence, it is to be hoped, that bearing these facts in mind, the lives of some innocent beings may be saved, by a timely recourse to this operation.

But here, let me caution the younger, and less experienced members of our profession (whose zeal and energy may occasionally run away with their better judgment) to convince themselves thoroughly of the death of the unfortunate mother, ere they commence the attempt to save the child; for, to perform this formidable operation when the woman is dying, with a chance only of saving the child, would be barbarous in the extreme, and justly deserve the eloquent reproval of my friend and former preceptor, Dr. Blundell.

"Who that has a heart of flesh in his bosom, could cooly sit down in a real case to argue for the advantage to be derived to the fœtus from the performance of Cæsarean incisions before the maternal life is totally and beyond all doubt extinct? Who that has a heart of flesh in his bosom could have firmness sufficient to perform his operations under such circumstances? Who could look on the dying eyes of his patient without suffering the knife to drop from his hand? Who would like himself to be disturbed at such a moment? As long as men are surgeons, surely surgeons may continue to be men."

Art. III.—*On Syncope, Asphyxia and Asthenia.* By Lucius O'Brien, M. D., *Professor of Medical Jurisprudence, Toronto University.*

In lectures on Medical Jurisprudence, it becomes necessary to explain the distinctive meaning of the terms Syncope, Asphyxia and Asthenia, with the particular train or series of action, or loss of action, connected with each; but although each of them has

occasionally received a full share of investigation, I have not yet met with any work in which they are treated so as to give the student those clear and distinct ideas in regard to them, which he ought to possess, arising from the loose and vague manner in which these terms have been applied. To supply this want is the object of the present sketch.

As the study of Medical Jurisprudence is not confined to the medical practitioner, but has deservedly become an object of deep interest to the profession of the law also, I shall as far as possible employ the plainest terms, and, avoiding unnecessary speculation, confine myself to a simple statement of facts.

SYNCOPE, ASPHYXIA and ASTHENIA, are three states or conditions arising from, or connected with, a cessation of the action of the heart from various causes.

1. SYNCOPE, synonymous with *fainting*, arises from hæmorrhage or loss of blood; rupture of the heart; the sudden or severe action of purgatives, generally in a weakened state of the system; the sudden assumption of the erect position; fright or other mental emotion; in short from any cause which prevents the heart from sending the arterial blood to the brain, not dependent on obstruction to the pulmonary circulation.

In death from Syncope, the heart is found *empty* or nearly so, and *contracted*, and the blood vessels in general contain but little blood. Here the immediate or proximate cause of death is the *non supply of arterial blood to the brain* and nervous centres, the heart primarily ceasing to act from the supply of blood to *both sides* being deficient. The question naturally arises—what causes this deficient supply of blood?

2. ASPHYXIA, or preferably APNŒA, synonymous with *suffocation*, arises from *any cause which impedes the circulation of the blood through the lungs*, thereby producing engorgement of the *pulmonary arteries and the right side of the heart*. Consequent on this we have distention of the venæ cavæ, with venous engorgemert of the liver, spleen, head, &c.

The causes, being *any thing* which impedes the circulation through the lungs, embrace—

1st. Cessation of the action of the muscles of respiration from:

(*a*) Loss of nervous influence, as from injury to the upper part of the spinal marrow; injury or division of the phrenic nerves.

(*b*) Severe cold.

(*c*) Debility, as in new-born infants.

(*d*) Mechanical restraint, as pressure on the thorax or abdomen; pressure on the lungs by the admission of air into the cavities of the Pleura; or the upward pressure of the abdominal viscera through a wound of the diaphragm.

(*e*) Spasm, as in Tetanus.

2nd. Cessation of the vital action of the lungs themselves from,
Loss of vital influence, as from injury or division of the eighth pair of nerves.

3rd. Mechanical exclusion of the air from the lungs, as in
Hanging, drowning, or other mechanical means of suffocation, as by a foreign body in the trachea, &c.

4th. Want of respirable air, as in
Extreme rarefaction of the atmosphere, as on very high mountains; or the presence of an undue proportion of nitrogen, nitric oxide, or hydrogen gases.

5th. The presence of deleterious or poisonous gases, as
Carbonic acid gas,
Carbonic oxide gas,
Carburetted hydrogen gas,
Sulphuretted hydrogen gas,
Arseniuretted hydrogen gas,
Hydrocyanic acid (gaseous),
Chlorine,
Sulphurous acid gas,
Ammonia, &c.

6th. Diseases of the lungs themselves, rendering them impermeable by the air, as
Hepatization,
Œdema,
Emphysema,
Apoplexy (pulmonary) &c.—which act mechanically.

The proximate cause of death in Asphyxia is the *cessation of the nervous or vital power of the brain, owing to a want of arterialized blood,* and the steps of the process are

1st. Arrest of the transmission of the blood through the capillary vessels of the lungs.

2nd. Accumulation of dark blood in the pulmonary arteries and right side of the heart,—and consequent congestion in the venæ cavæ, with venous engorgement of the liver, spleen, head, &c.

3rd. Arrest of the supply of arterialized blood to the left side of the heart, and consequently, want of stimulus to its due action.

4th. Want of arterial blood in the brain and nervous centres, causing cessation of vital action.

3. ASTHENIA.—We accept this term to express direct paralysis or total loss of innervation of the heart, *both sides of it being affected,*—its motive powers being destroyed, irrespective of the blood itself as to the quantity, and, as far as we really know, as to the quality. The causes, then, of *Asthenia,* are everything which primarily destroys the vital action of the brain and nervous centres, embracing those causes which form the first class in Guy's tabular arrangement, viz.—"lightning; severe blows on the head; severe

constitutional shocks; strong mental emotions;" to which we may add certain poisons.

In *Asthenia*, we find the heart flaccid, containing blood, more or less, in all its cavities, and the blood vessels, both systemic and pulmonic, also containing more or less blood, arising from the sudden arrest of vitality.

It would be quite foreign to my purpose to enter into any review of the actual or possible combination of these states, but I cannot conclude without observing that what is called *Syncopal Asphyxia* or *Idiopathic Asphyxia*, is not asphyxia at all. It is either Syncope, or Asthenia.

ART. IV.—*Case of Functional Derangement of the Spine, illustrating the influence of the mind in the treatment of Local Nervous Affections. Communicated by* WILLIAM HALLOWELL, M. D.

The acknowledged power of mental emotion, as a modifying circumstance in the cure of disease, constitutes it one of the most valuable therapeutic agents we possess. Thus it is, that while the judicious practitioner invokes its aid, where material remedies fail, and indeed, employs it in conjunction with other treatment, awarding to each its due share of merit in effecting a cure, the dishonest and ignorant empiric presses it also into his service, but acknowledges no agent in the improved condition of his patients but the particular remedy recognized and prescribed by the system he practices, whether it be Hydropathy, Homœopathy, Allopathy, Chrono-Thermalism, or the thousand and one systems which from time to time have been given to the world, for the alleviation of those "ills which flesh is heir to."

From the constitution of the nervous system, it will appear evident, that the numerous train of diseases to which this part of the bodily frame is liable, comes more immediatley under the operation of the acknowledged power of the mental emotions, which in their application to a diseased condition, are thus rendered omnipotent, either for good or evil.

While this truth obtains in those cases where the whole nervous system is implicated, it is no less remarkable in that class of diseases which falls within the category of Local Nervous Affections, more particularly those referable to the spinal cord.

Among the latter class especially, a pregnant source of fallacy has arisen, from mistaking functional derangement for organic lesion; and untold thousands have thus been hurried to a premature grave, the victims of ignorance as to the marked distinction between these two forms of disease.

It is to illustrate these two positions, viz., 1st, the powerful influence of the mind in the treatment of Local Nervous Affections:

2nd, the fallacy in confounding functional with organic disease, that the following case is submitted.

A married lady, in the higher ranks of life, aged thirty-seven, who had never borne children, had been labouring for fourteen years under weakness of the spine; at the age of puberty there was difficulty of menstruation, since which period may be traced the commencement of her complaint. It did not, however, assume any well-defined character, until three or four years previous to the period at which I was called in to attend her professionally. During that time she suffered incessantly from pain, referable chiefly to the lower lumbar vertebræ and sacrum. After unusual bodily or mental exertion, the pain increased in intensity, and extended along the posterior part of the limbs in the course of the nerves, being more palpably felt at the hip, knee, and ankle joints. Upon these occasions also, it implicated, though in a diminished degree, the dorsal and cervical regions. This was accompanied with dragging of the limbs, and other paraplegic symptoms, pain and uneasiness of the head, with giddiness and stupor, terminating frequently in violent convulsions. Under these aggravated circumstances, the general health did not appear to have materially suffered, the appetite continued unimpaired, the spirits (except at those periods immediately preceding or succeeding the more violent attacks) were buoyant. A constitutional irregularity in the uterine system, however, exercised a prejudicial effect on her disease. The menstrual flux, recurring every three weeks, and being protracted sometimes ten or twelve days, invariably aggravated all the symptoms; and in like manner, (though to a less extent), any irregularity of the bowels was productive of evil consequences.

Before I was called upon to undertake the medical charge of this case, the treatment consisted of counter-irritation by sinapisms, blisters, tartar emetic ointment, &c., local and general depletion, purgatives, with rest in the recumbent posture. The active nature of this treatment, justifies the supposition that the disease had hitherto been regarded as one of organic lesion; but though persevered in for several years, no beneficial effects resulted from it: indeed, each fresh attack seemed more aggravated than the preceding. Under these circumstances, and immediately antecedent to the period of my professional services being required, a removal to Staten Island, New York, for the purposes of sea-bathing, was recommended, but she did not appear to have derived any benefit from this plan. On her return, however, notwithstanding the fatigue of travelling, and the inconvenience necessarily attendant upon a removal from home-comforts, &c. she did not experience any increase in her complaint. A knowledge of this fact alone, apart from the information derived upon subsequent examination, enabled me to prejudge the case with tolerable accuracy, as one, not of *organic lesion*, but *functional derangement.* The result of careful

scrutiny and observation, was to strengthen the views I had entertained; and these views were further confirmed by the opinion of the most distinguished surgeon of the day, and the successful issue of the case.

The difficulty of at once inspiring confidence in the mind of a patient, thus affected for so long a period, must be apparent to every candid observer, especially since my deliberate opinion was opposed as to the presence of organic disease; so that while I commenced a plan of treatment in accordance with my views of the case, relaxing the heroic plan, and substituting tonic and other strengthening remedies for those measures of depletion hitherto adopted, which had wasted the patient's strength and exasperated the disease, I willingly acquiesced in the desire expressed by the lady and her relations, that I should communicate a particular report of her case to Sir B. Brodie, for his opinion and advice. I accordingly addressed a letter to that gentleman, embodying the particulars already set forth; to which he replied, in the following terms.

Dear Sir,—You have sent me a *very clear statement* of your patient's case, and I cannot doubt that your opinion is correct as to the absence of organic disease in the spine, or parts in connection with it.

The symptoms appear to me to be purely nervous, and they are such as I am in the constant habit of witnessing (to a greater or less extent) in persons of a delicate constitution, liable to hysteria; and especially in those who labour under some irregularity as to menstruation. The convulsions which you mention are, I conclude, altogether hysterical. I have given some account of this class of cases, in my Lectures on Local Nervous Affections, p. 47, &c.

The plan of treatment which I would recommend is—

1st. That all local treatment should be avoided. The abstraction of blood by leeches or cupping, and the application of moxa or blisters, may indeed give some temporary relief, but by lessening the patient's powers they will do harm ultimately, and prolong the duration of the disease. Besides, in all cases of this kind, not only all topical applications, but every thing else that tends to draw the patient's attention to the affected part, is according to my experience prejudicial.

2nd. That every thing should be done that can be done, to improve the general health. Perhaps in this case, in which the menstruation is too abundant, some such treatment as this, modified according to circumstances, may be useful:—

℞ Ferri Sulphatis gr. i.
Ext: Gentian: gr. iv.
Fiat pilula bis quotidie sumenda cum haustu sequente.

℞ Infusi Rosæ comp. ʒijss.
Acid sulph dilut. m. x.
Magnes: Sulph: ʒi.
Fiat haustus quotidie sumendus.

After this has been taken for some time, the following pills may perhaps be given with advantage;—

℞ Cupri ammoniac: sulphat: gr. ss.
Pilul: Galban: Composit: gr. vi.
Fiant pilulæ ij ter quotidie sumendæ.

The dose of the ammoniaco-sulphate of copper may be gradually increased as the stomach will bear it. If this medicine is not at hand, one grain of the oxyde of zinc may be substituted for it. In either case, the treatment must be persevered in for a very long time, even for several months; and occasional purgatives should be exhibited in conjunction with it.

3dly. I would strongly recommend that your patient should leave her couch, and resume her usual habits as to exercise and living in society. I know that this can be done only gradually, and not without considerable confidence, and no small effort on the part of the patient: but I consider it as quite essential to her case, I have no hopes of amendment otherwise; and I believe, that the longer she remains without exercise, the more difficult will her recovery be. *To get about* at first, will, I doubt not, be attended with no small degree of inconvenience; but if you explain the matter to the patient, and then leave it to her own good sense, to do what she can, it will, I doubt not, be accomplished. Caution her, however, not to do too much at first—she cannot now be equal to violent exertions, and they will only weaken her, and throw her back. A great deal may be accomplished gradually: nothing suddenly.

I am, my dear Sir, Your faithful Servant,

To Dr. Hallowell. B. C. Brodie.

The tenor of this letter, coming from such a distinguished quarter, could not fail to be highly gratifying to myself personally, not more on account of the approval of my views, and the valuable advice it contained, than the facility it afforded me of surmounting the difficulties with which (from the protracted nature of the case) my path was beset, in undertaking its treatment; for although I had commenced a course, based upon a conviction of the character of the disease, it required in addition that full and unfettered confidence on the part of the patient which was ultimately inspired by the nature of Sir Benjamin Brodie's communication. I availed myself of the interval that elapsed between transmitting my report and receiving the answer, steadily to persevere in the plan of treatment which I had proposed to myself, upon determining the precise nature of the

case. My patient was thus placed under the most favourable circumstances for a return to health: in fact the letter of Sir B. Brodie acted upon her like a charm. The mind, hitherto bowed down under the dread of utter helplessness, gradually resumed its elasticity; and instead, as heretofore, of irritating and perpetuating her bodily ailments, it became influenced by the generous and healthy impulses of confidence and hope, which operated as a soothing balm to all her pain.

As far as circumstances would permit, the plan recommended by Sir B. Brodie, which had been previously commenced, was faithfully carried out. My patient was soon enabled to leave her couch and take exercise in the open air, resume her wonted intercourse with society, and at the end of two or three months, she could walk a distance of three or four miles without any personal inconvenience.

The intervals between the paroxysms of pain and uneasiness at the spine, with other concomitant symptoms already detailed, became longer, until, at the termination of ten or twelve months, they disappeared altogether, and left my patient in the enjoyment of as perfect health as she had ever experienced before.

This case illustrates most powerfully, the mysterious connection between the mental affections and bodily sensations, and the salutary influence that may be exerted, in conjunction with other remedies, when the mind is directed in a proper channel, and instead of being allowed to rivet itself to the seat of the complaint, is diverted by external objects, and led to repose with confidence and hope on the means employed for its alleviation. It also affords a satisfactory explanation of the manner in which beneficial results are frequently attributed to medicines intrinsically inert, when in reality they are only as it were amusing the patient; while Nature, seizing the happy moment when the mind is favourably disposed, through her instrumentality, is effecting the cure.

ART. V.—*A Case of Disease of Heart, with Observations by* JAMES BOVELL, M.D.

Smith Glass, aged 16, admitted a patient of the Toronto General Hospital on Oct. 1st, under care of the Hon. C. Widmer, F. R. C. S. Eng., labouring under acute Rheumatism.

Ill a few days only; pain confined to the ankles and back without redness of the skin. Wine of colchicum with magnesia, which was continued until the 3rd.

3rd. He complained of pain in the region of the heart, the action of which was tumultuous; tongue loaded, pulse rapid.

V. S. ad ℥ xx;

℞ Hyd. Submur. gr. ij;
Opii ¼ ft. pil. sexta quaque hora sumenda.

4th. Action of the heart rapid, friction sound apparent, some pain in right side, pulse 112 rather sharp.

Rep. V. S. ad ℥xx, et rep. pilulæ.

5th No pain on breathing to-day; blood taken highly buffed, and cupped; pulse 84, not jerking; friction sound rather more apparent. Continue the mercury. Mustard poultice to the feet.

6th. Pulse 90; easy. Repetantur medicamenta.

7th. Mouth not affected; pulse down to 76. Some pain yet in cardiac region; friction sound increased since yesterday.

Rep. pilulæ, et Ung. Hyd. fort ℥; bis die.

8th. Mouth unaffected, pulse soft, no pain, still some friction sound. Rep. ut heri.

9th. Gums slightly touched, bowels purged. Sounds of the heart compounded of the old friction sound and a blowing sound. Leave off the pills; continue the Ung. Hyd.

10th. Friction sound still evident, without any blowing sound. Mouth affected; discontinue the mercury.

11th. Pulse 66. Less friction sound, no pain, respiration rather laboured, sweats at night, gums sore. Nil.

12th. Pulse 72. Breathing not hurried, beat of the heart *nearly* normal; obscure blowing, but no friction sound.

13th. Continues as yesterday.

14th. Pulse quiet; second beat of the heart preternaturally strong. Nil.

15th. Both beats of the heart strong but normal.

17th. Quite convalescent; there is however a slight blowing sound.

26th. Has had bad nights lately. Does not breathe well in the recumbent posture; cannot lie on his right side; action of heart very strong; tenderness in the 6th intercostal space; countenance anemic, pulse 120, sound very dull all over the chest.

V. S. ℥ xvi. ℞ Tr. Digitalis M. x ter die.

27th. Blood not buffed or cupped, crassamentum tender, not much serum; pulse softer to-day, 104; sounds of chest same. Continue Digit.

℞ Hyd. Sub. gr. i; pil. Hyd. gr. ij.
fiat pil. nocte maneque sumenda.

28th. Slept well all night; pulse 108, very hard; dry short cough; respiratory murmur natural all over right side; not to be heard on the left, except at the upper part.

Rep. ut heri.

29th. A bad night; action of heart and carotids increased; pulse hard and jerking; much blowing sound; resp. 34.

V. S. ad. ℥ xiv. Cont. med.

30th. Pulse 88, not so sharp.

31st. Pulse 96, jerking; slept better; lies a little on the right side; gums not affected.

Nov. 1. Slept a good deal on right side; pulse sharp; action of heart very strong, with much blowing sound.

2nd. Pulse less jerking; action of heart and arteries less violent; blowing sound apparent; friction sound has disappeared; gums not affected.

3rd. Pulse 84, softer; continue the medicine.

4th. Feels on the whole more comfortable, no pain; action of heart and arteries less violent, blowing sound distinct; pulse 84, respiration 22.

7th. Action of the heart less strong and less frequent; pulse slow and less short; the old blowing sound still audible; a Systolic blowing sound distinctly audible over the aortic valves; complains of occasional pain in the region of the heart; no tenderness on pressure; dulness over right side remains, and no respiratory murmur audible there.

8th. Feels much more feeble than yesterday; pulse weak, slower than it has been lately; a new sound distinctly audible over the semilunar valves of the arteries, during the heart's diastole; the Systolic aortic sound heard yesterday not distinguishable; old blowing sound as audible as ever; great dulness in right side.

9th. Feels better; pulse still sharp; right side seems to bulge a little, and over its lower part there still exists great dulness. Three Endocardial murmurs audible to-day; the old mitral blowing sound, and two aortic murmurs—one Systolic and one Diastolic.

10th. Does not feel so well to-day; profuse perspiration last night; pulse has less force, and is less frequent; cardiac sounds same as yesterday; respiratory murmur audible on deep inspiration.

11th. Cardiac sounds the same; feels much better.

12th. Up to-day; feels stronger; appetite improving.

15th. Action of heart very strong still; mouth not affected, although the pills have been regularly continued.

23rd. He has discontinued all treatment; his appearance is the same; Anemic; body much wasted; appetite good; violent and strong action of the heart still continues, with slight blowing sound; sleeps well in any position; urgent desire for food early in the morning; not the slightest appearance of œdema; from this time he went on improving until the 6th of December, when he was sent to the House of Industry.

House of Industry, Jan. 3rd, 1851.

GLASS was again seized with acute Rheumatism, affecting both wrists; and on the following day I was requested to attend him for

the first time. He stated, as noted in above report, that he was sixteen years of age, and had suffered from acute rheumatism, for which he was admitted into hospital under Dr. Widmer's care; and on questioning him more closely, it was very certain that he had suffered from an attack of pericarditis, when he was about twelve years of age. His appearance at this time is that of a tall, thin, and delicate lad; chest very narrow and flattened; muscular system not well developed; face thin and long; light hair and eyes; countenance expressive of much anxiety. He lay on his back, with the shoulders and head well raised, breathing hurriedly, and complaining of most distressing palpitation and shortness of breath. Both wrists were inflamed and swollen, and very painful. He complained of severe pain in the region of the heart. On exposing the chest for examination, percussion yielded over the whole of the right side, a particularly clear sound, and the left, the clavicular and superior part of infra-clavicular region sounded clear when struck; but from the third rib, and throughout the mammary region, there was marked dulness; and over a large portion and far to left of nipple, an undulating pulsation was seen. On placing the hand over this space, an extensive heaving and intermitting motion was felt, unaccompanied by fremissement. On applying the stethoscope to the chest, the disproportion between the extent and force of the pulsation and sounds of the heart was very marked; the undulating movement, while extensive, not being forcible enough to raise the cylinder; and the first sound being rather muffled, and unaccompanied by any friction sound whatever; below and to the left of the nipple and downwards towards the apex of the heart, a soft but well-marked bellows-murmur was audible, accompanying the systole of the heart; this murmur was not heard up the aorta, nor at any distance from base of organ; there was no roughness; but a soft, smooth bellows-sound. The beat of the heart was interrupted, there being never more than seven nor less than five regular beats, followed by a decided pause or cessation of action. The pulse of the femoral and temporal arteries shewed this intermission. On examining the right lung, the respiration was heard, but particularly weak, and unaccompanied by any rales. Left lung, respiration heard only under clavicles and in axilla; posteriorly where bronchial respiration usually exists, there was only ordinary puerile respiratory murmur; there was no dullness posteriorly; there was fullness in right hypochondrium, and the liver was felt below ribs; bowels have been moved; water high-coloured, and deposits copious sediment; perspiration copious and acid; has had no sleep at all for last few nights; feet and ankles swollen.

℞ Pulv: Ipecac: Comp: gr. x.
To be taken immediately, and repeated at night.

℞ Inf: Digital ℥vij.
Potass: Nitr: ʒiv.
Antim: Potassio-tart: gr. i. ft. mist.
A table spoonful every third hour.

Jan. 7th. Is very weak; but has had some refreshing sleep at different times. Pain and fulness of wrists much lessened. Bowels have been freely opened, but not unnecessarily so; urine much more copious, and still depositing sediment; pulsation of heart most distressing, and undulating over a large surface; dyspnœa much increased on the lightest exertion; the blister which was applied on the 5th has discharged well, and it has since been dressed with P. Digitalis. He was desired to continue the Dover's Powder, and was ordered a mixture of Colchicum and Iodide of Potassium.

May 8th. Last evening he became much more depressed, and evidently weaker; he passed a restless night, although complaining less of palpitation; he was much annoyed by thirst; towards day-break he appeared to be falling into sleep, and at six o'clock was found quietly to have breathed his last.

At one o'clock, on the same day, my friend Dr. Bethune kindly made the post mortem examination.

The body generally was thin and devoid of fat. On opening the thorax, and throwing up the sternum, the large and immensely dilated heart was brought prominently into view, and perhaps rendered more conspicuous in consequence of the concealment of the left lung, which was completly hidden, and the extraordinary smallness of the right lung. On removing the thoracic contents for examination, we were still more struck by the diminished size of the lungs, and at finding their structure fleshy but otherwise healthy. The trachea and bronchial tubes were proportionably small. The heart and its large vessels being carefully examined, it was rendered apparent that the enlargement depended on most extensive dilatation of the left ventricle alone, the right not being in the least degree implicated. On making an incision into the pericardium, several layers of organized lymph were cut through, and it was found that there was universal adhesion of the membrane to the heart, the last attack having completed its union to the right auricle. On cutting open the left ventricle, its walls were found thinned, and the cavity enormously dilated. The mitral valves were free from vegetations, and that one nearest the aortic opening shortened, so that the auriculo-ventricular orifice would not be perfectly shut, but permitted of regurgitation. The auricle was thinned, and its walls wasted and fatty; at the root of the great vessels lymph was very thickly deposited; the right side of the heart was evidently healthy; the examination of the aortic valves shewed no material change in their structure, but the lower part of the mouth

of the aorta imediately above the valves was very much thinned, and evidently commencing to suffer dilatation. On opening up the aorta, we found its lining membrane studded with atheromatous deposit, and an inch and a half up the artery, *contraction of the tube existed,* rendering the calibre of vessel very much smaller than the aortic outlet, and capable of affording a serious obstacle to the onward flow of the blood; the lining membrane was puckered and thickened, as if by contraction of lymph. The lungs were next carefully examined, our attention being directed thereto by their exceeding smallness, and at the first sight it seemed as if they were pushed up against the spine, as occurs in empyema; but however this might have been the case with the left lung, there was no cause operating on the right, and their pervious although fleshy condition proved that no injurious opposition was offered to the entrance of air into the cells; the lungs were small, but crepitant; the trachea also small. The liver was very large, but nevertheless did not present the usual appearances of a congested organ, but rather that of hypertrophy; the gall-bladder contained healthy bile. The intestines were healthy, and there was no effusion into peritoneum.

Remarks.—It was and is yet currently believed that one of the most common and perhaps most important results of pericarditis, is hypertrophy and dilatation of the heart; but the researches of Dr. Barlow and Mr. Norman Chevers, of Guy's Hospital, prove very satisfactorily that they by no means stand in the relation of cause and effect. Dr. Hope had observed "that he had never examined after death, a case of complete adhesion of the pericardium, without finding enlargement of the heart—generally hypertrophy with dilatation." In combating this doctrine, Mr. Chevers observes "that the above remarks can be applied only to one class of cases of this description: to those in which, superadded to the adhesion of the pericardium, there is also *disease of the valvular passages* of the heart; these cases are certainly the most frequent, but I think that a sufficient number of contrary instances have occurred to prove that where the valves are healthy, complete and close adhesion of the pericardial surfaces, far from producing hypertophy and dilatation, has a tendency to be followed by general diminution in the size of the heart and its vessels, and contraction of its cavities." "There are cases," further observes Mr. Chevers, "occurring between the commencement of puberty and decline of life, in which, exclusive of any evidence of disease in its tissues, the whole aortic trunk, with its appendages, is found unusually small; often with coincident morbid narrowness of left auriculo-ventricular orifice, lung obstructions, and evidences of retardation of the blood in right cavities of the heart, or in veins and abdominal viscera. The development of the latter train of symptoms has been attributed to the small size of the aorta, which is supposed to have precluded the

free emptying of the heart's left cavities, and in this way to have produced the pulmonary and other visceral changes. Dr. Barlow has however published a set of cases in which he assigns the true cause upon which this small size of the artery generally depends; shewing that the obstructions tergal to the aorta have been the causes, and not the consequences of the diminutive size of that vessel, the artery having become diminished in capacity, from a tendency to adapt itself to the diminished current of blood which it has been required to transmit." The defective expansion of the lungs, as Dr. Barlow has shewn, arises from pericarditis, occurring at the period of life before growth is complete, "for the development of the lungs being thus suspended, whilst growth of other parts proceeds, the increased current which returns to the heart through the venous trunks cannot find a free passage through the still puerile lungs; whereas if growth be complete, and consequently the proportion of lungs and other parts be not liable to change, which must result from the suspended development of the former, the effect of the pericarditis, if uncomplicated *with valvular disease*, is to produce a diminution rather than an increase in the volume of the heart. "But," observes, Mr. Chevers, "if *morbid contraction* of any part of the valvular apparatus of the heart *occurs coincidently* with the first adhesion of pericardial surfaces, the cavities behind the obstacle will have begun to suffer consequent dilatation and thickening long before the adhesions have become so contracted as to exert much pressure upon their walls." In the 25th No. of Guy's Hospital Reports, 1842, cases 6 and 7 of Dr. Barlow illustrate well the doctrine advanced; and as the case which I have given belongs to the same class, it is brought forward with a view of strengthening (if that be necessary) the opinions advanced by Messrs. Barlow and Chevers. Let us review, however, before concluding these remarks, the train of diseased action in the case of Smith Glass. From his own history, we gather that he had suffered from rheumatic pericarditis at about the age of twelve years, and that he had experienced more or less shortness of breath and palpitation since. From the state of the parts revealed at the post mortem examination, we gather decided proofs of aortitis having existed; and drawing our conclusions from the appearance, at a remote period—for the vessel was narrowed by contraction of effused lymph, this certainly is a singular circumstance, for we should a priori have expected to find the valves as the parts implicated, and have anticipated thickening of their edges and contraction or dilatation of their orifices; on the contrary, although one of them closed imperfectly, yet there was not such an amount of disease as would furnish a satisfactory explanation of the morbid appearances found. There being only comparatively slight disease of the left auriculo-ventricular valves, the lungs would not be much congested, the widely dilated ventricle

receiving the blood, which only met with retardation in the aorta. There can be no doubt but that there is a close connection between the pericardial disease occurring when he was yet a boy, and the defective developement of the lungs, and that we can explain the condition of the heart, by attributing the injury of that organ to the aortic and endocardial mischief which must have existed at the time of the first attack; we would then have as the chain of causes—rheumatism, pericarditis and aortitis, with pericardial adhesion, impeded motion of ribs and diaphragm, "defective developement of lungs and air passages," contraction of aorta, offering an impediment to the action of left ventricle which became considerably dilated, and which in its turn had commenced to induce dilatation of auriculo-ventricular opening. The size and appearance of the right heart evidently shewed, that but for the aortic obstruction there would have been an arrest of growth, for the right ventricle and auricle were certainly not at all enlarged, and the left was evidently so as tergal to aortic obstruction. That the circulation was impeded, there can of course be no doubt, for of this we have evidence in the œdematous state of the ankles and legs, although the obstruction was not sufficient to cause ascites; and from the appearance of the liver, I am inclined to believe that the organ had retained its embryonary state, or from having to perform a supplementary part, became hypertrophied.

I have endeavoured to curtail these remarks as much as possible, and shall not offer anything further; but I trust that others may be induced to note all cases of diseased heart falling under their care, with the view to the discovery in each case of that chain of causes and their effects which can alone enable us to perfect diagnosis and treatment.

For the previous history of the case, before it came under my care, I am under obligation to the Hon. C. Widmer, who kindly copied the notes from the Case Book of the General Hospital.

Art. VI.—*A case of Erysipelas Accompanied by Chorea. Communicated by* Henry Melville, M.D.

George Atkinson, aged thirteen years; of spare frame, but active and intelligent, the son of strumous parents. Employed occasionally as errand-boy to his father, who is a shoemaker by trade, sometimes working at the bench, and generally passing a portion of each day at a crowded school, became the subject of erysipelatous inflammation, situated on the inside of the left arm, involving the integuments and subcutaneous cellular tissue, extending from about two inches below the axilla, to the bend of the arm. The disease commenced on the 12th of January; was pre-

ceded by a smart febrile attack, and rapidly passed into the suppurative stage, in which condition it was, when I first saw the patient on the 18th of the same month. The cause assigned by the parents as producing this disease, was exposure to the weather, which was then very inclement. I may here remark, that erysipelas was, at that time, prevailing in several localities in the City, and that the boy's varied occupation predisposed him to an attack of this character. When I first visited him, I found the whole circumference of the arm very tense, swollen and painful; the axillary glands very much enlarged, and very painful, preventing entirely any motion of the arm, which was kept in a position of partial abduction and flexion. The disease yielded readily to constitutional and local treatment, and on the 21st of January I considered him convalescent. At my next visit, on the morning of the 22nd, my attention was directed by his mother to a peculiar jerking motion of the *right* shoulder, which she stated had first attracted her notice on the preceding evening while dressing his arm, and as he was at that moment undergoing the same process, I attributed it to the irritation produced by touching the sensitive parts. However, this jerking and involuntary motion rapidly extended to the whole of the muscles of the right side of the body. Indeed the appearance and condition of my patient at this time and subsequently was truly pitiable. He was unable to stand at all, unless supported by some one; and even this assistance it was no easy task to regulate, the jactitation of the right side and its extremities, being so violent as sometimes to throw the whole body round, as it were on a pivot. He was unable to articulate distinctly, and at one time had some difficulty in swallowing. There was frequent gaping and snapping of the jaws, with contortion of the features of the right side; perfect inability to direct the hand to any object, or to grasp anything when purposely placed within it. The right leg was constantly thrown about in every direction, and he would occasionally get it wound round the foot of his chair, as if in the hope, alas! in vain, of being able thus to control its eccentricities. He was the victim of complete Chorea of the right side, and that of a most aggravated form. During the first forty-eight hours, these spasmodic movements continued even during sleep, not so violently, but still sufficiently so to awaken him, and sometimes to throw him off his bed, on account of which he was compelled to sleep on a mattress on the floor; latterly, however, he was usually tranquil during sleep.

I ordered a blister to be applied to the region of the spine, extending from the third cervical to the sixth dorsal vertebra, covering the whole interscapular space. I directed his hair to be closely cut, and cold applications to be applied constantly to the head. I also prescribed the following medicines:—

℞ Hydrarg: Chloridi gr. xvi;
Antimonii potassio-tart: gr. i;
Sacchari Albi pulv: ℥i.
M bene et divide in partes xvi. æquales.
Sign: One to be taken every two hours.

℞ Liq: Ammon: Acet: ℥i;
Mist: Camphoræ ℥vij.
M fiat mistura.
Sign: Two tablespoonsful to be taken every four hours.

℞ G. Assafœtidæ ℥iiss.
Ammon: Bicarb ℥i.
Mucilaginis q. s.
M. fiat massa et divide in pilulas xij.
Sign: One to be taken every eight hours.

I continued the use of the calomel until ptyalism was induced, and with the happiest results; the involuntary movements gradually subsiding as my patient came under its influence.

Dr. Bovell and several others of my professional friends saw my patient during the progress of the disease, and entirely concurred with me in viewing the case as one of an acute and serious nature. During the subsidence of the choreal spasms of the *right* side, the muscles of the *left* leg became also slightly affected with similar movements, but these also abated entirely. The cessation of spasmodic action, which was gradual, left him in a very feeble state, and much emaciated, with loss of power of the right side; the use of general tonics, the iodide of potassium, and latterly strychnine, with stimulant frictions, have now nearly completely re-established his health and strength, his friends stating that they never saw him look so lusty before. A little awkwardness of gait, and an over anxiety to speak quickly, are all the consequences that can now be detected of this singular affection.

The view which I entertained of the case was, that the erysipelatous inflammation had extended by continuity along the neurilema of the brachial plexus to the spinal chord and its membranes, probably implicating the medulla oblongata and the base of the brain. Why the leading features of disturbance thus produced, assumed the peculiar form of choreal spasm, I am not prepared to explain, although its symmetrical character may be accounted for upon general pathological principles. I merely at present state the case for its own merits, regarding it as possessing much interest and being suggestive of investigations, which the recurrence of similar cases, and the opportunity of post mortem examination, will enable myself and others to carry out more fully.

Correspondence.

TO THE MEMBERS OF THE MEDICAL PROFESSION.

(CIRCULAR.)

SIR,—On the first introduction of Life Assurance into this Province, the several Companies very naturally adopted the same rates of insurance which the experience of many years had proved to be properly adapted for Great Britain; and these rates have been hitherto closely followed, with very slight alterations, to the present time. It has been, however, a matter of observation, that although the tables employed in England may serve as a general guide, differences are observable, and these, if correctly traced out, may prove of great importance. The cases of infantile and female life are supposed to present the greatest anomalies. In order to obtain correct data by which our present tables may be corrected, I have been induced to draw out a tabular form, of which you will receive a copy. I shall be very much obliged if you will be so good as to fill it up in the following manner:—

On the demise of any individual, of any age or either sex, of whose circumstances you happen to be cognizant, enter the name and initials, with the age, occupation, &c., as you may learn them, taking care not to enter any statement as *positive* which may be only *conjectural: e. g.*—

No.	Name or Initials.	Male or Fem.	Age last birth-day.	Native of	Occupation or Trade.	Single or married, what family	Cause and date of death	Habits.
1.	Jane Smith, or J. S.	f.	23	England.	Wife of T. S. farmer.	Married six years; four children.	Fever, 26 June, 1850.	Temperate—Industrious.

After filling up the foregoing, write the remarks underneath, in order, 1, 2, 3, &c., with reference to those which you find *numbered* at the foot of the form transmitted to you, thus:—

REMARKS.—1. How long in the country?—*In Canada since ten years of age.* 2. Habit (robust or delicate) and temperament?—*Robust, sanguine.* 3. Family predispositions?—*Scrofulous.* 4. Sanitary character of residence or part of the country?—*Damp, low.* 5. Supposed family circumstances as to affluence or comfort, or otherwise?—*Poor, hard worked.* 6. If subject to ill health or disease, and what?—*Headache from exposure to the sun. In her illness was out of reach of sufficient medical aid, &c.*

(Signature) A. B.

When the sheet is filled up, or at any time which you may deem advisable, you will oblige by transmitting it to me, under cover, to "*The Secretary of the Provincial Mutual and General Insurance Company, Toronto.*"

When the table now forwarded to you shall be filled up, I shall be very glad to renew it; or should there be any Practitioner in your vicinity to whom one has not been sent, I should be glad to be informed, as it is very desirable that all the correct information which can possibly be had should be obtained.

I remain, Sir,

Your obedient Servant,

LUCIUS O'BRIEN, M.D.

Toronto, April 2nd, 1851.

MR. JONES' *letter is unavoidably postponed until our next number.*

NOTICE TO THE READER.

A copy of this number of our Journal will be directed and despatched to every Medical Practitioner in Canada, whose name and address we have been able to obtain; and the agents of the Publisher will be instructed to furnish a copy to all those whose names do not appear in the printed list on our last page. This has been done with the intent, that those who decline to support the publication may return it, with their name, to the Publisher; while those who retain this copy will be considered as subscribers, and the subsequent numbers will be regularly forwarded to their address.

A similar course will be pursued with respect to our professional friends in the United States.

Contributors and Correspondents will be kind enough to forward their communications by the *first of each month*, at the latest, addressed (post-paid) to A. F. PLEES, No. 7, King Street West, Toronto.

TORONTO, APRIL 15, 1851.

There is no subject more appropriate for the first leading article of a journal, about to become, we have every ground for believing, the organ of the Medical Profession of Canada West,

than the actual state of medicine as a science, its progress as an art, and the present and future prospects of its practitioners as a body in this section of the Province.

We have been accustomed from early associations and habits of thinking, as well as by practical experience, to look upon the science of medicine as one not to be acquired by all men indiscriminately, and susceptible of being advanced by only a limited number; while the legitimate practice of the art, although vested in many, is only carried out by a very small section of so called practitioners. Many may be licensed to treat the ills to which flesh is heir, but are they all capable of doing so? While we delight in declaring our conviction, that Western Canada can boast of a large portion of well-informed medical men, of men fully competent by education and experience to combat disease successfully in all the forms in which it may be presented to them, yet we feel our pleasure alloyed with pain, when we are bound to admit that *medicine, both as a science and an art, stands low in the scale in this portion of the Province,* when compared with the position which it occupies in other countries. The advance of a people in civilization is generally measured by the number of printing presses employed, and the amount and quality of mental contributions furnished to the great mart of knowledge; the same holds good as regards any class of men in particular, engaged in the same profession or vocation; and hence we are led to ask, how many medical publications have emanated from the press of Western Canada, or how many contributions in furtherance of the science and art of medicine can claim parentage here.

In attempting to prove the assertion above made, we shall pourtray, however imperfectly, the various classes of individuals, which constitute the Medical body in this Province; alledging at the same time, that we do not make a classification peculiar to Canada alone, but common to all other countries. There are men, for example, who possessed of most amiable dispositions and many qualities befitting them for the acquisition and exercise of various other arts or callings, seem nevertheless not to be intended by nature to become practitioners in medicine, for no effort of preliminary teaching can ever render them capable of even legitimately entering upon its study; yet we find such persons going through all the formalities of attending medical lectures, walking hospital wards, joining grinding classes, and ultimately, by some unforseen, and for them lucky, accident, managing to obtain their license to practise: from this class, nothing calculated to advance the science of medicine can be expected.—Again, there are men who with satisfactory early education, sufficient mental qualifications and laudable zeal and application in their studies, secure at the close of these, their license, as the well earned reward of past labour, and commence their career as practitioners; they, however, find when

it is too late, that study of the science, however attentive this may have been, without close observation of the practice of the art, is not all that is required to constitute a medical man, and these are they who furnish the medical press with ill digested, and generally speaking, ephemeral theories, fancies forgotten as soon as read, or absurdities only noticed that their authors may be laughed at; from this class neither the science nor art of medicine can receive any assistance. A third class comprises men who enter upon practice with every qualification possible for adorning the profession which they have adopted, they have combined during their studies, profitable reading with close bedside observation and correct reasoning; they start upon their anxious and toilsome duties, with a conscious aptitude for their task and a heart purely given up to the work; their sphere is either a large city or an extensive though scattered country practice. Their general conduct and manners soon enlist the respect and esteem of those among whom they live, while their professional abilities duly appreciated secure for them large patronage. Now these men become, not from choice, we will admit, but from absolute necessity, routine practitioners; they have not the time to keep up their acquaintance with the progress of science, and are consequently as unable, as they are unfit, to contribute anything to the advance of medical knowledge whatsoever their experience might enable them to do, had they the leisure and the inclination for improving the art. How constantly do we hear such persons relate from memory most interesting and valuable cases which have occurred in their practice, but of which they declare they had not time to make even short notes.

Another class includes men, who with all the requisite ability, opportunities, and time, are notwithstanding too idle to lend their helping hand to advance that science which they profess to love, or in furthering the progress of that art, in which they declare they take so lively an interest.

Of such various denominations is the medical profession made up, and we have reason to think that Western Canada presents no exception. But *there is here,* as elsewhere, a band of individuals, comparatively small it is true, and somewhat scattered, who while they assume Medicine as their profession, as an honourable means of livelihood, cannot be tempted to forego the satisfaction of watching the advance of Science generally, and that of their own department more particularly. They revel in the strides made by their brethren at home and abroad in the cause of Medicine; they rejoice in proclaiming the results of mental labour in every branch of philosophical Scientific research; but they do not do so blindly —they subject them to the searching scrutiny of practical analysis or logical reasoning, and according as the case may turn out, they adopt them as facts, adding these to their already acquired stock of knowledge, or refute them by proofs which they have discovered

in the course of their investigation, and which they can satisfactorily sustain. There is nothing admitted or received merely on the authority of a name; there is nothing rejected except as the result of patient and candid examination. These, we say, are the men likely to forward a science or an art, and of them, we are happy in repeating our conviction, there are many in Canada (would that the great majority of our professional men were comprised in this class), who could, had they possessed a medium for so doing, have done much, long ere this, towards rescuing Medicine in Western Canada from the opprobrium which we have felt compelled to cast against it. This Journal is now at their disposal; we invite them to make use of its pages in this cause.

We now leave this division of our subject, to consider the prospects, present and future, of the members of our body in this section of the Province; and did we propose to examine the matter merely in a pecuniary point of view, we believe that we should have no great difficulty in bringing our enquiry to a speedy termination—it would be this: that medical men are the hardest worked, have the least leisure allowed them for domestic enjoyment, are the most grudgingly remunerated, have their services the least appreciated, and are the worst protected and least encouraged by the State of all other classes of men, let their profession or calling be what it may. Now this developes at once the bane and the antidote as regards the position which, *as a body*, we this day occupy. We have no common bond of union among ourselves. We are torn by intestine jarrings, and unseemly personal jealousies distract us. We are hideously tormented by phantoms of our own imagining, while we lose sight of the real difficulties to be overcome. We want mutual and cordial co-operation to protect ourselves and our interests. And how is this to be overcome?—what is the remedy? It is obvious as it is simple: to obtain from the Legislature, by means of an Act of Incorporation, the power to regulate our own affairs—to manage our own concerns. Is the Medical Profession of Western Canada less capable of doing so than that of the Eastern section? Is it less qualified to decide upon the amount or nature of the acquirements, both preliminary and professional, to be possessed by its future members, before they be intrusted with the lives of Her Majesty's lieges in this portion of the British empire? Is it not as worthy of this trust as its sister profession of the Law? Does she not possess the power of protecting herself from the intrusion of uneducated, unlicensed and pretending impostors, and ejecting from her Society unworthy members? Are there not Acts which regulate general education in both portions of the Province? Are there not incorporated Boards of Trade, incorporated Mechanics' Institutes, and incorporated Insurance Companies, &c. &c.? For what purpose are acts of incorporation granted to them? To invest them with powers

and privileges which they consider essential to the well-being of the bodies which they represent, and with a prestige which without these parliamentary parchments they would not enjoy. Why then should our profession be deprived of similar privileges? It surely cannot be argued, that we should abuse them? We have watched the progress of the incorporation of the members of the Medical Profession in Canada East; we have seen them establish a standard of medical education not inferior to that of Great Britain; we have seen them elevate the profession to that position which is securing for its members the respect and confidence of the community; we have seen the Science of Medicine advance under their higher educational requirements, and we are cognizant of facts sufficient to satisfy us, that the Art or Practice of Medicine with them is making most healthy and encouraging progress.

With such data before us, let us here sink, as politicians say, all minor differences; let us set shoulder to shoulder in the emancipation of ourselves and our brethren from the thraldom which now oppresses us; and while we are prepared to throw open our doors to educated practitioners of all countries, on the most reasonable conditions, let us endeavour to secure protection against those who would fain represent Medicine to be nothing but a trade, and capable of being exercised by the veriest clodhopper or the most ignorant artizan.

Let meetings then be held, before the assembling of Parliament, (which we perceive is authoritatively announced to take place on the 20th of May) in each of the sixteen counties of Western Canada; let petitions be drawn up, and delegates, in the proportion of one for every ten practitioners, selected from each of these, to communicate and act in concert with those who will be chosen in a similar manner for this county, at the meeting advertised on the cover of this Journal, who will undertake to have their united petition presented in the proper quarter, and who will use their exertions to have their prayer granted. We appeal to the Profession of this section of the Province, to make this one effort for their benefit, before the removal of the seat of Government to Lower Canada.

We copy the following Tables from the *British American Medical and Physical Journal*, for February and March last. Our object in doing so is two-fold. First, we would accord our meed of praise to the gentlemen who constructed them, for the care and diligence displayed in conducting the observations upon which the Tables are founded; for the liberality they evince in giving to the public the benefit of their labours, as well as for the good example they afford to all professional men. Secondly, we venture to

suggest to these gentlemen, that they would enhance the value of their Tables, by the addition of some items which come immediately within their observation respectively. A glance at the admirable Tables hitherto published in the same periodical, the result of the observations taken at H. M. Magnetical Observatory, in this city, under the able direction of Capt. Lefroy, and which we are happy to announce we shall also in future be able to publish, will satisfy the Rev. Dr. Bethune of the advantage to be derived from Barometric observations—a record of the state of the weather —and the direction of the wind. The two former points have been included in Dr. Craigie's Table; and all of them in the other for the month of January, 1851, taken from the same publication, which we presume was constructed by its able editor, and which we have taken the liberty to condense in some measure, by omitting the hours of observation, and giving only the mean results, in the thermometric and barometric columns. To Dr. Craigie and to our professional brethren who will follow his good example, we propose the addition of the following statistics to his Table:—

The specific characters of the endemic and epidemic diseases prevalent during the month;

The dates of the commencement, of the acme, and termination of epidemics;

The dates and nature of sporadic cases of disease; and, lastly,

The rate and causes of mortality.

It must be evident to every one, that these circumstances, taken in connexion with the meteorological phenomena of the localities in which the observations are conducted, will prove a source of valuable information to the practitioner, and furnish data indispensable to an accurate knowledge of the influence of their climates on disease. We know that many difficulties would present themselves in arriving at the precise information required, if the task were to be accomplished by one individual alone: but if one or two in each locality—and particularly those in charge of public institutions—will take the trouble to construct for themselves Tables on the principle of those now published, with the additions we propose, and accustom themselves to record their observations daily, they will soon find that what at first sight appears to be an irksome task, will presently become as easy and agreeable as any other daily habit. The beneficial results of their efforts will surely develope themselves, and be a sufficient reward for the pains they may have taken, and prove an inducement to continued investigation.

ABSTRACT *from Meteorological Tables kept at Montreal, by Register Thermometers.*
BY REV. J. BETHUNE, D.D.

Months.	1846.			1847.			1848.			1849.			1850.		
	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.
January ...	48	-12	19	36	-10	13	46	-15	18	41	-23	9	38	-9	16
February..	45	-5	18	46	-12	18	49	-6	20	44	-25	6	50	-19	20
March.....	54	-2	34	42	4	22	65	-3	29	58	-6	29	61	-9	28
April	67	19	42	54	4	31	74	18	46	66	10	39	76	10	41
May.....	78	28	54	82	26	56	91	38	62	78	27	52	79	33	53
June	88	40	61	90	36	68	97	38	70	96	43	67	91	46	65
July.....	85	46	68	99	43	70	96	50	70	98	49	72	90	50	75
August	90	53	70	82	48	67	94	48	69	94	56	68	88	47	68
September.	91	38	55	75	34	54	87	24	50	84	36	59	88	36	61
October ...	70	18	43	68	19	42	63	22	43	62	27	46	74	28	49
November.	62	13	34	60	6	32	54	9	27	63	21	42	57	21	37
December.	36	-4	17	50	-15	19	48	-11	24	35	-17	16	44	-12	13
An. mean tempr'ature	42.91			41.00			44.00			42.08			43.83		

Mean temperature for the above five years 42.76

Number of days in each year below Zero :—

1846.....21 | 1847.....29 | 1848.....25 | 1849.....40 | 1850.....35

Average number below Zero in five years ..... 30 days

MEAN RESULTS *of Meteorological Observations at Hamilton, C. W., for the year* 1850.
BY DR. CRAIGIE.

Months.	THERMOMETER.					BAROMETER.			WEATHER.		
	9 A. M.	9 P. M.	Mean.	Highest.	Lowest.	Mean.	Highest.	Lowest.	Days Rainy.	Slight Showers.	Dry.
January	30.61°	31.35°	30.98°	50°	15°	29.71	30.18	28.96	6	3	22
February.....	20 428	31.50	30.464	59	8	29.593	30 26	28.78	5	5	18
March	33.00	33.74	33.37	60	14	29.626	30.22	28.70	2	6	24
April	41.46	40.9	41.19	80	21	29.614	30.05	28 95	5	6	19
May.....	53.60	51.4	52.50	90	36	29.691	30.00	29.00	1	5	25
June	70 56	68.1	69.33	95	46	29 738	30.00	29.50	0	8	22
July.....	74.29	73.39	73.84	101	56	29.691	29.88	29.48	5	5	21
August	71.74	70.97	71.355	100	52	29.691	29.95	29.40	5	7	19
September	61.76	60 43	61.1	86	37	29.715	30.02	29 44	3	5	22
October	49.30	49.7	49.5	78	31	29.657	30.00	29.30	3	8	20
November	42.00	43.73	42.866	71	22	29.717	30.10	29 30	4	5	21
December	28.355	28.225	28.29	52	0	29 70	30 22	29.10	7	8	16

Mean temperature of 1846..... ... 50.215°
" 1847..... 48.163
" 1848..... 49.295
Mean temperature of 1849 ..... 48.105°
" 1850 ..... 48.732

METEOROLOGICAL REGISTER at *Montreal, for the Month of January*, 1851.

Date.	Thermom.	Barometer.	WIND.			WEATHER.		
	Mean.	Mean.	7 A. M.	3 P. M.	10 P. M.	7 A. M.	3 P. M.	10 P. M.
1	+19.-	29.58	W S W	S	S	Snow	Fair	Fair
2	- 3.-	29.85	N	W	S	Fair	Snow	Snow
3	" 1.5	29 59	S W	S	S	Fair	Fair	Overcast
4	" 1.-	29.62	N	S W	S	Fair	Fair	Fair
5	- 1.-	29.86	S	S	S	Fair	Snow	Overcast
6	" 2.5	29.90	N W	N W	N	Fair	Snow	Fair
7	" 3.5	30.01	N N W	N	N	Fair	Fair	Fair
8	" 7.-	30.20	W	SW by S	W S W	Foggy	Fair	Overcast
9	" 13.5	29.52	S	S	S W	Fair	Sleet	Rain
10	" 37.-	29.28	S W	S W	S W	Cloudy	Cloudy	Cloudy
11	" 26.5	29.58	S W	S W	S W	Fair	Fair	Overcast
12	" 31.5	29.50	S W by S	S W by S	S W	Snow	Overcast	Fair
13	34.-	29 68	S S W	S S W	S S W	Cloudy	Fair	Fair
14	" 29.-	29 57	S	S	S	Overcast	Snow	Overcast
15	" 35.-	29 46	N	N	N	Cloudy	Rain	Snow
16	" 24.-	29.61	N	N W	N W	Fair	Overcast	Rain
17	" 33.-	29.56	S	S	S	Fair	High wind	Fair
18	" 13.5	30.06	S W	W	W	Fair	Fair	Fair
19	11.-	30.34	W S W	S	W	Fair	Fair	High wind
20	" 24.-	29.72	S	S W	S W	Snow	Snow	Fair
21	" 15.-	30.21	NW by N	NW by N	N W	Fair	Fair	Fair
22	" 10.-	29 71	E N E	E N E	E N E	Snow	Snow	Snow
23	" 17.-	29.92	S	S	S	Cloudy	Fair	Fair
24	26.-	29.74	S W	S W	S W	Fair	Cloudy	High wind
25	" 14.-	29.97	S S W	S S W	S S W	Cloudy	Snow	Overcast
26	" 16.-	29 82	N	N	N	Snow	Fair	Fair
27	" -9.5	30.10	N W	N W	N W	Overcast	Fair	Fair
28	" 2.-	29.70	N W	S S W	S S W	Fair	Snow	Snow
29	" 19.-	29.02	W	W	W	Rain	Snow	Storm day
30	" 17.-	29.77	W	W	W	Fair	Fair	Overcast
31	" -7.5	30.47	W	W	W	Fair	Fair	Fair

THERMOMETER:—

Maximum: +38° on the 10th, at 3, P. M. Minimum: +20° on the 30th, at 7, A. M. Mean of the Month: +14.7°

BAROMETER:—

Maximum: 30.64 in. on the 31st, at 10, P. M. Minimum: 29.90, on the 29th, at 7 P. M. Mean of the Month: 29.77 inches.

P.S.—With reference to the *Circular*, page 24, the subject has attracted so much attention, that very little apology can be required for introducing it into this Journal. If the members of the Profession will take the trouble to investigate the subject, they will probably find the results of their enquiries very valuable. Tabular forms, similar to that referred to in the *Circular*, will be placed in the hands of the Agents of the Provincial Mutual and General Insurance Company, as well as forwarded to other parties.

SELECTED MATTER.

MEDICINE.

BRITISH JOURNALS.

N.B.—All the articles marked with an * are taken from Braithwaite's Retrospect, for January, 1851.

* SPECIAL RULES TO BE FOLLOWED DURING AUSCULTATION OF THE CIRCULATORY ORGANS.

By Professor Bennett, Edinburgh.

[In a clinical lecture, this able physician gives the following special rules for auscultation of the circulatory organs.]

1. In listening, says Dr. Bennet, to the sounds produced by the action of the heart and arteries, we should pay attention,—1st, to the impulse; 2d, the character and rhythm of the sounds; 3d, the place where they are heard loudest, and the direction in which they are propagated.

2. You should commence the examination by feeling for the spot where the apex of the heart beats against the walls of the chest, which will enable you to judge of the impulse. This ascertained, place your stethoscope immediately over it and listen to the sounds. Then place the instrument above, and a little to the inside of the nipple, near the margin of the sternum, and listen to the sounds there. In the one situation you will hear the first or systolic sound, in the other the second or diastolic sound loudest.

3. If anything different from the normal condition be discovered in either one or the other position, or in both, they should be again carefully examined, and by moving the stethoscope below and around the apex of the heart, or above in the course of the aortic arch or carotids, on the right and left side, &c., &c., it should be ascertained at what point, or over what space, the abnormal sounds are heard loudest, and whether they be or be not propagated in the course of the large vessels. Occasionally listening over the back in the course of the descending aorta may be useful.

4. When, during the above examination, we discover a new source of impulse and of sound in one of the large vessels, this must be especially examined, the limits of such impulse and sound carefully ascertained,—whether they be or be not synchronous with those originating in the heart,—their direction, &c.

5. Under ordinary circumstances, the respiratory do not interfere with the detection of the cardiac sounds; but where the former are very loud and the latter indistinct, it is useful to direct the individual to hold his breath for a few moments. Sometimes the impulse and sounds of the heart are heard better by directing the patient to lean forward; they may also, if necessary, be exaggerated and rendered more distinct by directing him to walk up and down quickly, or make some exertion for a short time.

Of the Sounds elicited by the Circulatory Organs in Health and Disease.—On placing your ear over the cardiac regions in a healthy person, you will feel a beating, and hear two sounds, which have been likened to the tic-tac of a watch, but to which they bear no resemblance. They may be imitated, however, very nearly, as pointed out by Dr. Williams, by *pronouning in succession the syllables lupp, dupp.* The first of these sounds which is dull, deep, and more prolonged than the second, coincides with the shock of the apex of the heart against the thorax, and immediately precedes the radial pulse; it has its maximum intensity over the apex of the heart,—below and somewhat to the outside of the nipple. The second sound, which is sharper, shorter, and more superficial, has its maximum intensity nearly on a level with the third rib, and a little above and to the right of the nipple—near the left edge of the sternum. These sounds, therefore, in addition to the terms first and second, have also been called inferior and superior, long and short, dull and sharp, systolic and diastolic,—all which expressions, so far as giving a name is concerned, are synonymous.

The two sounds are repeated in couples, which, if we commence with the first one, follow each other with their intervening pauses, thus—1st, There is the long dull sound coinciding with the shock of the heart; 2nd, There is a short pause; 3rd, The short sharp sound, and 4th, a longer pause,—all which correspond with one pulsation. In figures, the duration of these sounds and pauses by some have been represented thus,—the first sound occupies a third, the short pause a sixth, the second sound a sixth, and the long pause a third. Others have divided the whole period into four parts; of which the two first are occupied by the first sound, the third by the second sound, and the fourth by the pause. The duration, as well as the loudness, of the sounds, however, are very variable even in health, and are influenced by the force and rapidity of the heart's action, individual peculiarity, and form of the thorax. Their extent also differs greatly. They are generally distinctly heard at the precordial region, and diminish in proportion as we withdraw the ear from it. They are less audible anteriorly on the right side, and still less so posteriorly on the left side. On the right side posteriorly they cannot be heard. Their tone also varies in different persons; but in health they are free from a harsh or blowing character.

Great diversity of opinion has existed regarding the causes of these sounds,—all of which you will of course have heard discussed before coming here. You must never forget, however, the cardiac actions which coincide with them; for our reasoning from any changes we may detect, will entirely depend upon our knowledge of these. We may consider, then, that there coincide with the first sound,—1st, The impulse, or striking of the apex against the thoracic walls; 2nd, Contraction of the ventricles; 3rd, Rushing of the blood through the aortic orifices; the 4th, Flapping together of the auriculo-ventricular valves. There coincide with the second sound,—1st, Rushing of the blood through the auriculo-ventricular valves; and, 2nd, Flapping together of the aortic valves. Contraction of the auricles immediately precedes that of the ventricles. The result of numerous pathological observations, and of many experiments, is, that in health, the first sound is produced by the combined action of the auriculo-ventricular valves of the ventricles, and of the rushing of the blood, which sound is augmented in intensity by the impulsion of the heart's apex against the thorax; whereas the second sound is caused only by the flapping together of the sigmoid valves.

With the cardiac as with the respiratory sounds, the alteration which takes place during the disease may be divided into,—1st, Modifications of the sounds heard in health; 2nd, New or abnormal sounds.

1. *Modifications of the Healthy Sounds.*—These refer to the variations the healthy sounds present in their seat, intensity, extent, character, and rhythm.

Seat.—The sounds may be heard at their maximum intensity *lower* than at the point previously indicated as in case of dilated hypertrophy of the left ventricle, enlargement of the auricles, or of tumours at the base depressing the organ. They may be *higher* owing to any kind of abdominal swelling pushing up the diaphragm. They may be more on *one side* or the other, in cases where the heart is pushed laterally by effusions of air or fluid in a pleural cavity. Various other circumstances may also modify their natural position such as tumors in the anterior or posterior mediastinum, aneurisms of the large vessels, adhesions of the pericardium, deformity in the bones of the chest, &c., &c.

Intensity and Extent.—These are *diminished* in cases where the heart is atrophied or softened; when there is pericardial effusion, concentric hypertrophy of the left ventricle, or emphysema at the anterior border of the left lung. They are *increased* in cases of dilated hypertrophy, of nervous palpitations, and when neighbouring portions of the lung are indurated, especially in certain cases of pneumonia and phthisis pulmonalis.

Character.—The sounds become *clearer* or *duller* than usual according as the walls of the heart are thinner or thicker. Occasionally they sound *muffled* in cases of hypertrophy or softening of the muscular walls. Not unfrequently there is a certain degree of *roughness*, which is difficult to determine as being healthy or morbid. Occasionally it ushers in more decided changes; at others, continues for years without alteration.

Rhythm or Time.—I need not say that the frequency of pulsations differs greatly in numerous diseases altogether independent of any special disease in the heart. In certain cardiac affections, however, the beats are *intermittent*, in others *irregular*—that is, they succeed each other at unexpected intervals. The *number* of the sounds also varies. Sometimes only one can be distinguished, it being so prolonged as to mask the other. Occasionally three or even four sounds may be heard, depending either on reduplication in the action of the valves when diseased, or on want of synchronism between the two sides of the heart. Not unfrequently the increased and irregular movements of the organ, combined with the sounds, are of such a character as to receive the name of *tumultuous*.

2. *New or abnormal Sounds.*—These are of two kinds: 1st, Friction murmurs; 2d, Blowing or vibrating murmurs. Dr. Latham has called them *exocardial* and *endocardial*. I am in the habit of denominating them *pericardial* and *valvular*.

Pericardial or Friction Murmurs.—The murmurs are the same in character, and originate from the same causes as the friction noises connected with the pulmonary organs. It is only necessary to observe, that occasionally they are so soft as closely to resemble blowing murmurs, from which they are only to be distinguished by their superficial character and limited extent.

Valvular or Vibrating Murmurs.—These murmurs vary greatly in character, —some being so soft as to resemble the passage of the gentlest wind; others are like the blowing or puff from the nozzle of a bellows (*bellows murmurs*;) whilst others are harsher, resembling the noise produced by *grating*, *filing*, *sawing*, &c. They are all occasioned, however, by diseases interfering with the functions of the valves. Sometimes these do not close, and the blood consequently regurgitates through them; at others, whilst this is the case, they are constricted, indurated, roughened, and even calcareous,—whence the harsher sounds. They

may be single or double, and have their origin either in the auriculo-ventricular or arterial valves, or in both at once,—the detection of which constitutes the diagnosis of the special diseases of the organ. Occasionally these sounds resemble *musical notes*, more or less resembling the cooing of a dove, singing or twittering of certain small birds, whistling, tinkling, &c., &c. These depend either upon excessive narrowing of the orifices, or upon any cause which induce vibrations of solids in the current of blood,—as, when there are perforations in the valves, irregularities of their margins, string-like or other shaped exudations on their surface, &c., &c.

Auscultation of the large vessels.—On listening through the stethoscope placed over the arteries in the neighbourhood of the heart, we hear the same sounds as are produced at the sigmoid valves, propagated along its course, but more indistinct as we remove the instrument from the base of the heart. Those which are more distant have only one sound, which is synchronous with their impulse and their dilatation. This sound is of a dull character, but in health always soft.

In the various conditions of disease we have a single or double bellows sound, or it may be harsh, grating, rasping, &c. In the first place, you must ascertain whether any of these sounds are propagated along the artery from the heart, which you will know by listening over its course from that organ, and observing whether they increase as you proceed towards it. If the sound have an independent origin, it may originate from disease of the internal surface of the artery, when it will be harsh in proportion to the roughness; from stricture of, or pressure on the vessel, or from its dilatation. Generally speaking, the more dilated and superficially seated the vessel is, the sharper is the sound. Sometimes there is a double murmur in the course of a vessel, having an undoubted independent origin. This is most common in cases where there is an aneurismal pouch, into which the blood passes in and out through an opening narrower than the swelling itself. Occasionally one or both such murmurs may possess somewhat of a metallic ringing, or even musical character, when the margins of the opening are probably tense and thrown into peculiar vibrations.

I have already told you never to form a conclusion from auscultation alone. Even when combined with percussion, it is not safe to form a diagnosis without a knowledge of *all* the circumstances of the case. Hence, why I repudiate those rules which have been published in books, that have for their object the establishment of opinions from physical signs alone. At the same time, there can be no doubt that percussion and auscultation are absolutely essential to the proper investigation of maladies, although not more so than other modes of inquiry. I have, therefore, thought it best to give you a condensed resume of the sounds which may be heard by auscultation of the lungs, heart, and large vessels, pointing out a few of the diseased states in which they may be sometimes (not always) heard, and especially indicating the physical conditions on which they are supposed to depend. Their true diagnostic value can only be learned by the careful examination of individual cases.—*Monthly Journal of Med. Science, Nov.*, 1850.

New Mode of Percussion.—M. Poirson, interne at the Saltpêtrière, introduced a novel mode of percussion, which consisted in the employment of a common sewing thimble placed on the fore or middle finger, so as to include a small quantity of air between the end of the finger and the bottom of the thimble. This instrument communicates a clearness and intensity to the sounds which enables the physician to detect variations not indicated by the finger alone.—*Dublin Med. Press*, Dec. 11th.

SURGERY.

* COLLODION IN ERYSIPELAS.

Under the care of Mr. Luke, at the London Hospital.

We have to direct the attention of our readers to a new topical application in cases of erysipelas, the beneficial effects of which are now placed beyond a doubt. The subject in question is collodion, which has been found so serviceable in many respects, not the least being its capability of arresting the hemorrhage from leech-bites in children. Mr. Luke considers that collodion applied to the inflamed surface in erysipelas, acts by compressing the capillaries of the skin, and thereby contributes materially in relieving those vessels.

He was induced to make use of this liquid in the manner described, on the suggestion of Mr. Bird, the author of the Jacksonian Essay on Erysipelas, which lately gained the prize: and Mr. Luke has had occasion to be highly satisfied with the results he has attained, both in hospital and private practice. Several cases of erysipelas have been thus treated in Mr. Luke's wards: it will, however, be sufficient to report one of these, kindly furnished by Mr. Peete, to show how fully the application answers the purpose.

Amelia S., forty years of age, was admitted under the care of Mr. Luke, June 1, 1850, with acute inflammation of the neck, which, a week after admission, ended in abscess. This was opened; a large quantity of pus evacuated; and the patient went on very favourably for a week, when an inflammation of an erysipelatous character was observed to have invaded the upper part of the back. It extended from the neck to the first lumber vertebra, including both scapulæ, and the inflammation had a distinctly defined margin.

Collodion was immediately applied by means of the finger to the whole surface, and to some little distance beyond it. The skin was much puckered by this measure, and the patient complained of the constringent effects of the collodion. Mr. Luke ordered the patient to have an allowance of wine, as she was rather depressed. [We may here state that most cases of erysipelas are treated in this hospital by large doses of stimulants, as brandy, wine, &c. &c.; and that this line of practice is generally followed by very favourable results. The type of the erysipelatous affection in charitable institutions is commonly of a very debilitated kind, and this fact would partially explain the necessity of supporting the patients by the stimulants just mentioned.]

In the case before us, the collodion was repeated on the following day, and on the third the erysipelas had entirely subsided in the part where it had first made its appearance. It, however, broke out afresh about the nose, lips, and eyelids; and a little lower down it extended from the edge of the wound made by the lancet to the whole chest, implicating both mammæ. Patient complained of violent pain in her head: her eyelids were closed; and she had delirium at intervals, particularly at night. The collodion was applied, in the manner described above, to the whole chest and face; the hair was removed, and the head kept cool with a spirit lotion. These topical measures, combined with the administration of stimulants, proved extremely beneficial, and the patient improved rapidly. The collodion was applied daily for a week, and on the 24th of June, ten days after the first onset of the erysipelas, the inflammation had quite disappeared, and the patient was declared convalescent.

A male patient was lately treated in the same manner for erysipelas, and the successful results were very quickly obtained. Mr. Luke has used the collodion very frequently in private practice: in one instance it was placed upon a young lady's face, excepting a small portion of the cheek, from which it peeled off. This part, soon afterwards, began to look redder, and projected beyond the surface of the surrounding skin, being, in some degree, herniated. This circumstance showed very clearly how great must have been the pressure which was exercised by the fluid. Thus it would appear that the collodion fulfils two indications of an important kind: it protects the inflamed surface from the contact of the air, and it contributes by the pressure it effects, in driving the blood from the distended capillaries.—*Lancet, July* 12, *p.* 60.

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* DISEASE OF THE ELBOW-JOINT; PECULIAR METHOD FOR OBTAINING SPEEDY ANCHYLOSIS.

[The Editor of "The Lancet" observes that it is only by carefully collecting the facts bearing upon this important mode of treatment, that we can throw some light upon the result obtained, and for this reason we present the following case, under the treatment of Mr. Gay.]

The patient whom we recently saw in the surgical ward, is twenty-nine years of age, of light complexion, and a rather nervous temperament. Four years ago he felt a stiffness of the elbow-joint, and an abscess subsequently formed in the under part of the fore-arm, about two inches from the elbow; it was opened, discharged for two months, and healed. The patient returned to his usual occupations, though the joint remained stiff, about four months before admission, the joint swelled and became again painful upon the slightest movement. He was then treated as out-patient to the hospital, and a large abscess formed on the outside of the arm, about two inches from the elbow, which was opened by Mr. Jackson, the house-surgeon. It discharged a considerable quantity of thick, curdy matter, and as the opening contracted, it was laid open again three weeks afterwards, when the patient was admitted into the hospital.

The joint was now enlarged, very painful, both when moved or compressed, and on rubbing the bones entering into the formation of the joint against each other, no doubt could exist but that the cartilages were gone. The patient's health was at this time much impaired, and the question of amputation was discussed. Mr. Gay preferred, however, adopting a plan which he has successfully employed in similar cases for some years past—viz., that of freely opening the joint by an incision along its outer side. This measure was at once carried into execution, the length of the incision being about two inches and a half.—A large quantity of pus escaped, and the finger passed in through the deceased capsule could readily detect the rough and denuded ends of the humerus and ulna. The wound was filled with lint, and the arm lightly bandaged: the subsequent fever was very slight, and the discharge, which was rather abundant, continued about one week. At this time it considerably diminished, the fever abated, and the joint began to be somewhat rigid. Mr. Gay prescribed tonics and a generous diet; directed water-dressing to the wound, and the arm to be pretty firmly bandaged. From this time the sore assumed a healthy appearance, the size of the joint diminished it became stiff, and at the expiration of three weeks anchylosis was perfect. During this period, two sinuses, one running up under the integuments of the arm, the other those under the fore-arm, required free opening, but these incisions soon united perfectly.

Mr. Gay has adopted this mode of treating diseased joints (viz., when the cartilages are ulcerating) for many years past; in two cases of disease of the elbow-joint, similar to the above related, this peculiar treatment was, some time time ago, was followed with similarly successful results; and we noticed a patient affected with disease of the wrist-joint, who was admitted about the same time as the one whose case we have just reported, with whom the joint was opened by an incision over the posterior and inferior end of the ulna. Here, again, a large quantity of pus was discharged, and no unfavourable symptoms followed; the hand was laid on a splint, and after one month the discharge ceased, the wound healed, and anchylosis by soft fibrous tissue took place. The man, who had entirely lost the use of his hand, was now regaining much power over it.

It should be mentioned, however, that in a case of disease of the joint of the great toe, between the metatarsal bone and the inner cuneform, the results were not favourable; but in another case, of disease in the tarsal-joint, the termination was more successful. This last patient died afterwards of phthisis, but a post-mortem examination was unfortunately not permitted.

Mr Gay has great confidence in the success of this plan of treatment in chronic diseases of the joints—in those cases, namely, where destruction of the articulation has taken place, and nothing can be obtained (supposing amputation be not performed) but a stiff joint. In support of this opinion, Mr. Gay considers, *in the first place*, that the consequences of opening *diseased* joints are not so serious as are usually represented, and are, on the contrary, so slight as hardly to deserve notice. In most of the cases where Mr. Gay carried out this practice, the patient's general health was not in the slightest degree affected by the operation. In fact, diseased tissues, as previously stated, bear operative proceedings with less local or constitutional disturbance than is the case when sound parts are interfered with. A wound of a healthy joint may be followed by serious consequences, but it is not so with a diseased articulation.

Mr. Gay thinks, *in the second place*, that the process by which nature cures a joint in which the cartilages are removed by disease, is anchylosis; but this eventual result demands the absence of cartilage. This object appears to be insured by the suppurative action which goes on in the interior of the joint, as well as the ulcerative processes which occur in the soft tissues external to the same. It is to the tardy manner in which such a process takes place, that the constitutional symptoms are to be traced, for the pain which accompanies the ulceration of the capsule and external soft parts of the joint is generally very great, prolonged, and destructive of rest and appetite. No better example of the suffering consequent on matter pent up in a joint can be had than that of such an occurrence in the hip, as well as of the relief which an outlet of the matter affords. Mr. Gay, therefore, believes that laying open the joint as soon as an indication of a shedding of the cartilages is afforded, allows the process of anchylosis to go on with greater rapidity, and with less detriment to the general health. The *debris* of the cartilages comes away with the more abundant suppuration which is thereby established: the restorative process follows, and is performed more speedily than in cases where the joint is left to itself.

Mr. Gay is, *in the third place*, of opinion, that the articulation is placed in the condition of a sinus which has been slit up. It is difficult to explain why a sinus having a single small aperture, and no diseased tissue in connexion with it, should refuse to heal: but such is the fact. Lay it fairly open, however, and the surface which has been pouring out tenacious serum, and appears covered

with unhealthy granulations, which look as though the cells were distended with serum, assumes a healthy action, and cicatrizes. So it is with a diseased joint. Presuming that the cartilages have been shed, it may be said, that the joint refuses to assume the processes necessary to reparation (as in the case of the sinus), until, by laying it fairly open, healthy action is established, and the joint thereby fixed, by the production of new ossific and uniting deposit. Such are Mr. Gay's arguments for opening joints when the cartilages are supposed to be about being shed, or that event has already taken place. The after treatment consists in fixing the joint in the most useful position, and keeping it steady by bandages, &c.—*Lancet, August* 24, 1850, *p.* 245.

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* REMOVAL OF THE HEAD OF THE FEMUR AT ST. BARTHOLOMEW'S HOSPITAL.

Ann Sugg, æt. 13, fell over a skipping-rope about three years ago, and received some slight contusions about her left hip: inflamation of the hip followed: she was unable to use the limb, and suffered a great deal of pain in the knee. About a year after the accident she was able to limp about, but could only get the *toes* of her left foot to the ground, as she was unable to extend the knee or hip joints. In a few months abcesses formed around the hip, and burst, and for the last seven months some of them have remained open.

June 6, 1850.—Admitted into St. Bartholomew's Hospital in an extremely emaciated condition, and nearly worn out with suffering. The left femur was dislocated on the dorsum ilii, the limb shortened, and the leg and thigh flexed; there was a large ulcerated surface over the trochanter major, through which the bone threatened to protrude, with burrowing sinuses in the neighbourhood discharging pus freely. After being in the hospital a few weeks the child gained a little flesh, but she has lately fallen off again, not being able to stand the pain and continued discharge of matter from the wound. It was considered that removing the head of the bone would give the patient the best chance of recovery, and the operation was performed on August 17th, by Mr. Skey, the patient being under the influence of chloroform. As the end of the bone was only thinly covered with granulations, a very little cutting sufficed to expose it; this being accomplished, the limb was carried inwards, and the bone divided with the saw just below the great trochanter. The granulations bled freely on being cut, but the hemorrage soon ceased, and no ligatures were required. The integument were too firmly adherent to the parts beneath, to admit of being drawn together; the wound was therefore left open.

The acetabulum was found to have been enlarged by absorption, and was extended in a direction upwards and backwards, as if an attempt had been made by nature to form a new joint in this direction. The head of the femur had been entirely absorbed; a portion of the neck remained, which with the great trochanter, was the part removed: on dividing this with the saw it was found to be soft, and composed of vascular cancellous structure, with a very thin outer layer of compact bone.—*Med. Gazette, Aug.* 30, 1850, *p.* 382.

THERAPEUTICS.

THE USE OF THE BOFAREIRA,

("RICINUS COMMUNIS" OF BOTANISTS) AS A MEANS ADOPTED BY THE NATIVES OF THE CAPE DE VERD ISLANDS TO EXCITE LACTATION.

By Dr. J. O M'Williams, F. R. S., R. N.

While engaged in an official investigation into the nature and history of a yellow fever epidemy, prevailing in the Island of Boa Vista, in the Cape de Verds, during the year 1846, my attention was called to a remedy commonly had recourse to there, and in the other islands of the group, to accelerate and increase the flow of milk from the breasts of childbearing women, in cases where that secretion was tardy in appearing, or deficient in quantity when it did appear.

I also learnt that, on occasion of emergency, this remedy could be successfully applied to a still more important use, namely, to produce milk in the breasts of women who are not childbearing, or who even have not given birth to or suckled a child for many years.

The leaves of a plant, called in the language of the country, Bofareira, but which, in reality is the "Ricinus Communis" of botanists, and, occasionally, the leaves of the "Jatropha curcas," both belonging to the natural family *euphorbiaceæ*, are the means by which these interesting if not extraordinary results are produced.

The Bofareira grows in most if not all, the Cape de Verd Islands. That used by the natives for the purposes I have mentioned, is called by them the *white* bofareira, to distinguish it from what appears to be nothing more than a variety of the same species, the *red* bofareira. The *white*, or that which possesses galactagogue qualities, is recognized by the natives by the light green colour of the stem of the leaf, whilst the leaf stem of the *red* is of a purplish red hue. The latter plant is carefully avoided, as it is said to be a powerful irritant, and, if applied, as it occasionally has been, by mistake, for the *white*, it produces an immediate and often immoderate flow of the menses.

In cases of childbirth, when the appearance of the milk is delayed (a circumstance of not unfrequent occurrence in those islands) a decoction is made by boiling well a handful of the *white* Bofareira in six or eight pints of spring water. The breasts are bathed with this decoction for fifteen or twenty minutes. Part of the boiled leaves are then thinly spread over the breasts, and allowed to remain until all moisture has been removed from them by evaporation, and probably, in some measure, by absorption This operation of fomenting with the decoction and applying the leaves, is repeated at short intervals until the milk flows upon suction by the child, which it usually does in the course of a few hours.

On occasions where milk is required to be produced in the breasts of women who have not given birth to or suckled a child for years, the mode of treatment adopted is as follows:—

Two or three handsful of the leaves of the Ricinus are taken and treated as before. The decoction is poured, while yet boiling, into a large vessel, over which the woman sits so as to receive the vapour over her thighs and generative organs, the clothes being carefully tucked around her so as to prevent the escape

of the steam. In this position she remains for ten or twelve minutes, or until the decoction cooling a little, she is enabled to bathe the parts with it, which she does for fifteen or twenty minutes more. The breasts are then similarly bathed, and gently rubbed with the hands; and the leaves are afterwards applied to them in the manner already described. These several operations are repeated three times during the first day. On the second day, the woman has her breasts bathed, the leaves applied, and the rubbing repeated three or four times. On the third day, the sitting over the steam, the rubbing, and the application of the leaves to with the fomentation of the breasts, are again had recourse to. A child is now put to the nipple, and in a majority of instances, it finds an abundant supply of milk.

In the event of milk not being secreted on the third day, the same treatment is continued for another day, and if then there still be want of success, the case is abandoned, as the person is supposed not to be susceptible to the influence of the Bofareira.

Women with well developed breasts are most easily affected by the Bofareira when the breasts are small and shrivelled, the plant then is said to act upon the uterine system, bringing on the menses, if their period be distant, or causing their immoderate flow if their advent be near.

Exposure to cold is carefully avoided by persons who are being brought under the influence of the Bofareira. They scrupulously abstain from wetting with cold water either the hands or the feet.

The use of the Bofareira in cases of childbirth, to accelerate the flow of milk is common, but comparatively rare as a means of procuring a wet-nurse. Some instances of the latter kind occured, in consequence of the death of mothers with children at the breast during the progress of the Boa Vista epidemy of 1845-6, which deciminated a population consisting almost wholly of blacks, with a few Europeans—Portuguese and English—and a small portion of mixed negro and European blood.

Generally, however, this use of the Bofareira is seldom called for. Death in childbirth, or prolonged illness after parturition, sometimes requires a kind relative or charitable neighbour, who for the safety of the off-spring, places herself under the influence of the Bofareira.

The son of a wealthy landed proprietor of San Nicolao (well known to my friend, Mr. George Miller, of that island,) a remarkable hale and robust-looking man, was wet-nursed by a woman who gave him milk produced by the Bofareira. The nurse in this instance had borne two children in early life. Her husband had died shortly after the birth of her second child; she lived in a state of virtuous widowhood, and it was many years after the death of her husband that she so generously submitted herself to the Bofareira, and nursed the infant in question.

I have not been able to ascertain, from personal observation, or from any very accurate information, what effect the bofareira has upon virgins, or upon those who, although they have not borne children, are nevertheles not virgins. As regards the latter class, however, an intelligent native midwife assured my most able and observant friend, Mr. George Miller, of San Nicolao, that the effects of the administration of the bofareira is much the same upon them as upon child-bearing women.

In some cases, but rarely, the decoction of the bofareira is taken internally with a view of assisting the action of its external application.

I regret, not having been informed of the alleged difference in the action of the white and red bofareiras, whille I was at the Cape de Verds, that I might have examined that latter plant upon the spot.

The seeds of each plant were, however, kindly forwarded to me by Mr. George Miller, and Sir William Hooker most readily and obligingly examined them. Sir William, in a note to me, says, "What you remark as red bofareira and as white bofareira, are both, not only of the genius 'ricinus,' but also of one and the same species,—viz., 'ricinis communis,' the common palma Christi, or Castor-oil plant. In our gardens, as well as abroad, the plants vary, and your two plants vary a little in the form and size of the seed, and especially in the colour, but they are one and the same species."*

It is thus evident that the white and red bofareiras, if they differ at all, can only be varieties of the same species. It is known, however, that certain varieties of other plants, as Thyme, Mint, &c., do yield different properties, and such may be the case with the bofareiras.

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* In the West Indies, both white and red varieties are found growing together, and from the same sowing. The plant also growing luxuriantly in Western Canada, induces us to lay the above interesting paper before the Profession, with the hope, that those who may try the bofareira will be kind enough to favour us with their opinions and experience of its use.—[Note by Ed. *Up. Can. Jour*]

Day	6 A.M.	2 P.M.	10 P.M.	MEAN	6 A.M.	2 P.M.	10 P.M.	MEAN	6 A.M.	2 P.M.	10 P.M.	MEAN	6 A.M.	2 P.M.	10 P.M.	MEAN	6 A.M.	2 P.M.	10 P.M.	Inches	
1	29.674	29.498	29.405	29.553	20.8	31.8	33.2	26.2	0.095	0.128	0.171	0.122	.82	.71	.93	.84	W S W	S S W	S S W	S 0.4	Genl. overcast; snow fr 4 to 7, p m
2	——	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	N W b W	S W b W	W b S	S 0.5	Densely overcst; slight snow, p m
3	29.683	29.682	29.708	29.704	13.1	22.7	23.9	22.2	.069	.085	.097	.087	.84	.65	.66	.69	W N W	S W b W	S W	Inap.	Day lightly clouded; night clear
4	29.683	29.628	29.512	29.597	23.3	35.2	32.8	31.2	.149	.160	.175	.159	.95	.78	.95	.91	S W b W	Calm	N N E	S 2.0	Overct all day; sn most of day
5	29.708	29.544	29.310	29.511	25.4	28.2	33.4	29.6	.123	.150	.181	.155	.88	.96	.97	.93	N N E	E S E	E S E	S 3.0	Sn till 4 p m; ag at 6; rain fr 7
6	29.584	29.695	29.851	29.776	27.6	31.8	23.8	26.3	.135	.116	.110	.114	.88	.65	.84	.79	N W b W	W b N	W	R 0.20	Mostly clear till 6, p m; clear fr 8
7	29.982	29.965	29.804	29.891	14.8	30.8	21.2	21.6	.076	.132	.117	.112	.84	.77	.85	.82	W N W	S E b E	E	....	Lt cl a m; cl p m; ft auro light 10
8	29.668	29.486	29.614	29.572	22.0	27.2	24.0	26.6	.059	.148	.119	.135	.74	.59	.90	.91	N E b E	N E b E	N N E	S 2.0	Clo all day; snow fr 10 a m till 4
9	——	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	N W b W	S S W	S W	S 0.4	Generally overcast
10	29.695	29.784	29.722	29.713	23.4	35.4	30.8	31.9	.152	.144	.141	.141	.91	.70	.83	.86	S W b N	W S W	S W b S	....	A few light detached clouds; fine
11	29.393	29.447	29.726	29.580	35.1	40.3	34.2	35.3	.151	.156	.180	.158	.75	.62	.92	.79	S W b S	W	W N W	....	Overcast till 2 p m; clear fr 8, p m
12	29.993	29.930	29.820	29.903	18.2	21.2	28.2	24.1	.073	.114	.129	.111	.70	.87	.82	.84	N b E	S E	S E b E	S 0.2	Lt clo a m; clou & snow fr midnt
13	29.639	29.717	29.811	29.757	29.6	37.4	33.5	32.2	.137	.155	.155	.153	.83	.70	.99	.84	S S W	N b W	S E b E	S 0.2	Clou all day, sl snow fr 4 to 8, p m
14	29.845	29.768	29.619	29.712	28.2	30.4	24.0	29.0	.129	.153	.152	.143	.82	.79	.95	.89	E b S	E b S	Calm	....	Lt clou till noon; aftern cl & fine
15	29.566	29.495	29.501	29.489	30.9	47.6	36.8	39.7	.159	.263	.203	.221	.93	.80	.91	.92	Calm	S E b E	Calm	....	Mostly clear; light haze diff; fine
16	——	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E b N	E b N	E b N	....	Overcast light haze, but fine
17	29.328	29.279	29.415	29.354	33.5	33.6	33.0	33.8	.189	.181	.171	.177	.95	.95	.91	.94	E N E	E N E	E b N	S 0.1	Slight rain a m; day cl; sn 8 to 10
18	29.471	29.480	29.522	29.502	33.4	39.0	31.6	33.4	.167	.170	.159	.156	.87	.72	.90	.81	N N E	N b W	N b W	R. Inap.	Overcast all day
19	29.486	29.496	29.538	29.508	26.8	31.6	29.4	28.7	.132	.130	.151	.127	.89	.73	.87	.86	N N W	N b W	N b W	....	Overcast all day
20	29.509	29.483	29.550	29.524	27.6	40.0	35.2	33.8	.118	.126	.147	.134	.77	.51	.72	.69	N N W	N	N	....	Genlly overct, a few clear spaces
21	29.629	29.671	29.740	29.701	25.2	39.7	34.3	34.2	.138	.126	.165	.140	.89	.51	.82	.74	N b E	N b W	N b W	....	Genlly overct: light clou and haze
22	29.752	29.714	29.714	29.662	30.8	41.8	33.6	37.1	.139	.142	.139	.153	.80	.54	.72	.70	N	E S E	E b N	....	Clear & unclouded: beautiful day
23	——	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	N E b E	E S E	E b S	....	A m clear; p m overc lt clou; fine
24	29.407	29.421	29.611	29.529	30.9	51.0	36.4	39.5	.143	.172	.177	.169	.82	.46	.83	.71	W	N W b N	N b W	....	Clear and very fine day
25	29.816	29.922	29.890	29.887	27.5	35.2	27.8	30.9	.123	.151	.130	.135	.81	.73	.85	.70	N b E	S E	E S E	....	Clear and very fine day
26	29.822	29.617	29.588	29.610	30.2	47.0	41.4	42.8	.117	.184	.209	.199	.86	.58	.81	.75	E b N	S E b E	Calm	....	Zenith clear; haze aro hor; v fine
27	29.579	29.411	29.345	29.440	4[illegible].0	57.7	51.5	52.3	.224	.297	.320	.29[illegible]	.94	.61	.77	.77	Calm	S W	S W b W	....	Overcast dense haze; gloomy
28	29.595	29.895	29.984	29.886	39.2	41.8	28.6	34.2	.216	.112	.140	.157	.91	.54	.89	.80	W N W	N N W	E N E	....	Light cl till 10 a m; day clo & fine
29	29.964	29.810	29.737	29.785	23.4	46.4	42.6	43.5	.140	.201	.174	.221	.8[illegible]	.65	.65	.7[illegible]	N E b E	S E b E	E	....	Clear and fine day
30	——	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	N E b E	S W b S	S W	....	Unclouded; very fine day
31	29.651	29.912	29.988	29.901	46.4	42.6	51.0	38.0	.311	.231	.177	.208	.99	.87	.90	.90	W N W	N b W	N W b N	....	Lt clou till noon; aftn clear & fine
M	29.658	29.645	29.659	29.657	26.8	37.3	32.5	33.14	0.143	0.159	0.161	0.167	.80	.71	.85	.81	8.38	10.33	6.42	S 8.8.	Rain: 0.770.}

Highest Barometer.. 30.078, at 10, a. m., on 12th } Monthly range:
Lowest Barometer .. 29.279, at 2, p. m., on 17th } 0.799 inch.

Highest temperature.. 59.3, at 4, p. m., on 27th } Monthly range:
Lowest temperature.. 12.0, a. m., on the 3rd.. } 47.3

Mean Max. Therm.. 39.15 } Mean daily range, 12.98.
Mean Min. Therm .. 26.19 }

Greatest daily range.. 25.7, from noon of 11th to 8, a. m. of 12th.

Warmest day .. 27th .. Mean temperature 52.26 } Diff. 30.10
Coldest day.... 3rd . Do. 22.16 }

Warmest hour.. 2, p. m. Mean temperature .. 37.32

Coldest hour .. 6, a. m. Do. .. 28.76

Mean diurnal variation.. 8.56.

Sum of the Atmospheric Current *in miles, resolved into the four Cardinal directions:*

North.	West.	South.	East.
2136.2	2099.1	1699.9	1381.8

Mean Velocity of the wind—7.65 miles per hour.
Maximum velocity—23.3 miles, fr. 1 to 2 p. m., on 18th
Most windy day—18th: mean velocity—15.31 m. p. hr.
Least windy day—26th: ditto — 2.26 ditto
Most windy hour—2, p m.: mean veloc.—10.33 m. p. h.
Least windy hour—midnight: do. — 5.58 do
Mean diurnal variation—4.75 miles.

Year.	Temperature.				Rain.		Snow.	
	MEAN	MAX.	MIN.	RANGE.	DAYS.	INCHES	DAYS.	INCHES
1840	23.40	58.6	9.2	49.4	8	1.640	8	
1841	28.20	54.6	6.7	61.3	6	1.170	7	
1842	36.30	70.3	15.1	55.2	4	3.420	8	
1843	22.36	39.9	2.5	12.4	2	0.62[illegible]	18	25.7
1844	31.84	50.8	9.6	41.2	8	2.471	6	14.0
1845	35.18	59.8	6.6	63.2	5	Inap.	8	2.8
1846	34.13	49.6	7.8	41.8	9	1.965	5	2.3
1847	26.21	43.9	5.4	38.5	5	0.850	6	4.2
1848	28.68	61.6	0.0	61.6	5	1.220	6	9.7
1849	33.74	53.0	15.1	37.9	7	1.525	2	3.3
1850	29.73	46.5	7.2	39.3	2	0.745	7	11.2
1851	33.14	59.3	12.0	47.3	3	0.770	9	8.6

Ice totally gone from Toronto Bay on the 24th. Frogs first heard on the 26th. Wild pigeons seen on the 31