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THE
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ORIGINAL COMMUNICATIONS.

ART. LXIV.—*On Asphyxia.* By GEORGE PATON, M. D., Bowmanville,
C. W.

Asphyxia is the term employed to denote the mode of death, that we witness when an animal is deprived of atmospheric air. The function of respiration is arrested, oxygen ceases to enter the blood, and carbonic acid to be exhaled. What are the successive steps by which this phenomenon is produced, and what is the immediate cause of the extinction of life in asphyxia, are questions which Physiologists have deemed it of much importance to determine. Bichat considered that coma is produced and animal life extinguished by the continued afflux of dark venous blood to the Brain; and that the circulation ultimately ceases on account of the venous blood entering the coronary arteries, and paralysing the action of the heart.

But Drs. Williams and Kay advanced a different theory respecting the nature of asphyxia, viz. that it is not the injurious quality of the dark venous blood sent to the brain, but its diminished quantity, by which insensibility is produced; and that this also is the cause of the failure of the action of the heart. They consider that when the blood, on passing through the lungs, ceases to meet with oxygen, it stagnates in their capillaries, and is not sent forward to the left side of the heart in sufficient quantity to maintain its action, and afford a due stimulus to the brain, in consequence of which coma supervenes and animal life is extinguished, and shortly after this organic life ceases at the heart; but that the real and immediate cause of these phenomena, is the failure of the circulation in the capillaries of the lungs, from the non supply of oxygen to the blood. Hence on opening the thorax of a warm blooded animal that has died by asphyxia the lungs are found congested, and the right side of the heart and great veins much distended with blood, but the left side of the heart is comparatively empty.

As a difference of opinion still exists among physiologists on this subject, we have endeavoured to investigate the phenomena, by a series of experiments on cold blooded animals. And we have selected this class because in them the blood on leaving the heart, passes directly to the brain, a circumstance which enables

us more clearly to ascertain the cause of the insensibility that occurs in asphyxia. And as the circulation through the lungs is carried on by a branch from the general system we can thus more accurately determine the influence which the non supply of oxygen to the organs of respiration exerts on the blood in passing through their capillaries—the effect which this may have on the general circulation—or on what principle we are to account for the cessation of the action of the heart.

The heart, in cold blooded animals, as the frog, to which this description more particularly refers, consists of two auricles and a ventricle. The blood on leaving the ventricle passes along the aorta or rather the right and left branches of the aorta, to the carotids and the brain, and the descending aorta on each side, which is a continuation of the right and left branches of the aorta, gives off near its origin a branch to the lungs, along which the blood passes to be arterialed, and on its return to the heart enters the left auricle; whilst the blood that passes along the abdominal aorta is distributed to the viscera and lower extremities, and on its return to the heart enters the right auricle; on the contraction of the auricles the blood is propelled into the ventricle, where the two currents are intimately mixed, and on the contraction of the ventricle, is distributed in the manner we have described. Hence the circulation through the lungs takes place before it enters the left auricle as in warm blooded animals, but does not interfere with the passage of the blood to the brain. Still asphyxia takes place in this class equally as in the warm blooded; and there can be no doubt that the principle on which it depends is identically the same. And as the process is slower in its operation, we can more accurately observe its successive steps, and determine the nature of the phenomena.

If we take a cold blooded animal, as a frog or turtle &c., and place it in a situation where it is deprived of the supply of atmospheric air to its lungs, as in an inverted glass jar full of water, it appears to suffer little inconvenience at first, but after a time becomes restless and agitated, and still later is reduced to a state of asphyxia, more or less deep. If the weather be warm, as during the highest temperature of summer, it requires in this climate from an hour to an hour and a half to reduce a frog to a state of asphyxia. If confined in a greater quantity of water, as in large glass jars, it requires about two hours. And if surrounded with putty about three-fourth of an hour. But if an impervious coating of collodion be painted over a frog, and extended over the nostrils, preventing the atmospheric air from having access to the lungs, it will be reduced to a state of asphyxia in ten or twelve minutes. In a communication which I received from Dr. Cartwright, of New Orleans, who performed a series of experiments on alligators, whilst investigating this subject, he states, that, “an alligator will live if the weather be cool, three days with his head off, if no other harm be done to him, but with head off or on, he will die by a simple ligature of the trachia, in about the same time that your frogs, in the inverted glass jars full of water died. But if, before applying the ligature to the trachea, the whole body be tightly bound with a bandage like a broken limb, and then the ingress of atmospheric air cut off, death will take place almost as soon as in a warm-blooded animal.”

We may remark that the functions of the skin are considered as subsidiary in some extent to the functions of the lungs in cold blooded animals, and this is also the case in a greater or less degree in the warm blooded. "L'enveloppe générale du corps, ou la *peau*, est aussi le siège d'une respiration plus ou moins active chez la plupart des animaux des classes les plus élevées, et notamment chez l'homme; mais, chez tous ces êtres, une partie déterminée de la membrane tegumentaire est plus spécialement destinée à agir sur l'air, et se modifie dans sa structure de manière à mieux remplir cette fonction."

"La partie ainsi modifiée, pour agir sur l'air, présente une texture molle, spongieuse et fine; elle reçoit une grande quantité de sang, et elle est toujours disposée de manière à offrir, sous un volume comparativement petit, une surface d'autant plus étendue que la respiration doit être plus active. On peut établir aussi, en thèse générale, que cet organe sera un instrument d'autant plus puissant que son organisation s'éloignera d'avantage de celle de l'enveloppe générale du corps, et que (toutes choses égales d'ailleurs) la respiration qui a lieu par la peau sera d'autant moins active que celle dont ces organes spéciaux sont le siège sera au contraire plus étendue."—*Mr. Milne Edwards*.

This Physiological fact will come more fully under our consideration in the subsequent part of this paper, when we enquire into the immediate cause of the extinction of life in asphyxia.

The first physiological effect observed in an animal subjected to an asphyxiating process, is, that it is rendered insensible, and incapable of being aroused by any kind of stimulus, as pinching, &c., applied to its body and extremities. And whilst this state is induced, the contractions of the heart may continue vigorous, though diminished in force and frequency. 2nd, When this state is continued, —when the asphyxia is allowed to proceed to its utmost extent without being arrested, the heart ceases to beat, and life becomes extinct.

On opening the thorax and abdomen of a cold blooded animal that has died by asphyxia, we find the right auricle, and great veins entering it much distended with blood,—shewing that the venous blood on its return from the body and extremities becomes arrested at the heart. And we also find the left auricle, which receives the blood from the lungs, equally as distended with dark venous blood as the right auricle,—shewing that after the animal is deprived of atmospheric air, the non-aerated blood continues to circulate through the lungs, and becomes arrested at the heart. The ventricle is contracted and empty.

The lungs are found congested, particularly the pulmonary veins, where they enter the left auricle, which are generally much distended with blood of a dark venous character, very different from the red fluid blood observed in the lungs of the same class of animals, when killed in the act of vigorous respiration.

In fact, the great stagnation of blood takes place at the heart, that is, at the auricles, and large veins entering the auricles. I have frequently observed after the action of the ventricle had ceased, that the *venæ cavæ* and pulmonary veins continued to contract in connection with the auricles, as if endeavouring to propel their contents forwards.

These are the phenomena observed in cold blooded animals that die by asphyxia during the highest temperature of the season. The cessation of the action

of the ventricle precedes that of the auricles, but its action may frequently be renewed by opening the pericardium. If the thorax be opened shortly before the action of the ventricle has ceased, as is generally the case, the contractions of the ventricle appear to be weak and irregular and at length gradually cease. It no longer receives the blood from the auricles and propels it forwards. But the auricles continue to contract for a considerable time after the ventricle has become quiescent.

The question then that we have to determine is, what is the immediate cause of death in asphyxia? Not but that asphyxia depends on the non supply of oxygen to the blood, but how does this cause produce its specific effects on the system—first that of insensibility, and then the cessation of the circulation of the blood?

July 15th. Took a frog, and placed it in a wide-mouthed phial full of water and inverted this amongst water in another vessel. The frog was thus completely surrounded by water, and all respiration by the lungs suspended. It appeared to suffer little inconvenience at first, but in about ten minutes became restless and agitated, and in twenty minutes more, had fallen into a state of stupor and was perfectly quiescent.

After the frog had remained nearly two hours in the water, I removed it, and placed it on the table, and it appeared to be reduced to a state of perfect insensibility. No irritation could arouse it, neither pinching, nor pricking, &c, had the slightest effect in exciting a muscular movement. Respiration was suspended and life seemed extinct, except that the heart continued to beat at twenty (20) pulsations per minute.

I blew a little air into its lungs, and renewed the artificial respiration at intervals, and the action of the heart gradually increased, and rose to 30 and afterwards to 36 pulsations per minute. A natural respiration now took place, and after a little another slight respiration was observed. During all this period, the frog remained in a state of perfect insensibility. No irritation could excite a muscular movement of its limbs or any part of its body; natural respirations increased in frequency, and the heart still continued to beat at 42 pulsations per minute, and remained so for nearly half an hour. The respirations gradually became stronger and more continued, and then the frog began to open its eyes and showed the first symptoms of returning sensibility. On irritating its foot it slightly moved the integuments of its head, but did not as yet move any of its limbs. Sensibility gradually increased, and in a short time the frog began to move with vigour, and completely recovered.

A phenomenon worthy of observation in this case was, that though the heart continued long to beat at 42 pulsations per minute, and the circulation to be thus carried on with considerable vigour, it was not till the respirations had become stronger, and more frequent, and consequently the blood to be more fully arterialised, that the sensibility returned.

August 1st. Temperature 84° Fahrenheit.

Placed a frog in a small glass phial completely filled with water, and secured it in this position from every access of atmospheric air, so that respiration by the lungs was entirely suspended.

After the frog had remained an hour and a quarter in this situation, we removed it from the phial, and placed it on the table and found that it was reduced to a state of perfect asphyxia. It was totally insensible to every irritation employed to arouse it. Respiration was suspended, and could not be restored, and its heart ceased to beat.

On opening the thorax and abdomen the heart remained quiescent. Both auricles were greatly distended with dark venous blood, and also the superior and inferior venæ cavæ.

On opening the pericardium, the right auricle, and then the left commenced to pulsate, and continued the movement for a considerable time. The ventricle remained contracted and motionless. Its action could not be restored under any irritation. Both arches of the aorta contained little blood.

The lungs were congested, and the pulmonary veins greatly distended with dark venous blood, particularly where they enter the auricle, showing that the now acrated blood which had passed through the lungs had been arrested at this part of its course. In fact the great stagnation of blood seemed to be in the auricles, and the large veins around the heart with which the auricles are connected.

This animal was reduced to a state of asphyxia sooner than usual owing to the high temperature of the day. Alligators also, as Dr. Cartwright states, when subjected to experiment die sooner when the temperature is high, than when the weather is cool, no doubt in accordance with the general law, that the more they approach the physiological condition of warm blooded animals, the less are they able to endure the deprivation of oxygen.

Exp. III, Temperature 82° Fahrenheit.

Placed a frog in a small phial full of water, and prevented every access of atmospheric air, thus arresting all respiration by the lungs. We allowed the frog to remain nearly two hours in this condition, that it might be reduced to a state of perfect asphyxia.

When withdrawn from the water and placed upon the table, it appeared totally insensible. Respiration was arrested, and its heart ceased to beat. Life was extinct. On opening the thorax and abdomen the heart remained motionless. The auricles, venæ cavæ and pulmonary veins greatly distended with dark venous blood. Little blood was contained in the arches of the aorta; they appeared comparatively empty. On opening the pericardium, the left auricle, and then the right commenced to beat, but the ventricle remained contracted and motionless, and was not excited by the action of the auricles, nor by irritation applied to its surface.

The lungs were congested, and the pulmonary veins, as we have stated, gorged with dark blood, very different from the red florid blood which they contain, when the animal is killed in the act of vigorous respiration.

The venæ cavæ, and pulmonary veins continued to pulsate long after the abdomen was laid open. The pulsations commenced in the pulmonary vein and the venæ hepaticæ, and extended to the auricles or rather seemed one continuous movement, and when the auricles contracted, the blood regurgitated along the

pulmonary veins, showing that the dark venous blood which had passed through the lungs met with obstruction at this part of its course.

These are the phenomena observed in cold blooded animals that die by asphyxia during the highest temperature of the season, at which period their physiological condition approaches that of the warm blooded, all the functions of the body being carried on with the greatest vigour. But when asphyxia is not so rapid in its operation, the action of the ventricle continues longer in unison with that of the auricles, though there be every appearance of the extinction of life in the animal.

On opening the thorax of another frog that had been subjected to the influence of asphyxia nearly two hours, we found the heart beating though feebly at the rate of 16 pulsations per minute, the ventricle acting in unison with the auricles. But blood had accumulated to a considerable extent in the large veins around the heart. As the action of the ventricle grew weaker, it became more irregular, and was only occasionally excited by the contraction of the auricles till it at length ceased. The ventricle now remained motionless and contracted, but the auricles, greatly distended with blood, continued to pulsate with the *venæ cavæ* and pulmonary veins for a considerable time after the ventricle was quiescent.

Exp. IV. August 4th. Temperature 80 Fahrenheit.

Placed a frog in a glass jar full of water, and inverted this in another vessel containing water, thus excluding every particle of atmospheric air from the lungs, and kept the frog in this position till asphyxia was produced, which took place in about an hour.

In this case the asphyxia was not so perfect, as the heart continued to beat at the rate of 22 pulsations per minute. But respiration remained suspended, and the frog was totally insensible to every kind of irritation employed to arouse it. I employed artificial respiration at intervals and in 20 minutes the heart had come to beat at 30 per minute, but no symptom of sensibility appeared.

I then opened the abdomen and thorax, and found that both auricles and ventricle continued to contract vigourously, and there was little or no congestion of blood in the large veins around the heart, as in the former case. The lungs were not much distended, and their vessels contained dark blood.

The left auricle continued to contract with great vigour, even more so than the right. Blood was transmitted along the aorta, for on making a slight incision into the left branch, a small jet of dark venous blood was propelled at each contraction of the ventricle.

This experiment proves that whilst the heart contracted at the rate of 30 pulsations in the minute the circulation of the blood was maintained with considerable vigour.

Exp. V. July 20th.

Placed a frog in a phial full of water, from which every access of atmospheric air was prevented, thus arresting all respiration by the lungs. I allowed the frog to remain nearly two hours in this position; and on removing it from the water, and placing it on the table found that it was totally insensible to every irritation. Respiration was suspended, and the action of the heart was reduced to 18 pul-

sations per minute. I inflated the chest, and the pulsations gradually increased to 22 per minute; on continuing the artificial respiration at intervals, the action of the heart increased to 26 and then to 30 per minute, untill no signs of sensibility appeared. A slight natural respiration now took place, and in a few minutes another, and the action of the heart increased to 36 pulsations per minute; still the frog remained insensible to every irritation, perfectly comatose. The action of the heart rose to 46 pulsations per minute, but it was not till the natural respirations had become strong and frequent that the first symptoms of sensibility were witnessed, the animal protruding its eyes, and slightly moving its right fore-leg—shewing that during asphyxia, the dark blood was still sent to the brain in considerable quantity and force, but it was not till more highly arterialisèd blood commenced to circulate, that the first signs of returning sensibility were observed. As soon as an influx of this blood to the brain was established, sensation was manifested, and continued to increase.

I may also state that when a frog has been subjected to the influence of asphyxia until the pulsations of the heart have been much reduced in frequency and force, it requires a longer time to elapse, and the pulse to rise higher, before sensibility is restored. When a frog has been removed from the water shortly after asphyxia has commenced, sensibility may be again manifested, and the pulsations of the heart have not risen higher than 35 per minute; whereas when the animal has been much longer under the influence of asphyxia the pulsations of the heart will rise as high as 42, or 44 or 46 per minute before sensibility returns.

There is also a difference in the time required to reduce a frog to a state of asphyxia, according to the quantity of water in which it is confined. I took two frogs of the same size, on the 18th September, temperature of room 76° Fahrenheit, and placed one frog in a small glass phial full of water, and inverted in a vessel of water, and placed the other frog in a large glass jar full of water, and inverted it in a large basin of water—thus preventing every access of atmospheric air to the lungs of the animals; the frog confined in the small glass phial was reduced to a state of asphyxia in an hour and a quarter, whilst it required two hours before the other frog was reduced to a similar state of asphyxia. Can this difference depend on the function of respiration being carried on to a small extent by the skin of these animals under the water as is the case with the skin of fishes in the water, and with their gills if kept moist when exposed to the atmosphere. *Baily's Muller, Page 314.*

Exp. VI. October 8th.

Took a frog and painted it over with collodion, extending the liquid over the nostrils as much as possible, to arrest the respiration by the lungs. The animal struggled much at first, but gradually became quiescent. At one time, it appeared to be slightly convulsed. In 12 minutes it was reduced to a state of asphyxia. It was totally insensible to every irritation applied to its body or extremities; respiration was suspended, and its heart beat at 40 pulsations per minute. In twenty minutes the action of the heart had fallen to 32 pulsations per minute, and had become so feeble, that it could scarcely be counted through the integuments.

I then laid open the thorax and abdomen, leaving the muscles of the throat untouched, and found the pulsations of the heart weak but regular. The circulation was maintained, and during all this period the animal remained perfectly insensible.

But in 25 minutes more, the heart began to beat with greater force and frequency, a partial respiration took place and in a few minutes another, and the frog moved its head and fore-legs slightly. It was now sensible to irritation. The action of the heart increased, and the current of blood could be seen distinctly passing along the arches of the aorta. The lungs were distended with air, and red florid blood circulated in their vessels. Pulsations of the heart 38 per minute.

The frog became so strong that it turned upon its face, and could crawl along the table. It remained for four hours in this vigorous condition, the heart acting with energy, and after the pulsations had fallen to 10 or 12 per minute, the frog shewed every symptom of sensation on being touched or irritated.

Similar phenomena were witnessed by Dr. Cartwright in his experiments on alligators.

“When an alligator,” says he “has been killed to all appearance in half an hour by tying the trachea, and freely dissected, it gives no signs of pain whatever, but on inflating the lungs it comes to life, and then it responds and shews pain and intelligence, when cut or irritated in any part.”

These experiments show that the time required to produce asphyxia in an animal varies according to its physiological condition, and the rapidity with which the function of respiration is affected, and that the power which a cold blooded animal possesses of resisting the deprivation of oxygen depends on the state of its system at the moment. For during the warmest period of the season, when the functions of the body are carried on with the greatest energy, if respiration be simultaneously arrested in the skin and the lungs of a cold blooded animal, it will die almost as soon as a warm blooded one; so powerful is the effect, that it seems to act almost like concussion of the brain. Insensibility is produced and at the same time, the action of the heart is depressed.

What is the immediate cause of the insensibility that is thus produced? It does not arise from the deficient supply of blood to the heart and the brain, for the heart continues to beat, and dark venous blood to circulate through the arterial system long after the animal has become insensible; and if the non aerated blood had been finally arrested in the capillaries of the lungs or the skin,—the seat of the respiratory process in cold blooded animals—or so arrested that it could not be sent forward to the heart in sufficient quantity to maintain the circulation, these phenomena could not have been witnessed. But we have seen from experiment VI that at the time asphyxia was induced, the heart continued to beat at 40 pulsations per minute, and in another experiment the dark venous blood passed along the arch of the aorta when the pulsations of the heart were only 30 per minute, the animal remaining in a state of deep insensibility. Whereas, if an animal die from another cause—when the function of respiration is not affected, the pulsations of the heart may be reduced to 10 or 12 per minute, and yet we have distinct evidence of sensation on irritation applied to the integuments. From these facts, it appears, that it is not from the deficient action of

the heart, or diminished supply of blood to the brain, that insensibility, the first stage of asphyxia, is produced.

Again, as we have already seen, in resuscitating an animal from asphyxia, the action of the heart may increase, and the circulation of dark venous blood be maintained with considerable vigour, but insensibility is not recovered from till there is a greater influx of arterial blood to the brain. In experiment 1 the pulsations of the heart rose as high as 42 per minute, and remained at that rate for a considerable time; but it was only after the respirations became more frequent, and a greater amount of oxygen was consumed, rendering the blood more highly arterialised, that the first signs of returning sensibility were witnessed—a fact which seems to prove that in asphyxia insensibility is produced by the action of dark venous blood on the brain.

The next question that we have to decide is, what is the immediate cause of death in asphyxia, or on what does the failure of the circulation depend?

We have seen that shortly before the action of the ventricle ceases, the blood begins to accumulate in the large veins around the heart; and after the circulation has been finally arrested, both the auricles, the venæ cavæ and pulmonary veins remain gorged with dark venous blood, whilst the aorta is comparatively empty, indicating that there a stop had been put to the general circulation. For if the blood passing through the lungs had been ultimately arrested in their capillaries on not meeting with oxygen, we would expect to find at the moment of death the pulmonary veins and the left auricle nearly destitute of blood, but the reverse is the case. And on the same principle, if the circulation of the cutaneous capillaries had been equally impeded, neither the right auricle nor the venæ cavæ would have been distended with blood. Whatever, then, may be the effect which the non-supply of oxygen exerts on the function of respiration, dark blood still appears to circulate till it is ultimately arrested at the heart; and the whole of the phenomena presented to our view seems to indicate that the failure of the circulation depends on the ventricle ceasing to perform its functions, and transmit the blood forwards.

What is the cause of the cessation in the movement of the ventricle? When unærated blood circulates through the body, the action of the heart falls in strength and frequency till the movements are arrested, and we know that venous blood is less capable of stimulating muscular fibre than arterial blood. But the rapidity with which the movements of the heart are affected in asphyxia would indicate that venous blood exerts a positively noxious influence upon the heart, and impairs its irritability; and this influence must be greater when the blood is more deteriorated in quality. The ventricle of a frog, during the highest temperature of the season, loses its power of contractility under the influence of dark venous blood, in little more than an hour; and Dr. Cartwright states that the heart of an alligator loses its power of contractility much sooner under the influence of impure venous blood, than when it is altogether deprived of blood as a stimulus. "The heart always lives longer than sensational phenomena continue. It will throb with force for hours after it has been cut out of the body on the slightest touch. If left in the body it will continue to pulsate for several hours at the rate of some 3 or 4 beats in the minute, instead of 25 or 30;

but its action ceases in about an hour, if the animal has been killed by suffocation. These facts we consider distinctly prove that the circulation of dark venous blood exerts a most depressing influence on the action of the heart, and gradually arrests its movements.

We need not enquire how far the phenomena of asphyxia may be connected with the retention of carbonic acid in the blood, since it has been proved by direct experiment, that if a frog be compelled to breathe in hydrogen or in nitrogen, carbonic acid is exhaled in no less degree than during respiration in atmospheric air, and yet the animal equally falls into asphyxia, rendering it certain that it is not the retention of carbonic acid in the blood, but the want of oxygen from the blood, as a stimulus to the different parts of the body on which asphyxia depends.*

The short time required to produce asphyxia in a cold-blooded animal during the highest temperature of the season, is in accordance with a general law of the animal economy that when the functions of the body are carried on with the greatest energy, a large amount of oxygen is consumed, and its withdrawal has a more speedy and injurious effect on the system. When the season is more advanced and the temperature lower, the functions become weak and sluggish in these animals, and then the deprivation of oxygen can be sustained for a long time without injurious results.

“Une grenouille, par exemple, que l'on prive d'air périt en moins de deux heures en été, tandis qu'en hiver elle peut continuer à vivre pendant plusieurs jours.”—*M. Milne-Edwards*.

Similar phenomena are witnessed in warm-blooded animals during the period of hibernation.—*Saissy*.

With regard to the extent to which asphyxia may be carried to prevent resuscitation in an animal, I may observe that during the summer months in this climate, when these experiments were instituted, I have not been able by artificial respiration to revive a cold-blooded animal after the pulsations of the heart had fallen below 8 per minute, and the commencement of sensibility is always preceded by natural respiration. Dr. Cartwright states that in an alligator subjected to asphyxia, the organic functions survive the sensational phenomena on the extinction of animal life about an hour, and that half an hour after insensibility or apparent death the animal may be resuscitated by inflating the lungs. I have observed in frogs that after the action of the ventricle has ceased the venæ cavæ and pulmonary veins continue for a time to contract. The veins first pulsate, and endeavour to propel forwards the dark blood which they contain. Then the auricles contract or rather the contraction of the auricles may be considered a continuous movement from the veins; and Muller states that in a warm-blooded animal dying by asphyxia the heart will continue to contract for half an hour after apparent death. But undoubtedly there would be no hope of recovery after that period, though it has been repeatedly stated by physiologists that warm-blooded animals may be recovered from asphyxia, after the heart has ceased to beat.†

* Bayly's Muller, page 338.

† Dr. Watson's Lectures, Vol. I. page 67.

I have seen nothing in the course of these experiments to warrant the belief that after the heart ceases to contract, and the circulation has been brought to an end, it could be restored by the action of oxygen on the blood in the capillaries of the lungs. This implies that the blood contained in these vessels has the power of spontaneous motion in itself; and as Muller observes, "The idea of spontaneous motion in a fluid independent of attraction or repulsion from the sides of another object is itself inconceivable." But if an attraction existed between the walls of the capillaries and the red globules of the blood, we do not see how this would aid the circulation as it would have a greater tendency to produce an accumulation of blood in the part, than to propel it forwards. The truth is that in all these cases where the circulation has been supposed to be restored by artificial respiration after the heart ceased to beat, it was only the first stage of asphyxia that had been reached that of insensibility and the cessation of the function of respiration. The heart still continued to contract, and the dark venous blood to circulate, however feeble may have been the power by which it was maintained.

In the application of these principles to cases of suspended animation, as drowning, &c., it is evident that as asphyxia depends on the want of oxygen to the blood, the most important remedial measure that can be adopted is its speedy restoration; and this will be accomplished by inflating the chest with atmospheric air. But every precaution must be taken to avoid force in the use of the remedy, or it will be apt to rupture the air cells and produce emphysema of the lungs. I have even seen injury produced by blowing the air too forcibly into the lungs of cold-blooded animals, the animal, though recovering at the time, never regained complete power over the function of respiration, but dying shortly afterwards from the effects of the means employed for its restoration. It has also been proposed to open the external jugular vein, and abstract blood as a means of unloading the distended state of the right auricle, and thereby increasing the action of the heart. But these remedies, to prove efficacious, must be used at an early period of asphyxia, before the circulation has been arrested, or the heart ceased to beat.

And it will be of no avail employing galvanism to stimulate the action of the heart, or external heat to maintain the temperature of the body, if the means of supplying oxygen to the blood be neglected. This must be considered an object of great and primary importance, and all other remedies should be subsidiary to it.

Bowmanville, 1st December, 1861.

ART. LXV.—*Spontaneous passage of a piece of bougie, one inch and a half long, from the bladder.* By CHARLES PICAULT, M.D., Montreal.

The following case presents some unique and interesting features, and I therefore send it to the Journal for publication.

On the 10th of November last, I was consulted by a young man, labouring at the time under extreme mental anxiety. He told me that a few years ago, he had become afflicted with a stricture of the urethra, which occasionally inter-

ferred with the free passage of his urine, and that when so afflicted, he was in the habit of himself passing a bougie, which had uniformly succeeded in relieving, for the time being, the difficulty.

Suffering in the manner indicated, on the day just mentioned, he introduced a Gutta Percha bougie, and on withdrawing it discovered that it had become broken, and that about a third of its length had been left in the canal. His fears and apprehensions may be easily imagined. He did not despair, however, but on the contrary, instantly went to work to endeavour to extract the portion thus left behind. He so far succeeded, that by the adoption of all the artifices which came to his mind, he effected the extraction of about an inch and a quarter, but he was obliged to leave the rest behind.

Anxious and uneasy, as related to ulterior consequences, he now resolved to seek medical advice, and applied to me.

After having examined carefully the urethral canal externally, and finding from the examination the perfect freedom of the canal from the presence of any foreign body, I requested him to pass water, which he did in small quantities, but without the least difficulty, thus leading to the inference, that there existed no very particular impediment in the track of that canal.

I then introduced a silver catheter into the bladder, which entered with the greatest facility, and permitted the escape of an additional small amount of water, but upon the most careful examination by this instrument, I could not detect the presence of any foreign body in that viscus, even in the slightest degree.

Under these circumstances, although the patient affirmed the contrary, I could arrive at no other conclusion than that the piece removed by the patient was the whole that had been left in the urethra, and that there existed an additional fragment in the bladder was simply the result of his over excited imagination, or his excessively perturbed state of mind. I therefore endeavoured to quiet his apprehensions with instructions to call upon me again if he experienced the least uneasiness.

A week passed over, when who should come to my office but the self-same patient, but in a state of mind widely differing from that in which I first saw him.

“Here is the bougie!” said he, at the same time shewing me a piece of gutta percha bougie which he had wrapped up in a piece of paper, and which was covered with a considerable quantity of phosphatic deposit, especially at the fractured end.

He then proceeded to relate to me, that being engaged with friends that afternoon enjoying themselves over a bottle of gin, he felt an extreme desire to micturate, and in attempting to do so, the flow suddenly stopped, with the sensation of something having entered the canal from the bladder. He then strained as hard as he could, and both by severe straining, and pressing strongly on the perineum, he succeeded in giving exit to the piece of bougie, which was of No. 6 size, and rather more than an inch and a half in length, the same piece in fact which he shewed me.

The peculiarity in this case consists in the spontaneous expulsion of the piece

of bougie, and the difficulty experienced in detecting its presence in the bladder after a most careful examination. Had it remained there, it must undoubtedly have given occasion at some future period for the operation of Lithotomy, and when we consider the fortunate manner in which it was passed off, we cannot but coincide in the truthfulness of the expression which the young man, the patient, gave utterance to, "more lucky than rich."

Montreal, 30th November 1861.

ART. LXVI.—*Case of Fibro-cartilaginous tumour in the nasal fossa. Operation for its removal.* By JOHN R. DICKSON, M.D., Professor of Surgery, University of Queen's College, Kingston, C.W.

Emily Jane B.—, of the township of Beverly, 24 years of age, of a strumous habit, was admitted into the Hôtel-Dieu hospital, Kingston, on Friday the 19th day of April, 1861, on the recommendation of Dr. Morden of Brockville, for the purpose of having an operation performed for the removal of a tumour from the nasal fossa, under which she had been labouring for about three years.

There was considerable enlargement of the right cheek, extending from the inner canthus of the eye downwards along the margin of the nose. The conjunctival lining of the eyelids was inflamed, and there was a pustule on the cornea of the left eye. She has lost many of her teeth, and most of those remaining are affected with caries. In the right nostril there was a dense tumour with a broad base, adhering firmly to its floor and sides, more especially to its outer one, distending its walls considerably, rendering respiration difficult, and articulation very indistinct, and at times painful. There have been frequent eruptions of blood from the nostril, sometimes to the extent of a teacup-full. She is also annoyed with constant headache.

Early in February 1860, she consulted a practitioner in the country, who informed her that it was a polypus, and he attempted its removal by making incisions into it, and introducing caustic into these; but this treatment failed to afford any relief, although persevered in for three months.

In December 1860, she entered the Kingston General Hospital, where she said one of the surgeons removed the tumour or a part of it, after that however it was rapidly reproduced.

On Friday, the 19th of April 1861, having entered the Hôtel-Dieu, the following day, Saturday the 20th, assisted by Dr. Morden of Brockville, and Dr. Sullivan, the Surgeon of the Hospital, (by whose permission she was kindly admitted for the purpose of the operation,) and in the presence of Drs. Stewart and Lavell, and a number of the graduating class of Queen's College, I proceeded to the operation.

The patient insisted that chloroform should be administered, and stipulated this as a *sine qua non*. To prevent any accident arising from blood flowing into the larynx while she would be under the influence of the anæsthetic, I attempted to plug the posterior naris of the side occupied by the tumour, but so

completely did it (the tumour) fill this cavity, that I found it impracticable to do so.

Having therefore got her under the influence of chloroform, I commenced my first incision below the inner canthus of the right eye, continued it down the cheek along the margin of the nose, and thus laying open the nostril, the tumour was more thoroughly exposed, and dissected from its attachments, but allowed to remain in the posterior naris until the completion of the operation, to prevent the flow of blood in that direction. It was now found what had been previously suspected, that a portion of the superior maxillary bone was diseased, and to facilitate the removal of the diseased portion, it was found necessary to complete the section of the upper lip, which was done near the mesial line, connecting this incision with the first by a transverse one. The soft parts having been reflected from the bone, it was found necessary to remove the palatine plate of the superior maxillary bone, and a portion of the wall of the antrum. This was effected chiefly with a small gouge which was found very convenient and very efficient. The diseased parts being all apparently taken away, the margins of the wound were brought together by a few points of suture, the intervening spaces being supported by collodion. Very little blood was lost during the operation. The labial artery was tied when first divided.

Union having taken place throughout the external wound, the sutures were removed on Tuesday the 23rd, except the one at the margin of the lip which was allowed to remain another day.

The case progressed favorably until the 4th of May, on which day, just a fortnight after the performance of the operation, the patient being desirous of returning home, was permitted to leave the Hospital. The cicatrix along the line of incisions was firm. The pustule on the cornea, as well as the conjunctival inflammation had disappeared under appropriate treatment, so that she was not only very much improved in appearance, but was also highly delighted as she stated, "in the great facility she now enjoys in both breathing and speaking," the latter no doubt a great boon to a female.

This patient's case proves that we have some arrant quacks who attempt to practise Surgery as well as physic, in Western Canada, as she informed me that a person in the neighbourhood of Hamilton, styling himself a doctor, shaved the hair off the back of her head, and applied a plaster there, which he assured her "would draw the tumour out of her nose."

I have this day received a note from Dr. Morden, stating that the operation was completely successful, and no return of the disease.

Kingston, 18th November, 1861.

REVIEW DEPARTMENT.

ART. LXVII.—*Ornithologie du Canada, D'après la nomenclature de Baird*
Par J. M. LEMOINE. Seconde édition.

The Ornithology of Canada, after the nomenclature of Baird. Second Edition.
Quebec, J. T. Brousseau, 1861. 12 mo. pp. 398.

It speaks well for the rising taste for Natural History of the people of this Province, that a second edition of this useful little work has been so soon called for. It announces this fact, that a greater amount of attention is now being paid to the Natural Sciences than hitherto, and we certainly know no secular study in which our youth could occupy their leisure moments with greater interest; certainly none whose pursuit is more capable of ennobling their thoughts, and purifying their desires, than the cultivation of Natural History in some one or more of its branches.

In the language of the author, the volume, "does not pretend to be a complete work on Ornithology, but simply a popular narration in which flowers of literature have been designedly scattered under the feet of the traveller, as it were, so as to render the path which he may be treading for the first time, in the language of Montaigne, "une route gazonnée et doux fleurante." In this he has eminently succeeded, and the manner in which, after a short description of the birds, he has laid under contribution the interesting details of their habits, from the works of Buffon, Wilson, Audubon, Richardson, &c., must render the volume a peculiarly attractive one to the young naturalist, and excite in him a desire to become more intimately acquainted with those beautiful denizens of our woods, prairies and waters. It is on such grounds as this, that we have understood the little volume has been introduced into many of our schools of learning, where it has been made the text book for reading and studying the French language. And perhaps when we have made this observation, we have said as much of the work as its merit truly demands, because in its scientific details it pretends to little more than a descriptive outline of the features of the birds and a nomenclature, which is given after that of Baird or Audubon, while in regard to the number of birds mentioned, we have only the description of 175, a figure far below that which we have reason to believe migrate or are resident in the neighbourhood of Quebec, the scene of the author's observations, or in a wider field, as the title implies, within the limits of Canada. We have ourselves recognized, and identified as appertaining to the District of Montreal alone, about 215 different species, and this we know and have every reason to believe is far below the aggregate number of the whole Province, as there are many species which confine themselves to the far North or the far West exclusively, whose migrations never extend so far South or East as the latitude or longitude even of this city.

We feel it our duty to make these observations, so far as regards the purely scientific character of the volume, although we are inclined to think from its

general character, that it was intended to make it less such than one of an attractive literary character, blended with scientific accuracy, in which the former trait should predominate. Under this view the author has been most singularly fortunate, for if we mistake not, this is the first Canadian work of scientific pretensions of which the public has required a second edition within the short period of twelve months. It tells much for the attractive style in which it has been written, but it tells more, and it gives us the greatest pleasure in saying it, for the good taste of our Canadian youth, who have shewn their appreciation of it.

We do not like, however, the style in which the publisher has performed his share of the labour. The duodecimo size is a most objectionable form for a Library volume, and we cannot but think that a better quality of paper might have been obtained; the paper is barely white, and so thin that the printing on one side can be almost read on the other; at any rate the black lettering is plainly visible through the leaf. Now this ought not to be. If a work is deemed worthy of publication in book form, it is surely worth, if worth anything at all, good paper, to say nothing of a proper size of the volume. At the utmost, it is the matter at most of a few dollars, and we regret to see such a sacrifice made at the shrine of mammon.

We sincerely trust that the esteemed author will be soon called on again for a third edition, and while he will thus have had time to increase the list of his feathered species, we trust that he will not take unkindly the hints given in the last paragraph. Every one who has the progress of Canadian Literature at heart must feel some interest in the manner in which our books appear in regard to their artistic finish.

The volume has been dedicated, with great propriety, to Sir E. P. Taché, who has taken a deep interest in the development of the resources of our fine country.

ART. LXVIII.—*Report of a Committee of the Boston Society for Medical Improvement, on the alleged dangers which accompany the inhalation of the vapour of Sulphuric Ether.* Boston: David Clapp, 1861, pptt. p. 36.

A few months ago, as appeared in the pages of this Journal, a Committee was appointed by the Boston Society for Medical Improvement, to investigate the dangers arising from the anæsthesia produced by Ether, Chloroform, and Chloric Ether. This Committee consisted of Drs. Hodges, Howard, Townsend, Jackson, and Upham, with Dr. Minot as Secretary. Their request, soliciting any information on the subject, was published in all quarters, and after having waited several months, the result of the enquiries of the Committee is before us in a pamphlet of 36 pages, containing a vast deal of important information contained in small space.

The conclusions to which the Committee have arrived, are exactly as might have been prejudged from its composition, but they are by no means convincing to our mind. When it is remembered that Ether and its combinations with Chloric Acid, have been almost exclusively employed in the United States, and when per contra it is remembered that Chloroform is almost exclusively

employed for anæsthetic purposes in Great Britain, France, and the European nations, the extent of the employment of the latter over the former may be imagined; but with all this extensive employment of Chloroform, we have not a record of 200 deaths,* but even if we had 300 deaths, which it will be admitted will cover the whole number, these even would bear in our opinion a less ratio to the extent of its employment than what the 52 recorded deaths stated to have occurred from the use of Ether and its preparations bear to that of the latter. The very extensive employment of Chloroform is a point which has not received that attention from the Committee which it deserved, but it is one which we think of great importance. Such, however, is our opinion; but to those who feel disposed to administer the Ether, we append the directions as laid down by the Committee in an abbreviated form.

I. The safe inhalation of ether requires proper attention—1st. to the quality of the article used; 2nd, to the method of administration; 3rd, to the symptoms which present themselves while the patient is under its influence.

1st. *Quality of Ether.*—Ether for inhalation should be of unquestionable purity.

Ether may be made purer by simple agitation in lime-water, allowing the water to settle, and then decanting; and this washing is, practically, and for general application, as good a method of purification as can be adopted without re-distillation.

2nd. *Method of Administration.*—Ether should never be given from any inhaling apparatus. The best medium of its administration is a bell-shaped sponge, large enough to cover in the nose, mouth and chin; but it is difficult to find one of sufficient size and close enough in texture, or without such numerous apertures at the root as to admit too freely of atmospheric air. A stiff towel, properly folded, may be substituted, and has the advantage of being always at hand; as it may be left behind, the surgeon does not carry away with him the annoying odor of an impregnated sponge. It is desirable that the towel should be a new one and of pretty good size. It is to be taken just as it comes from the laundry, and not unfolded further than to display it in the dimensions of about ten inches by five; by folding down two of the corners in such a way that they shall lap over each other a little, and securing them by stout pins, a cone will be made which fits the face admirably. The thick layers of towelling will hold sufficient ether, and its texture prevents a too free dilution of the anæsthetic by the atmospheric air, provided the apex and seam of the cone are carefully and tightly closed, either by pins or the fingers. As the cone becomes collapsed by saturation, it should from time to time be opened, and kept in shape by distending it with the hand. Unless these details are attended to, and especially the closure of the apex of the cone, the induction of anæsthesia will be uncertain and protracted. In anything so porous as a towel or sponge, the difficulty is to exclude enough air; for while its adequate admission to the lungs during etherization is essential to the life of the patient, its too free entrance not only delays anæsthesia, but induces a condition of excitement, both mental and physical. The importance of excluding the air, as above stated, is a point not generally appreciated, but the necessity of it has long been known to those most accustomed to the use of ether, as shown by the "chemise" with which, in hospital practice, a too porous sponge is often covered to expedite the etherization of a rebellious patient.

Ether should be poured lavishly on the towel or sponge, an ounce or two at a time, especially at the commencement of inhalation. Although it may be wasted, too much so far as safety is concerned, cannot be used. A small quantity poured on hesitatingly and timidly, as is sometimes done, has the same effect as a too free dilution of the vapor with air, producing simply intoxication and its accompanying excitement without anæ-

* The *Dublin Medical Press*, 5th June, 1861, says "over 150 deaths."

sthesia; whereas a large amount, though the cough and choking sensation which the greater volume of vapor produces may cause the patient to resist and struggle, is certain to bring about a satisfactory condition of insensibility.

3rd. *Phenomena of Etherization.*—A strong, full-blooded man is pretty sure to resist the approaches of anæsthesia under any circumstances. This may sometimes be overcome by warning him before hand of such a possibility, and inducing him to resolve not to struggle; the last impression on his mind influences him even in his stupor. Resistance is also liable to be made by almost all patients just before complete anæsthesia takes place, but the ether rarely requires to be suspended. Occasionally the respiration becomes embarrassed during the period of excitement, partly from the struggle itself, and partly perhaps from the increased flow of saliva, which is a common phenomenon of etherization, or from the position of the tongue or head of the patient, and a condition may sometimes show itself characterized by lividity, rigidity, and convulsive motions of the extremities. These phenomena, it is an observation of Dr. H. J. Bigelow, of this city,* are in reality the tetanic symptoms which, as Dr. Brown-Sequard has shown, precede the approach of asphyxia. Although alarming to the inexperienced, the state is in fact devoid of danger, provided the ether be momentarily suspended; this being done the refusal to breathe soon gives place to a long-drawn inspiration, and in most instances complete insensibility immediately ensues. In such a case it is interesting to observe how readily the spasm yields, and how complete is the muscular relaxation which follows the free respiration of air unmixed with ether. It should therefore be borne in mind, that when there is muscular rigidity with lividity, the suspension of etherization will transform this into the relaxation of anæsthesia. Persons of intemperate habits succumb to ether slowly, and with greater reluctance and more opposition than persons unused to intoxication.

The pulse should be watched by a competent person from the outset, and its failure either in strength or frequency, lead to a more cautious use of the ether. It must, however, be remembered, that in experiments with anæsthetics upon animals, the heart has been found to be the *ultimum moriens*; † the respiratory movements, therefore, should not be forgotten or neglected, but any slowness or irregularity in their performance should at once receive attention. Dr. H. J. Bigelow has drawn attention to the distinction between the effects of anæsthesia upon the pulse of the healthy subject suddenly reduced by accident, and a similar or even stronger pulse in a person exhausted by long and grave disease. In the former case the vitality is unimpaired, and the pulse even when hardly perceptible, rises with anæsthesia. Ether, therefore, is not to be withheld from a patient to be operated on, even in a state of collapse after severe accident, but great caution is demanded in its use with patients who are near death from chronic and exhausting disease, and who require operations. ‡

The best test of complete etherization is the snoring of the patient; and no operation unless slight, should be undertaken until this symptom presents itself. The relaxation of the muscles of the extremities may occur without insensibility. The important distinction between *snoring* and *stertor* is, however, to be borne in mind. Whilst the former is caused only by the relaxation of the muscles of the palate, the latter arises from spasm of the vocal cords and partial closure of the rima glottidis, and thus becomes the immediate forerunner of the train of symptoms already referred to as indicative of partial asphyxia. Stertorous respiration demands, therefore, a brief suspension of inhalation; one or two inspirations of fresh air will, as already mentioned, almost instantly dispel the system.

In conclusion, the Committee observe, that the "dangers of Chloroform are

* Unpublished Records of the Boston Society for Med. Improvement.

† Du rôle de l'alcool et des anesthésiques dans l'organism, Lallemand, Perrin et Duroy, Paris, 1860, p. 398.

‡ Unpublished Records of the Boston Society for Med. Improvement.

not averted by any admixture with Ether in any proportions," and that "the combination of these two agents cannot be too strongly denounced," (page 18), two opinions in which we heartily concur with them.

ART. LXIX.—*Baron Larrey*. A Lecture by D. HAYEN AGNEW, M. D., Surgeon to the Philadelphia Hospital, Lecturer on Anatomy, &c. Published for the class. Philadelphia: Lindsay & Blakiston, 1861. Pamphlet, pp. 59.

This is a lecture on the life of Baron Larrey, the eminent French surgeon, delivered by Dr. Agnew to his class at its opening. It details the various incidents in it, and the circumstances connected with his duties through the different campaigns which were undertaken by Napoleon the 1st. The lecture thus opens with Larrey's position, duties, suggestions, and sanitary regulations during the campaign on the Rhine; 2nd, in Corsica; 3rd, in Italy; 4th, the campaigns in Egypt and Syria, which were, it will be remembered particularly disastrous to the French arms, but through which Larrey directed the observance of such hygienic measures, as undoubtedly saved a large portion of the army, and for which he obtained the especial thanks of the Emperor, with an annual pension of 1500 francs to his wife; 5th, the campaign at Boulogne, Ulm, and Austerlitz; again 6th, the campaigns in Saxony and Prussia; 7th, that in Poland; again 7th and 8th, the first and second campaigns in Spain; 9th, the campaign of Austria; 10th, that in Russia; 11th, the campaign in Saxony; and lastly, that in France, 1813. Few surgeons have seen more of severe military service than Larrey, and if there is one thing which more than any other will perpetuate his name in the memory of the living, it consists in the fact, that under whatever circumstances placed he seemed to live less for himself than others. Hence we have even to the present day the results of his large and varied experience, and his name is an authority on much that appertains to surgery, especially that which may be deemed military; while he employed his leisure time when not on duty, in delivering lectures on Anatomy and Surgery whenever he could obtain audiences. As an example of a hard-working, exemplary, and self-denying life, that of Larrey, may well be held up for imitation, and the sketch of it as given by Dr. Agnew is well worthy of a perusal.

PERISCOPE DEPARTMENT.

MEDICINE.

A NEW DISEASE.

A new Disease lately made its appearance at Brest, in France, consisting of the deposit of a black pigment on the lower lid, which was rubbed off with difficulty, and soon reappeared. Some of the cases were brought before the Academy of Medicine,

and the Hospital Medical Society. By the latter, strong doubts were expressed as to the reality of the disease, and after a patient and skilful examination, it was ascertained that the ladies (for almost all those affected with it were women) used a preparation of lamp-black to give their lids that appearance, thus deceiving M. de Mericourt, one of the most distinguished physicians of that city.—*Med. & Surg. Reporter.*

LARYNGISMUS STRIDULUS OR SPASM OF THE GLOTTIS.

Being part of a lecture delivered by Sir Henry Marsh, in Steeven's Hospital, Dublin.

The following case was communicated to me by Dr. Johnson, Professor of midwifery to the Royal College of Surgeons in Ireland:—

I was consulted some time ago about the child of the Hon. Mrs. P., and received the following history of the case: He was attacked on the third day after birth with laryngeal spasm and a crowing inspiration, in such a degree as to excite great apprehension in the minds of the parents; these attacks returned at intervals, when the child was irritated, and on awaking from sleep, until the third month, when they disappeared without any apparent cause. Between the fifth and sixth months they returned, accompanied by the swelling of the hands and feet, and the rigidity of the thumbs and toes described by Dr. Kellie (in the *Edinburgh Medical Journal*), and terminated in general convulsions: at this period he cut two incisors in the lower jaw; the attack of crowing inspiration returned frequently during dentition, sometimes alone, at other times accompanied by the rigidity of the thumbs and toes, but never terminating in convulsions until he was cutting the first molar. At the time that I was called to see him the rigidity of the toes was so great as to prevent him from walking, and the screaming such as to render the parents apprehensive of the return of convulsions. On examination of the gums I found the canine teeth making their appearance; the gums were divided, an issue inserted in the back of the neck, and aperient medicines were given. The attacks, however, were neither diminished in frequency nor violence until the child was removed to the country, since which time he has had no return of the disease. He was a remarkably large and strong child for his age, which left the impression on my mind that he was over fed; however, on enquiry, I found this was not the case."

This case is interesting, inasmuch as it proves that this disease is not necessarily connected with the process of dentition,* although unquestionably exasperated in its symptoms, when the teeth are cut with pain or irritation; this case too, as the others, evinces the great value of change of air in the treatment. It does not appear until after the teeth had been all cut.

I am indebted for the following interesting case to Mr. Newton, Licentiate of the College of Surgeons in Ireland, upon whose soundness and accuracy of observation the fullest reliance may be placed:—

"A child, aged 19 months, of a violent temper, had always been very healthy until it was about 17 months old, when he had a mild attack of hooping-cough, since which he was observed to have occasional fits of difficulty of breathing on awaking from sleep, during which his face became livid; these lasted for some time and were terminated by a long deep-drawn inspiration, with a crowing noise; this did not excite any alarm in his friends.

On the morning of the day on which he died he took a hearty breakfast of stirabout, and in about an hour afterwards he vomited; he was in good spirits and apparent good health until five p. m. when he was put into a passion; his breathing suddenly became difficult, his face livid and he expired in about five minutes.

Dissection seventeen hours after death.—Extremities stiff, body fat, some lividity about scrotum and posterior parts of the body.

* Dr. Johnson has mentioned to me a case of this disease, the symptoms of which did

On removing the skull cap, a large quantity of dark coloured fluid blood escaped ; there was great turgescence of the vessels of the membranes of the brain. The brain was healthy : on removing it a considerable quantity of blood escaped from the spinal canal.

Mouth and Throat.—Uvula somewhat elongated, tonsils slightly enlarged. The rima glottidis was very much contracted. In the larynx, upper portion of the trachea, and in the œsophagus, numerous small portions of undigested oatmeal were observed : the mucous membrane of the air tubes presented everywhere a natural appearance. The lungs and right side of the heart were engorged with dark-coloured blood. The mucous membrane of the stomach, about the pylorus, was softened and eroded. The muciparous glands of the small intestines were enlarged. No other disease was observed in any part of the body. On examining the larynx on the following day, the rima glottidis was found to have recovered its natural dimensions.*

It is clear in this case that the spasmodic closure of the rima glottidis was the immediate cause of death ; no morbid change sufficient to account for death having taken place in any of the viscera ; the turgid state of the vessels of the brain and lungs, as well as the gorged state of the heart, were evidently the effect of the suffocative struggle, and resulted altogether from the manner in which death took place. The symptoms at the commencement are thus proved to be purely spasmodic and it is only when the disease increases in severity, and when general convulsions arise, that the brain or its membranes becomes the seat of disease. It would be interesting on any future occasion, to examine accurately the state of the pneumogastric nerve. The seat of the disease may perhaps be found to exist at the *origin* of this nerve, and topical applications, made as nearly as possible to its origin may be found to constitute an important part of the treatment.*

It seems to me not unimportant to remark, that all the cases of this disease which I have witnessed, have occurred in children either themselves exhibiting marks of the strumous diathesis or sprung from scrofulous parents. This bears practically upon the subject, inasmuch as it enhances the value in treatment of pure air, healthy nutriment, and tonic remedies.

If we take a survey of the several cases of this disease which have been stated, we learn that it varies much in degree, and that its complications are numerous. In its mildest and least complicated form the spasmodic action is confined to the muscles of the glottis, and the treatment consists in improving the general health, and in giving tone to the nervous system. The symptoms in such cases will rarely fail to yield to some of the vegetable or mineral tonics, pure and bracing air, and a well regulated diet ; in some cases I have perceived, I think, advantage to arise from some of the antispasmodic medicines, and amongst these none has appeared to me more beneficial than the old-fashioned medicine, the *tinctura fuliginis* ; but when the disease is complicated with painful dentition, derangement of the bowels, or any febrile movement in the system, the primary object of the treatment must be to remove these accompanying ailments ; until this be effected the treatment applicable to the spasmodic affection, though it may mitigate its severity, will fail to eradicate the disease. When the spasmodic symptoms extend themselves, and implicate the muscles of the extremities, the disease assumes a more formidable aspect, and soon, if not checked in its progress, paroxysms of general convulsions will establish themselves : in this stage the membranes of the brain become

* Dr. *Monro*, in his work on the *Morbid Anatomy of the brain*,* describes a variety of acute hydrocephalus ushered in with spasmodic symptoms affecting the muscles of the glottis, and in one case, describing the morbid appearance, he says, "all the nerves at their origin were sound, except the fifth and eight pairs, which were also of a deep scarlet colour and covered with turgid vessels. On removing the brain, by cutting through the medulla oblongata, a considerable quantity of serum rushed from the upper part of the spinal canal. The vessels of the spinal marrow were turgid those at the cervical portion of a vermilion red colour, and those of the lumbar portion of a dark red hue. The eight pair of nerves was of deep uniform red along its whole tract, as far as its branches go to the lungs."

so frequently engaged, that the utmost vigilance on the part of the practitioner is required to prevent the occurrence of such mischief yet it must not be lost sight of that the disease, even in its mildest form, is attended with danger; one case is recorded of sudden death during the spasmodic closure of the glottis; this occurred in a child who was otherwise in perfect health, and I have heard of several instances of the same kind. In every stage of the disease, therefore we should be aware of and guard against the liability to sudden death; all needless sources of irritation should be avoided, and the child closely watched, and carefully held and supported during the paroxysm of dyspnoea. In irritable and pssonate children the danger is increased. Dr. Johnson has stated to me, that he has seen a child in a state of asphyxia caused by this disease, recovered from apparent death by the instantaneous application of artificial respiration.*

Dr. Cheyne in his treatise on hydrocephalus,† gives a very just delineation of this affection; he describes it as consisting in a crowing inspiration with purple complexion *not followed by cough*; he mentions the rigidity of the muscles, the thumbs clenched in the hands, the peculiar livid and swollen appearance of the extremities, and the occurrence of universal convulsions; he states that seven instances to his own knowledge have ended in death; and in regard to treatment, he has dwelt with peculiar emphasis upon the importance of change of air and change of diet, as the means of greatest efficacy in effecting a permanent removal of the disease.

Dr. George Kellie of Leith has published a short paper‡ entitled, "Notes on the Swelling of the Top of the Hands and Feet, and on a Spasmodic Affection of the Thumbs and Toes which very commonly attends it." This condition of the extremities he has described very accurately, and the reader will do well to peruse his paper with attention; it must, however, be remarked, that this symptom belongs to a more advanced stage of the disease, and does not exist until either the general health be considerably impaired, or the spasmodic symptoms have increased in frequency and severity; it is, therefore, not essential to the disease.

Mr. Porter in his valuable observations on the surgical pathology of the larynx and trachea, alludes to this disease, and particularly mentions the fact that it occasionally happens that the child, during the convulsions, dies before assistance can be procured.

In the *London Medical and Physical Journal*, vol. xlv., p. 9, this disease is spoken of under the name of cerebral croup, a denomination which is objectionable, because it is more than doubtful whether in this affection, at its commencement, the brain be at all involved; because in its symptoms and progress it is altogether distinct from croup. He describes with accuracy the symptoms in three of his own children; of these, one died, the others recovered. In speaking of the treatment of one of those cases he concludes with the following words:—"The spasms frequently recurring, his nurse was changed, and he was sent to the country; and he is now a fine healthy little fellow." He justly dwells upon the importance of attending to the state of the head during the entire progress of the disease, and also upon the necessity of dividing the gums whenever the process of dentition may appear to be a source of irritation.

In the fifth volume of Richter's "Specielle Therapie." there is a tolerably accurate account of this spasmodic affection.

The facts which have been recorded, and the references which have been made, prove that this disease is of more frequent occurrence than has generally been supposed.

A controversy has been maintained for a long time as to the existence or non exist-

* The local application of the ointment of the Binioidide of Mercury to the nape of the neck, as advised by Dr. Arnoldi, now of Toronto, and which furnished the basis of a communication to this Journal by Dr. David (see Vol. 1, page 101) has been attended with the happiest effects in the hands of those gentlemen to which we may add our own experience. Pustulation should be effected by it, from time to time. We have no doubt that its beneficial action is due to its influence in the *Spinal Accessory* at its origin which may be communicated to the other branches of the 8th pair. (Ed. B. A. J.)

† Second Edition, page 16.

‡ Medical and Surgical Journal, October, 1816.

ence of spasmodic croup; a disease which I believe to be nothing else than the first stage of inflammatory croup, or else a slight and transient attack of croup in nervous and irritable children. The disease which forms the subject of this paper is essentially different from every form and variety of croup; it is a purely spasmodic affection, and in all its stages is characterized by convulsive movements, partial or universal, and in its earlier stages all its symptoms will be aggravated if it be confounded in treatment with any inflammatory affection of the larynx or air tubes. This mistake has been often made; it therefore seems to me important to distinguish this disease from other affections with which it has been often confounded, and to set forth the principles of treatment which are directly founded on this diagnosis: I may also mention, as an additional reason for dwelling on the characteristic features of this affection, that I do not find it described in any systematic work in the English or French languages.—*Dublin Medical Press.*

MATERIA MEDICA.

ARSENIOUS ACID IN LARGE DOSES: A SUBSTITUTE FOR QUININE.

BY J. TURNER, SURGEON TO H. M. BRIGADE, BOMBAY HORSE ARTILLERY.

(Communicated to the Royal Medical and Chirurgical Society.)

The author has employed arsenious acid for twenty years in the treatment of intermittent fevers, and on account of the great drain upon the cinchona-tree, its failure in India, and his strong opinion as to the equal if not greater value of arsenious acid in the above-named diseases, he now brings the results of his experience before the profession. He considers the fears of an inconvenience or danger arising from the remedy as much exaggerated, and instances the case of a child of nine months, to whom he gave twenty minims of the arsenite of potash within ten hours, repeating the dose on the following day, with the only effect of curing an obstinate quotidian intermittent. Mr. Turner's success was so marked, that in 1860 the Director-General stated that Mr. Turner should be thanked for "drawing attention to his successful treatment of intermittent fevers by large doses of arsenic, and steps should be taken by circular to urge an extended trial of this remedy, and reports requested." The course usually adopted by the author was to give the arsenite of potash as in the following prescription:—Arsenite of potash and compound tincture of cardamoms, of each half a drachm; gum mucilage, three crachms; camphor mixture or water, half an ounce: mix. To be given every second hour four or five times, the last to anticipate the expected paroxysm at least two hours.—*Phar. Jour.*

EFFECTS OF SANTONINE ON VISION.

The effects of santonine in causing *green* vision have been known for some time, and an oculist of Nantes, M. Guépin, has experimented largely with this drug, hoping to obtain some beneficial therapeutical results from this peculiar property in certain affections of the retina. A case presented by M. Cavasse to the Medical Society of the Seine, last week, further illustrates some of the properties of this drug. A very nervous woman, believing that she suffered from worms, purchased from a druggist a drachm of worm-seed, semen-contra, in order to rid her bowels of their turbulent inmates. Shortly afterwards colic came on, and chancing to look in the glass, she distinctly saw herself pea-green. The fright sufficed to throw her into violent convulsions, and her friends, who believed poison to have been swallowed, rushed in a body to accuse the unlucky chemist of manslaughter. Luckily M. Cavasse, well aware of the properties of santonine, and of its presence in semencontra, was called in, and able to reassure the

terrified family as to the innocuity of the medicine to which so much mischief had been attributed. In due time the toxic effects subsided, the green vision disappeared, and the poor patient, comforted by a second look at the mirror, and by the reappearance of her accustomed tint of complexion, recovered from her panic, morally persuaded, however, that she had narrowly escaped death by poisoning. Similar results have been observed in the tropics as consequent upon bites by serpents, really innocuous, but supposed by the sufferers to be venomous.—*London Lancet.*

CASE OF POISONING BY ACONITE—SUCCESSFUL USE OF NUX VOMICA AS AN ANTIDOTE.

By D. D. HANSON, M. D. of Hartford, Conn.

April 19th, 1861, I was called to see a colored boy, 5 years of age, a son of Mr. Lewis, Pine St., this city, who had taken, as I subsequently learned, a preparation of the tincture of aconite and simple syrup, a mixture I had some time previously prescribed for a member of the family. He was seen with the bottle, "tasting" it; how much had really been taken could not be definitely ascertained, but, from his condition, it was manifest he had swallowed a destructive dose. The first intimation that anything was wrong was given about an hour and a half before I saw him, when he complained of his throat, walked unsteadily, and articulated with difficulty. I found him comatose, the eyes half closed, expressionless, the pupils insensible to light, though not much dilated. The pulse was feeble and irregular, respiration requiring artificial aid to support it, and the muscles and ligaments so much relaxed that he could neither stand up nor sit unless supported. His respiration finally degenerated to a gasp, occurring five or six times the minute, then he would convulsively straighten out in the lap of his attendant, throw his head and shoulders back, and his hands over his head, as if, mechanically, to get a longer and fuller inspiration, then relax into the same state as before.

No time was lost in getting his feet into hot water, sinapisms on the soles of the feet, calves, and over the abdomen and chest. I failed in my attempts to get an emetic dose of mustard into the stomach, from its bulk and difficult deglutition. Ipecac and antimony being the least bulky of anything at hand, I forced down a double dose; soon after I irritated the fauces with a feather. Fifteen minutes passing, and no signs of vomiting having appeared, I repeated the dose, and irritated the throat as before. No retching occurred from this at the expiration of half an hour from the first dose, the respiration grew more difficult, and the pulse became imperceptible at the wrist. He was sinking, evidently, and the emetics were aiding the poison instead of the patient, as the muscular fibres of the stomach were rendered insensible to expulsive stimuli by the depressing influence of the poison, and the difficult respiration and deglutition were referable to the operation of the same cause upon the diaphragm and pharynx. The case now appeared desperate, unless these tissues could be excited, and nux vomica was manifestly capable of producing this effect, as its full therapeutic action was the exact opposite of that now dominant from the poison. Impressed with this idea, I gave him three drops of the tincture of nux vomica; I then placed my finger upon the wrist and awaited the result. My pleasure can be well imagined when, in a few minutes, I felt the heart's impulse returning with accelerated vigor as the tincture became more and more absorbed, and the respirations were correspondingly improved in steadiness and depth. At the end of twenty minutes I repeated the dose, soon after tickling the fauces with the feather. Retching was soon induced, and vigorous emesis followed. After this operation, young ebony opened his eyes, and after satisfying himself that matters were progressing circumspectly, he coolly lay back in the lap of his attendant, with a quiet and steady respiration and pulse. I remained half an hour longer, when I considered him safe, and left him, with directions to take three drops once in three hours during the night, allowing him to sleep during the intervals if the breathing continued

regular. The next day I found him sitting in a chair, and apparently fully recovered having rested well during the night, and taken light nourishment during the day. I left him two drop doses of the tincture for meal times during three days, to ensure perfect tone of the muscles.

As corollary to this, I think it may be said that nux vomica is a complete antidote to aconite, and, conversely, that aconite is equally an antidote to nux vomica. No doubt the nux vomica would have been equally as prompt in this case when I first saw it as when I gave it. Nor is it unworthy of thought that the antidotal powers of nux vomica may extend with equal force to the whole family of acro-narcotic and narcotic poisons. There can be no doubt that aconite, belladonna, digitalis, conium, hyoscyamus, stramonium, as well as opium, tobacco and prussic acid, act directly upon the nerves and muscles of organic life through the brain, paralyzing them more or less completely as their toxic powers are developed, and that the stimulus excited by nux vomica upon the spinal cord, and reflexed through the sympathetic ganglia, could not be expected to do less than to revive and maintain these suspended functions more or less perfectly, until the brain recovers from the effects of the poison.—*Boston Med. Jour.*

FORMULA FOR THE ADMINISTRATION OF CHLOROFORM, ETHER, TURPENTINE, CAMPHOR, OR ESSENTIAL OILS.

M. VEE recommends the following as a valuable means for the equable administration of these medicinal substances: Chloroform (or any of the above), 4 parts (or less); oil of sweet almonds, 15 parts; powdered gum arabic, 10 parts; water, 100 parts; syrup, 25 parts. The chloroform is to be dissolved in the oil, and rapidly emulsified, to prevent evaporation. *Syrup of Chloroform* may be well prepared by the following formula: 10 parts by weight of chloroform are to be dissolved in 60 of oil of sweet almonds, 40 parts of gum added, and an emulsion formed with 350 parts of water. In this cold emulsion, placed in a close vessel, 540 parts of sugar are to be dissolved. It is a very stable syrup, rendering water white on admixture with it and it contains exactly one-hundredth of its weight of chloroform.—*Med. Times Gaz.*, June 8, from *L'Union Med.*, No. 49.

APPLICATIONS TO SORE NIPPLES.

By Dr. Wm. H. BYFORD.

M. Legroux mentions the following ingenious contrivance. He applies this mixture:

℞ Collodion	p. xxx.
Ol. Ricini	p. ss.
Ol. Terebinth	p. jss.

This is quite adhesive, and dries less quickly than collodion. It should be applied on the areola with a brush, so as to encircle, but not touch, the nipple for the width of an inch. While yet soft, the nipple is covered with gold-beater's skin, which is pressed well down upon the mixture. Thus is formed a smooth and pliant covering. Holes are pricked through the skin with a needle, to allow of the passage of the milk. Before sucking this must be moistened with sugar and milk. The curative means for sore nipples are various. The same will not do for abrasions so well as ulcerations. Nature is to be imitated by forming a cuticle for the part.

Abrasions may be covered with starch and mucilage. The following is a good mixture:

℞ Cerat. Alb.....	℥ ij.
Ol. Amyg. Dulc.....	℥ j.
Mel. Despum.....	℥ ss. M.
Dissolve with gentle heat, and add	
Bals. Canad.....	℥ ijss.

Apply each time of nursing. When the cracks are deep, close them by pressing their edges together, and covering with collodion in a thick and wide coat; this must be renewed when found necessary. When ulceration exists, it will be acute or chronic. Act as for this affection elsewhere: deplete, if acute, by leeches, and apply cold emollient poultices; or envelop the nipple in a thin layer of thick mucilage, covered by oil-silk, so as neatly to fit the organ, kept cold by ice applied in a bladder. When these remedies are not necessary, apply mucilaginous and bland ointment applications. Alum and tannin are good at first; sulphate of zinc and borax come next in respect to time. One scruple of tannin to one ounce of rose-water, five grains of alum, or sulphate of zinc, are useful in the early stages, when the acute symptoms are subdued.

The following are useful:

℞	Sodæ Subborat.....	3 ss.
	Glycerin	3 ij.
	Aq. Rosar.....	f ʒ jss.
* M.	Use as a wash after sucking.	
℞	Sodæ Subborat.....	3 ij.
	Cretæ Præp.....	ʒ j.
	Spt. Vini.....	
	Aq. Rosar. āā.....	f ʒ ij.

Mix and dissolve.—*N. A. Med. Ch. Review.*

GLYCEROLE OF CHLORATE OF POTASSA.

Take of chlorate of potassa, 10 grammes, pure glycerine, 100 grammes, mix and dissolve. The mixture possesses very marked disinfectant properties, and is good for removing portions of dressing adherent to sides of wounds.—*Jour. de Chim. Méd.*

OINTMENT FOR WARTS.

℞	Chromate of potassa.....	Two grains.
	Lard	One drachm.

Mix. Rub the warts with it twice a day, for three or four weeks.—*Druggist.*

GLYCEROLE OF ZINC.

℞	Sulphate of zinc.....	Two drachms
	Glycerine.....	Two ounces.

Triturate together until the sulphate is completely dissolved. A good application for external hæmorrhoids, brushed over with a camel's hair brush. *Dr. C. A. Hartmann, in American Journal of Pharmacy.*

ON HONEY OF ROSES.

(*Mel Rosarum.*)

M. Mollier, of Paris, (*Répertoire de Pharmacie*, Juin, 1861,) gives the following as his method for preparing the Honey of Roses, which is different from that prescribed from any of the pharmacopœias, but for which he claims the desirable qualities of clearness, astringency, odour, and colour, in a superior degree.

He infuses one pound of red rose leaves in four pounds of boiling water, macerates them for twelve hours, then expresses and filters. The residue he again infuses in five pounds of boiling water, and treats it as before. He then dissolves six pounds of good honey in the liquor from the second infusion, boils it down to a thick syrup, carefully removing from time to time the thick scum which forms on the surface, and then

dilutes by adding by degrees the first infusion to the boiling syrup, also removing the scum during the operation, which is complete when the whole is mixed; then it is passed through a linen strainer.—*Druggists' Circular*.

ARNICA HAIR WASH.

When the hair is falling off and becoming thin from the too frequent use of castor, macassar oils, &c., or when premature baldness arises from illness, the arnica hair wash will be found of great service in arresting the mischief. It is thus prepared:—Take elder water; half a pint; sherry wine, half a pint; tincture of arnica half an ounce; alcoholic ammonia, one drachm—if this last named ingredient is old, and has lost its strength, then two drachms instead of one may be employed. The whole of these are to be mixed in a lotion bottle, and applied to the head every night with a sponge. Wash the head with warm water twice a week. Soft brushes only must be used during the growth of the young hair.—*The Druggist*.

SYMPTOMS OF APPROACHING DEATH FROM CHLOROFORM.

In the *American Times*, for Aug. 31st, Charles Kidd, M. D., writing from London says: "It is well established now in Europe, that death by chloroform begins by a sort of spasm or stoppage of the action of the respiratory muscles; these should be watched. The first dangerous symptom in the administration of chloroform, is *protrusion of the eye-balls*, and a state of the patient as if in a trance, or *state of religious ecstasy*; the respiratory muscles are stopped, the heart still beating vigorously. If this state be neglected, the respiration having stopped, the right side of the heart becomes engorged, and subsequently the heart stops by distension of its cavities; tracheotomy, as in the Crimea, done on the instant, has saved such a patient, but usually, if danger seem impending, fanning cold air on the face, and removing the patient more into the open air, succeeds."

NEW FORMULÆ FOR SINAPISMS.

Mr. Grimault recommends the following formulæ—Pure Glycerine $3\frac{1}{2}$ drachms, starch 5 drachms, and volatile oil of mustard 20 drops; and M. Chevallier publishes the following formula for what he terms *Plastic Sinapisms*:—Volatile oil of mustard 20 drops, white pitch 15 drachms. Having melted the pitch, remove it from the fire, stir in the volatile oil, and spread on leather. By the addition of 10 per cent. of resinous oil, the mass can be spread on linnen like ordinary adhesive plaster. For use, a piece can be cut off according to the size of the part to which the sinapism is intended to be applied. The effect is very speedy, and the proportions of the active principle may be varied.—*Journal de Chimie Med.*, June, p. 357.—*Medical Times and Gazette*.

CHLORATE OF POTASH FOR FŒTID BREATH.

In the majority of cases, fœtid breath arises from derangement of the stomach; and for such cases the Italian Medical Journal recommends the following remedy. Three hours after each meal take a teaspoonful of a solution of 6 grammes of chlorate of potash in 120 grammes of sugared water (about a drachm and a half in four ounces); and at the same time rinse the mouth with the mixture.—*Dublin Medical Press*.

THE LAMP BATH.

The following is a very simple and most effectual method of exciting the functions of the skin. Let the patient, *in puris naturalibus*, be seated on a common wooden chair with his feet upon a low stool, the body then enveloped in two or three blankets, the

head being excluded, and a large spirit-lamp placed under the seat. In about a quarter of an hour, the perspiration streams down the skin. After a time the blankets must be removed, and the patient subjected to a douche of two pailfull of cold water, and then dried with much friction. After which, a smart walk may be taken.—*Dr. C. Taylor.*

SYRUP OF CHLOROFORM.

May be prepared by the following formula :—10 parts by weight of chloroform are to be dissolved in 60 parts of oil of sweet almonds, 40 parts of gum added, and an emulsion formed with 350 parts of water. In this cold emulsion, placed in a close vessel, 540 parts of sugar are to be dissolved. It is a very stable syrup, rendering water white on admixture with it, and it contains exactly one hundredth of its weight of chloroform.—*L'Union Médicale*, No. 49.

NOTES ON THE NARCOTICS,

By EDWARD PARRISH,

Lecturer on Pharmacy, Philadelphia.

An experienced medical practitioner, in a recent letter to his office student in attendance on medical lectures, advises him to acquaint himself thoroughly, during his term of study, with affections of the nervous system, as upon a thorough knowledge of these, and their treatment, his success in practice would mainly depend.

That this advice accords with the prevailing ideas of physicians, is especially obvious to the pharmacist, who, in comparing the recent prescriptions, on his files, with those of twenty years ago, cannot fail to notice the increased use of medicines primarily affecting the nervous system, instead of mercurials, drastic cathartics, blisters, and the like, formerly so much relied on.

From an analytical table of prescriptions which I prepared some five years ago, from my own files and those of several pharmaceutical friends, it appeared, that on an average 24 per cent. of prescriptions examined, contained either opium, morphia or hyosciamus, in one or other of their preparations, while the mercurials of all kinds, of which blue pill is now by far the most popular, were directed in 23 per cent. of the prescriptions; iodine and iodide of potassium in only 6 per cent., and though the files were examined with reference to the different seasons of the year, cinchona, and its alkaloids, only appeared in 9 per cent. of those written in Philadelphia. The preponderance, here shown, would, probably, be greatly increased in case of the preparations of opium, if the medicines dispensed without prescriptions were taken into account. Laudanum and paregoric are found in almost every dwelling, at all provided with medicines, while the great variety of carminatives and infant cordials, given so indiscriminately and so injudiciously, nearly all contain opium as their most active ingredient.

In estimating the reliance placed by physicians upon narcotics, by the data above given, allowance must be made for their extensive employment as correctives of the undue influence of agents primarily affecting the secretions. This is, indeed, one of their chief uses in prescribing, and in the case of opium, especially is, perhaps, often resorted to from habit, rather than from any indication in the symptoms.

Next to opium hyosciamus is the most popular of the class of cerebral stimulants; its relaxing effect upon the bowels secures its substitution for opium in very many instances; as an alterative, also, it shares with conium, belladonna, and stramonium, considerable reputation in appropriate combinations. The prophylactic effects of belladonna, its asserted specific influence on certain eruptive diseases, and its well known usefulness in ophthalmic surgery give its extract and alkaloid, atropia, prominent positions in the class. Conium is not unfrequently prescribed with sarsaparilla and the mercurials, while stramonium is less in repute for internal use than in ointments applied to

hæmorrhoids. Stramonium leaves are much employed for fumigation in asthmatic affections, a practice frequently productive of speedy relief, notwithstanding its alkaloid, daturia, is not volatile; that of conium being freely so, its leaf might be supposed to furnish a much better material for the fabrication of asthmatic paper and cigars. Another eligible mode of administering this class of remedies, especially those containing volatile principles, is by inhalation in connection with the vapor of water; the inconvenience of the method and the want of suitable apparatus have sometimes operated against a trial of its merits: there is no real difficulty, however, in adjusting a good inhaler, when not readily accessible, by the use of a wide-mouth bottle and glass tube.

Of all the narcotics, none has received so great an impulse, in our time, as Indian hemp. The incredible stories recorded by travelers in relation to the effects of *hashish* on the impressible natives of the East Indies, have given it a world-wide notoriety as an intoxicant, while the efforts of certain empirics, among us, who have advertised it extensively, under the plea of disinterested humanity, have drawn the attention of thousands, both in and out of the profession, to its availability in the treatment of phthisis. The extract of cannabis has, certainly, become one of the most popular, as it is one of the best of its class; its chief advantages are the exhilaration which accompanies, or rather precedes its complete narcotic effect, the remarkable control it exerts over nervous inquietude and the absence of any noxious effect, either in diminishing the appetite, checking the secretions or constipating the bowels. The quality of the preparation is so varied, that physicians are often quite uncertain what dose to prescribe; some specimens seem nearly inert, while of others half a grain is a powerful dose, and a grain has produced alarming symptoms. It is always best for the physician to assure himself beforehand on this head. It should be of a bright green color, heavy narcotic odor, and entirely soluble in alcohol. Squire's London manufacture is esteemed the best. In prescribing extract of cannabis, in liquid form, the most approved combination is with carbonate of potassa, which renders the extract soluble in water, otherwise, dissolved in alcohol, it readily separates on being added to aqueous and even mucilaginous preparations. I have met with one case only in which extract of cannabis produced those extraordinary hallucinations to which I have referred as being ascribed to *hashish* in the East. This patient, a consumptive, was often possessed with an idea of his own duality, seeing horrid visions of detached portions of himself. He seemed to be continually haunted by the presence of an imperious director, on whose behalf his most trifling acts were performed. At times, even in the act of expectoration, he believed himself the agent of another for whose sufferings he felt the keenest sympathy.

The very extensive use made of lobelia and sanguinaria in this country, would, I think, surprise our transatlantic colaborers. The combination, in these remedies, of narcotic with emetic and diaphoretic properties, fits them for a great variety of indications, though they seem to me by no means so safe and harmless as some rather adventurous prescribers seem to suppose. A plant of the famous soianacæ family, to which belladonna, stramonium, and hyosciamus belong, yields us the alterative narcotic dulcamra, of which we have only two preparations in the Pharmacopœia—the decoction and aqueous extract, neither of them very eligible or apparently satisfactory to the profession.

One very prominent element in the popularity of a remedy is its pharmaceutical eligibility, and there is little doubt that the neglect into which many valuable drugs have fallen is due chiefly to their not being presented to the practitioner in an eligible shape. Since the general abandonment of the crude and inelegant class of infusions and decoctions, there has been a manifest tendency to employ more concentrated and reliable preparations; but the Pharmacopœia, never in advance of the demands of the profession, has given no formulas in the cases of many of the most valuable. That this may be partially remedied in the edition now under revision by the eminently judi-

cious and conservative committee appointed in Washington some eighteen months since, is greatly to be desired.

Fluid extracts are now loudly called for on all hands. That many of this class of liquid preparations originated, and have come into use through the commercial enterprise and activity of certain manufacturing pharmacists, not amenable to the careful scrutiny of the profession and the public, and whose processes are too uniform to be properly applicable to every drug, is no argument against the excellent scheme of concentrating liquid preparations to such point as that their dose shall have the same relation in each case to that of the drug from which derived. Modern pharmacy, with a full appreciation of the composition of almost every drug known to the profession, is now prepared to adapt solvents to each, which will fully extract its medicinal principles, discarding those which are inert, and, by processes of evaporation within the reach of every apothecary, to reduce these to concentrated and permanent forms. The alcohol is sometimes an objection in tinctures, from therapeutic incompatibility, while in syrups, which are always given in comparatively large doses, the sugar is equally objectionable. Fluid extracts, besides the advantage of correspondence of dose with that of the drug, contain a minimum of either of these antiseptic ingredients. They are, however, best adapted to drugs the doses of which are not very small, and I can see no advantage, for internal use, in more concentrated liquid preparations of the powerful narcotics than their tinctures already furnish, especially as the solid extracts are so easily incorporated with extemporaneous mixtures. The imported preserved juices are not recommended so much for greater concentration as for their careful preparation directly from the fresh expressed juice of the plant before it has been altered by any processes of drying and subsequent treatment with menstrua.

In this connection it may not be out of place to notice some facts in regard to the preparations of opium, of especial advantage in those cases in which Laudanum is contra-indicated by its nauseating effects and the disagreeable symptoms produced as its effects are passing off. McMunn's elixir has attained a place among the popular preparations of opium from the absence of these objectionable qualities, and the only obstacle to its use by physicians lies in its being a nostrum, the mode of preparation of which is carefully concealed. The prevailing opinion among pharmacists appears to be that this is an aqueous preparation, to which, after its completion, a very little alcohol is added to prevent decomposition, and, on this principle, numerous elixirs of opium are offered, though, as might be expected, McMunn's still takes precedence. The aqueous extract is a preparation well worthy of a fair trial in competition with the drug itself, or its tinctures; on theoretical grounds, it gives promise of good results. I have met with practitioners who unhesitatingly give the preference to black drop and acetated tincture of opium, which they recommend as greatly preferable to the ordinary liquid preparation, while certain confirmed opium-drunkards give their testimony in the same direction, asserting that these preparations, containing morphia as acetate, produce less emaciation from their habitual use than those containing the natural salt, meconate of morphia. On the other hand, I have lately imported from London an elegant preparation called solution of bi-meconate of morphia, resembling McMunn's elixir, though still more completely deprived of odor, and apparently quite free from the usual objections to laudanum.

What is the dose of the morphia salts? One-eighth of a grain, say the older books and prescriptions; one-third of a grain, say recent authorities; one grain, say now a great many physicians, not only here but elsewhere. Formerly I hesitated to compound a prescription calling for this dose; now it is so frequently prescribed and administered, that we begin to regard it as safe, and cannot help setting down the fact as an offset to the asserted lessening of doses to meet the demand of the times.

MEDICAL JURISPRUDENCE.

DEATH FROM ONE GRAIN OF ACETATE OF MORPHIA.

On the 31st of May an inquest was held at the Bank of England Tavern, Cambridge-place, Paddington, on the body of George Cooper, aged about forty-five. It appeared from the evidence that the deceased had been an out patient at St. Mary's Hospital for pains in the face, caused by carious teeth. On the Wednesday week preceding, he had been ordered by Dr. Sieveking, whom he had visited at his own residence, to take a pill, which he obtained from the assistant-dispenser at the hospital. This was the ordinary pill, kept ready made, containing one grain of acetate of morphia. He took it about 12 o'clock at night, and about 3 o'clock he complained, and expressed regret at having taken it. He shortly afterwards fell asleep, and his wife could not succeed in waking him until 8 o'clock at night, when he appeared very wild, and made a strange noise in his mouth. He was removed to the hospital, and, notwithstanding the remedies used, he died about 4 o'clock P. M. A post-mortem examination was made by Mr. Rogers, who deposed that the urine was made albuminous, and that the kidneys were in a highly diseased state, the morphia acting upon which had been the cause of death. No suspicion had been entertained that the deceased was suffering from diseased Kidneys. The jury returned the following verdict :—"The death had been caused by misadventure, congestion of the brain having been produced by morphia taken as a medicine."—*Dublin Med. Press.*

CASE OF POISONING BY STRYCHNIA.

By WM. TRAVERS, M.R.C.S. Eng.

KATE W——, aged 20, a married woman, a Greek by birth and extraction, was brought to Charing-cross Hospital at half-past eleven p.m. on the 17th of March last, having about an hour previously, in a fit of jealousy, swallowed the entire contents of a packet of Battley's vermin killer. She had been already visited by a surgeon, and an emetic had been administered, without however producing vomiting. Upon admission, the body was perfectly rigid; limbs extended and immoveable; eyes protruding and fixed; teeth firmly clenched; countenance anxious, and of a dusky hue; breathing deep and irregular; pulse very small and quick. The spasm shortly relaxing, she became sensible for a few moments, only again to relapse very speedily into a similar state. Being anxious to remove without delay any of the poison remaining in the stomach, I attempted to use the stomach-pump; but finding on each trial to introduce the tube, or in fact on even touching the patient, that the spasm increased ten fold in violence, I abstained from any further effort, and contented myself with forcing her to drink (though with great difficulty) a powerful emetic dose of sulphate of zinc dissolved in hot water. This fortunately soon took effect, and vomiting was kept up for upwards of half an hour. The tetanic spasms had, however, by this time increased very much in intensity, each attack commencing with a prolonged loud and peculiarly shrill scream; the body then becoming perfectly rigid, the legs widely separated, and opisthotonos occurring to such an extent that the patient appeared to rest almost solely on the occiput and heels. During the fit the dyspnœa became more extreme, the eyes, open to their widest extent, the eyeballs started from their sockets, and the pupils dilated to the utmost. At length, after the lapse of about half a minute, a sudden tremor appeared to seize the entire frame; the limbs became relaxed, the muscles flaccid, the eyes dim, the skin bedewed with a cold clammy perspiration, and the breathing scarcely perceptible; not any pulse was to be felt at the wrist; the patient in fact, was lying as I believed, dead. Ammonia applied to the nostrils and cold water dashed in the face gradually increased the force of the respiration, and the pulse could again be felt. But with the return to conscious-

ness the symptoms of spasm were once more renewed, became more violent as the sensibility returned, and held out a prospect of becoming as formidable as before.

Doubting whether the patient would survive a second attack, I was anxious, if possible at once to restrain the spasm, and with this view determined to administer chloroform. This I proceeded to do at once, carefully watching the patient, yet at the same time so using it as to bring her as speedily as possible under its influence. Its effects were soon perceived; in a very short space of time the countenance lost its fixed and anxious appearance, the eyes became less prominent, the opisthotonos subsided, the limbs, gradually became relaxed, the respiration more normal; the pulse fuller and less frequent, and, when, completely under its influence, the spasm had entirely left her, and she lay as in a sound sleep. I now withdrew the inhaler, yet remained by her, and at each attempt to return to consciousness (generally showing itself by some spasmodic working of the features) I reapplied the chloroform. At length, two hours and a half having elapsed, and the pulse becoming weaker, whilst a slight return to sensibility not having been accompanied with any return of the spasm, I allowed the effects of the anæsthetic to pass off. In the course of half an hour, some slight convulsive attacks having again shown themselves and becoming gradually more violent, I gave the patient forty minims of the tincture of opium with half a drachm of the compound spirit of ammonia in camphor mixture; and at the end of an hour, the symptoms still occurring occasionally, and the patient being somewhat excited and restless, I repeated the dose. Shortly after this she fell into a sound sleep, which continued with scarcely an interval of waking, for six hours. The following morning she expressed herself as feeling quite well, only very weak, and occasionally complained of a pricking sensation in the extremities. Vomiting, which could with difficulty be allayed, now set in, without any assignable cause, leading Dr. Willshire (under whose care she was now placed) to suspect the presence of some irritant poison besides strychnia in the compound she had taken. Upon subsequent inquiry I found that the packet also contained a small quantity of arsenic, which might supply a reason for the otherwise unaccountable continued gastric irritation. Under treatment the vomiting was allayed, the nervous irritability which succeeded subsided, and the patient was discharged at the end of a few days quite convalescent.—*Lancet*.

MIDWIFERY.

IMPAIRMENTS OF VISION CAUSED BY LACTATION.

This is the title of an article in the "London Medical Review," by George Lawson, Surgeon, etc. The author says that it is so common for some defect of vision to occur during the time that the mother is nursing her child, that few women who have borne many children have entirely escaped some of the slighter forms of this ailment, which may vary in intensity from a mere feeling of temporary giddiness to a state of incurable amaurosis. It may, in feeble women, manifest itself soon after confinement, while in the more robust it may not occur until many months after. He describes two distinct forms of the disease, in one of which the eye is directly affected, with sufficient manifestation of morbid action to account for all the impairments of vision of which the patient complains. In the other, the defect appears to be central or cerebral, the appearance of the eye being nearly normal. In the first form, the patient complains of her eye being bloodshot, of a feeling of giddiness, and of some intolerance of light. There is an inability to read long, as the lines become misty and the words run together; the eye looks inflamed, irritable and watery, presenting very much the appearance of one from which a foreign body had been lately removed. It has a generally pinky appearance, and the ciliary veins are rather large, showing internal congestion. If the case

be severe, the redness and impairment of vision increase until she is scarcely able to read large type; pupils sluggish, contracted, pulse quick and small, and other symptoms of exhaustion. The case is passive choroidal congestion dependent on anæmia, and on an exhausted condition of the nervous system produced by suckling. In the second form, there is in the early stage in the superficial appearance of the eye, beyond the pallor of the conjunctiva corresponding with the anæmic look of the patient. Giddiness, lassitude, muscular debility, plainly indicate the drain produced by lactation. Impairment of the vision increases, if the case is neglected, until complete amaurosis is the result.

The treatment consists in at first removing the cause, and such general tonic and sustaining treatment as each individual case may require. If there be choroidal congestion with photophobia, strong light should be excluded, cold applications employed, and the bowels kept open by some mild alterative. If the congestion extended to the iris, and a chronic choroido-irritis is produced, mercurials are undoubtedly indicated; but in all cases quinine and iron with nourishing diet seem to afford the greatest relief. Suckling, of course, must be absolutely forbidden. Several cases are reported.—*Am. Med. Times.*

BELLADONNA SHORTENING LABOUR.

Dr. B. F. Barker gives a table of 147 cases of labour, in all of which belladonna had been given for the purpose of dilating the os externum by comparatively painless contractions. The extract was given in one-quarter-grain doses, two or three times a day, commencing about two weeks before the end of gestation. Plethoric patients took tartar emetic in combination with belladonna—three grains of the former, eight of the latter, in two ounce of the syrup of orange-peel, one ounce of the tincture of orange-peel, and one ounce of water; a teaspoonful three times a day. With some the following formula was used: compound tincture of cinchona, three ounces; syrup, one ounce; extract of belladonna, eight grains. Other combinations were prescribed to fill special indications.

A very great difference appeared in the susceptibility of patients to the influence of the agent, and also a great difference in the purity of strength of the article. One would seem to have double the potency of another, without any corresponding difference in the appearance, colour, or odor. In some cases the dose had to be diminished, but in most instances it could be gradually doubled, or even tripled. Dryness of the throat, slight uneasiness or giddiness of the head, dimness of the vision, are indications to diminish the dose. Not one of the children was still-born, and in none of the cases was there post-partum hæmorrhage or retention of the placenta. In one the function of lactation was entirely absent; in two others the mammary secretion did not appear until the fifth day.—*Am. Med. Monthly Magazine.*

SURGERY.

ON DIABETIC CATARACT.

By M. LECORCHÉ.

The following are the conclusions of M. Lecorché's memoir, in which he gives a minute history of the affection, and relates several examples.

"1. No doubt can prevail as to the existence of diabetic cataract. Its frequency, course and development completely characterize it and constitute it as a well-defined morbid individuality. 2. It is soft, or partially soft, its hardness being quite exceptional, and dependent upon circumstances as yet unknown. 3. It may be preceded by amblyopia,

or by various forms of nervous affection; but it may also manifest itself without any precursory sign. 4. It is not met with in slight cases of diabetes but forms a portion of the symptomatology of the grave form of the disease. 5. It only appears at an advanced stage of this, and justifies the prognosis of certain and more or less approaching death. 6. Unconnected with the changes undergone by the fluids of the eye (as saturation of the aqueous humour with sugar, its acidity, &c.), it may be regarded as one of the manifestations of a deep seated deterioration of the economy, dependent doubtless upon the impoverishment of the nutrient fluids. 7. It requires for its removal a special mode of operating."—*Brit. and For. Med. Rev.*

UNUNITED FRACTURE CURED BY EXCISION AND SILVER WIRE, AFTER STANDING TWENTY-SEVEN MONTHS.

In the *North American Medico Chirurgical Review*, for July, Prof. S. D. Gross relates an interesting case of fracture of the humerus, possessing points of interest which we shall copy here. The patient was aged thirty-two, and of dissipated habits. For more than three weeks the arm, which was broken three inches above the elbow, was not dressed. Then, in consequence of extensive suppuration, no retentive apparatus could be applied, or retained, and ununited fracture was the result. Twenty-seven months after the accident, Prof. Gross operated: "after chloroform had been administered, a straight incision, about four inches in length, was made through the posterior portion of the triceps muscle, exposing at once the membrane which had encased the fracture. On severing this, it was found that the oblique extremities had been rounded off and become incrustated by semi-cartilaginous tissue, so as to form a very perfect false-joint, which was lubricated by an abundant, thin, glairy fluid, though nothing like a synovial membrane could be detected. They were each in turn brought to the opening thus made, and cut off at right angles by means of a delicate saw introduced behind them. It was necessary to take about half an inch from the lower fragment, and nearly three times as much from the other. One ligature, made of three strands of the usual size silver wire, passed horizontally through each section of bone, and another diagonally across the edges, which, after having been tightly twisted, were cut off short, and the ends bent up so as to lie close beside the body of the humerus. The incision through the skin was then approximated closely with interrupted sutures, and the whole arm placed in well-padded curved splints of binder's board."

Notwithstanding, phlegmonous erysipelas attacked the arm, compelling the removal of the splints, it is yet said, "there is every prospect of his having a strong and useful limb."—*Med. and Surg. Reporter.*

MISCELLANEOUS.

MEDICAL PRACTICE IN ITALY.

If Count Cavour's death has become a medical topic, we have to thank the English press for it, which has pronounced a somewhat severe verdict (although a *vere dictum*) against the deceased statesman's physicians. A discussion of that kind is not likely to originate here, where people are wont to accept Fate's last decree at the doctor's hands without much questioning, though he be more than its bearer. The violent epithets so often lavished upon unsuccessful medical performances are rarely used here, and such proverbial jokes as "killing one's patients," and "peopling the cemetery," &c., I have never yet heard from Italian lips. This may, perhaps, be owing to the lack of wit, or to a habit of politeness, although I think that it chiefly arises from a community of views existing between the average Italian doctor and his patients. Both agree

upon the necessity of bleeding, not only as an antiphlogistic remedy, but as a hygienic measure, as something good *per se*; and the use of the lancet is as general as a prescription of tamarind-water or castor-oil.

Every country has, of course, its errors and superstitions; but nowhere have I met with a greater readiness on the part of the medical man to connive at them and to share them, than in this land of intellectual equality and moral and social fraternity. Both medical and hygienic superstitions flourish here, and it cannot be said that they are sufficiently controlled and checked by those who are competent to do so. Fortunately bleeding is the only heroic practice too frequently indulged in. In all other respects the Italians are rather on the side of caution and "masterly inactivity." They have a great horror of large doses, and a still greater one of heroic and poisonous drugs. Laudanum is rarely resorted to, and never used as a household remedy. The blue pill, that panacea against all the blues of splenetic England, is not even known by name here, and as to calomel and corrosive sublimate, anything beyond a quasi homœopathic dose would scandalize the pharmacist himself. I once prescribed sublimate in a case of incipient amaurosis, and as the patient, who lived in the country, could not come oftener to town to see me than once a month, I was requested by him to prescribe for a long time. I wrote accordingly, six grains of corrosive sublimate to be dissolved in one ounce of water, and of this solution fifteen drops to be taken twice a day (with a tablespoonful of syrup and gum-water). Each dose, apart from the vehicle, was, therefore, less than one-sixth of a grain; but, nevertheless, the pharmacist, who had, of course, not taken the trouble to calculate this, was frightened by the very sight of those six grains at the head of the prescription, and actually refused to make it up. "He had never been called upon to dispense such doses of sublimate." It sounds incredible, but still it is true that this unfortunate prescription was refused at three different shops, until I interferred personally and pointed out the minuteness of the dose.

This is a good trait, after all. It is erring on the safe side, and I will not complain of it. Considering, too, that the Italian pharmacist is under little or no control from the authorities; that his profession is free and open to any ignoramus who may chose to enter it; that there is not even a national pharmacopœia in existence, and, consequently, no common standard for prime materials and magisterial preparations, one can only congratulate the public on this wholesome dread of overdoses and poisons, which is, perhaps, the result of the very system that throws so little legal, and so much moral responsibility on the pharmacist. Most of the druggists do a thriving business, and yet I am told that even in the most frequented apothecaries' shops the vessels containing calomel and opium sometimes remain untouched for days.

Ammonia, that soother of headaches, that best of stimulants after a sunstroke, is utterly ignored in this sunny land, and only used externally for snake-bites; while tamarind-water, which in the tropics is hospitably offered as a refreshment to a thirsty visitor, is gravely prescribed and discussed here as a therapeutical agent. Some days ago, one of your London contemporaries remarked that of all the continental nations the Italians were most similar to Englishmen. If there be truth in that statement, which I do not deny, it certainly cannot hold good with regard to medicinal and hygienic habits; for in this respect no greater contrast can be imagined than that which exists between England and Italy. Even the Italian cookery, although apparently much more like the English than the French cuisine, is in its principles, at least, the very reverse of English cookery. Under-done meat and well-done vegetables one side; on the other, over-done meat, in fact meat boiled to rags or into poultice, under-done vegetables and all but raw paste, rice, and other amylaceous food! Now, this is not a case for saying, "All tastes are tastes and equally legitimate," for a love for half-raw maccaroni shows a perversity of instinct, which is condemned alike by nature and science.

Rasori was an Italian; Brown an Englishman. Nor could it have been otherwise. England could never have sworn allegiance to contra-stimulism, while Italy could

never have originated Brown's doctrines, and although the time of schools and systems has passed away, two nations still cling instinctively each to the tenets of its once national faith, so that the self-same disease which in England would probably be treated with beef-tea and those spirituous stimulants so dear to the British heart, might still be attacked, on this side of the Alps, with the lancet and the everlasting tamarind-water.

Italy, and especially Tuscany, can boast of many clever physicians, some of whom are eminent and erudite men, quite *au courant* of the scientific achievements all over the world, and who cannot be accused of lagging behind their age—men who have outgrown systems and schools, and who would never own allegiance to any one of them. Moreover, the Italians, like all Latin races, are notoriously deficient in what phrenological slang calls the "organ of veneration," and are naturally not much disposed to bow to any authority. But it seems that national pride amply makes up for this deficiency, and causes them to do more than justice to those in whom they see contributors to the past or present glories of their country. I have, when at Naples, heard the quaint apophthegms of the Salernitan school most unctuously expounded in the lecture room, and the students evidently felt the prouder, if not the wiser, for it. And as to Rasori and Tommasini, their doctrines, although apparently ostracised, are still preached under a different garb, and right heartily practised; and, where they are not fully carried out, it is merely a concession made, and that reluctantly, to the ruling spirit of the age. I remember a clinical *matinée* at the Santo Spirito Hospital, in Rome, where a Professor V. took occasion to open his heart on this subject. We were stopping at a certain ward (I have forgotten the name of the protecting Saint) which contained none but tuberculous patients, who occupied about one-half of the beds. "I can recollect the time," said the professor, who was an old man, "when this ward had scarcely two or three inmates at once, and sometimes remained empty for weeks, while now it is often full, and never less than half filled, with consumptive patients. This is a curious fact which can only be explained by therapeutic innovations, there being no reason to suppose that a change of climate or an alteration of other hygienic circumstances sufficient to account for these facts, should have taken place within so short a time. But, he continued, as pneumonia has always been of very frequent occurrence at Rome, it is only rational to assume that the statistics of tuberculosis must, in the long run, be dependent on the mode of treatment habitually used for pulmonary and bronchial inflammations. Now, when I was a young man, and Rasori's principles were still professed by almost every physician, pneumonia was cured with bleeding, and nothing but bleeding, and the bleeding was repeated until the blood let no longer showed any signs of the phlogistic crust, and it was this that prevented hepatization and formation of tubercles."

It requires no lawyer's wit to use this plea against the pleader, and to come to the opposite conclusion, that the present increase of tuberculous diseases in Italy may be the result of the Sangrado treatment employed by the Rasorianists against the pneumonias of the former generation—not to speak of the increase due to the improved diagnosis by the physical examination of the chest, which must have some influence on these statistics. The spacious hall of the ground floor was filled with a double row of beds, all occupied by persons affected with some thoracic inflammation! The mortality then was very great indeed, in spite of the repeated bleedings practised on every one of the patients, and as to the survivors, I wonder whether they were indebted to their medical attendants for their escape from tuberculosis.—*For. Cor. London Med. Times and Gazette.*

THE
British American Journal.

MONTREAL, DECEMBER, 1861.

SHALL THE "BRITISH AMERICAN JOURNAL" BE DISCONTINUED?

It is not without feelings of great dissatisfaction, that we were informed by Mr. Lovell that he would be compelled to discontinue the publication of this Journal, unless the subscribers responded to their obligations towards him during the currency of the present month. We are thoroughly well aware of the patriotic motives which induced Mr. Lovell to start it. Publishing as he did the *Jurist*, a journal for the benefit of the Legal Profession, he felt a desire, which he has shewn his willingness to carry out, to publish one for the Medical Profession, not doubting that the Profession of the Province would as liberally sustain it as the comparatively small number of the members of the Legal Profession in Lower Canada has sustained their Journal. In this he has been most sadly disappointed, and in stating this fact, (for the cover of the Journal will prove it,) we must say that we blush for the *amour propre* of our Profession, who after receiving it have withheld the necessary means, without which no periodical could expect to continue its existence. We cannot but say that we regret these unpleasant but unquestionable facts, and if this the seventh attempt at medical journalism in Canada should fail, through want of support from a profession numbering we should think not much less than two thousand members, we must say that it speaks little for their self-esteem, in desiring to possess an organ of intercommunication with their brethren in other countries. We were compelled to discontinue the old series of this Journal from the same cause, with a debt due to it of nearly \$1600, but a trifle of which has been since collected; and we certainly could not advise Mr. Lovell to continue his present enterprise under a debt, contracted during two years, of over \$1200, and likely annually to increase. Were we as Editor receiving payment for our labour, we could not, nor would we write as we do, but when we reflect that for the benefit of our Profession, a Journal is published, the expenses of which are limited to the mere pay of men's wages, and cost of paper, &c., with an editorial management which does not cost one farthing, we cannot but express our great surprise at the neglect which it has received.

It does not become us to say one word in regard to the editorial management of the Journal. That that duty could have been better performed, we have not the least doubt. We have, however, to the utmost of our power laboured with a single view to its prosperity, and with fidelity, however much our efforts may have fallen short of the desired mark.

The lapse, now, of a very few weeks must determine the cessation or the continuance of the publication, either of which contingencies must depend upon the subscribers themselves, whose verdict we await. And, however much we may regret the former event, as a stigma upon the Profession, and with no prospect of the renewal of another attempt at journalism, as it would be impossible to publish another periodical on the same or more favourable terms, the Profession will have to thank themselves if left without a representative.

THE MEDICAL PRESS—THE PRIZES IN OUR PROFESSION.

THE VACANT SURGEONCY OF THE PROVINCIAL PENITENTIARY.

In fighting the Great Battle of Life few prizes are gained by the members of our profession, compared with those obtained in other professions. Of the three black Graces,—Law, Physic, and Divinity,—the first unquestionably monopolizes the largest portion of the good things of this world. In our own Province at the present time, with, we believe, one exception, every Minister of State is a member of the profession of the law. We do not envy our brethren at the bar the honours and rewards so largely shared among the members of their profession. We content ourselves with noting a fact patent to all who give themselves the trouble to reflect, and to reason upon passing events. Thirty years ago Mr. Wakley, of the London *Lancet*, discovered, or thought he had made the discovery, that it required more medical than legal knowledge to fit a man for the office of Coroner. He inculcated this opinion with much earnestness in his journal, and made many converts to it. But the office, it was argued, was a judicial office; the Coroner is a judge in his own court; the office had invariably been filled by a member of the legal profession. We remember that in 1834 the office of Coroner for the eastern division of Middlesex became vacant. The prize was worth between two and three thousand pounds sterling per annum. The lawyers put forward a candidate with strong local influence. The medical profession, almost to a man, sided with Mr. Wakley, and he was induced to offer himself as a candidate. The electors were the freeholders of the county. The legal interest put forth its full strength, determined that a valuable piece of patronage should not be wrested without a struggle from the profession, and a precedent set to all counties under British rule where the court of the Coroner exists. The contest continued for several days; each of the candidates polled some thousands of votes, and spent some thousands of pounds, but public opinion was not yet ripe; the electors would not sanction the innovation; the legal candidate received the largest number of votes in a closely contested election, and Mr. Wakley was defeated.

But the medical candidate was not disheartened by his defeat, costly and annoying as it was to him. He felt the strength and justice of his cause, and

continued to advocate it week after week in articles transferred from his own journal to the papers of the day. His vigorous and persistent arguments eventually carried conviction with them, and when a little later the still more important appointment of Coroner for the western division of Middlesex, including the larger part of the Metropolis, fell vacant, he was triumphantly elected to the office.

Now, it is not too much to affirm, that even Mr. Wakley, with all his acknowledged ability, and indomitable energy of character, would have failed to effect this revolution in public opinion, which has thrown open the office of Coroner to medical men throughout the British Empire, with the single exception, we are inclined to believe, of Lower Canada, if he had not had a medical press at his command, through which he could address his arguments to the public, and this again shows the value of such a medium of communication to the profession, and to the public at large.

But it is not only in opening new avenues to preferment that the value of a Medical press is felt by the profession. It may be necessary that Editorial notice should be taken in respect to patronage already appertaining to the profession. Our last number recorded the death of Dr. Sampson, the Medical Officer of the Provincial Penitentiary. Our next number, if one appears, will probably record the name of his successor. Dr. Sampson filled the important office of Surgeon to this great public Institution for twenty-six years. His annual salary was raised from £200 per annum, the amount named in the statute, to £400 per annum. At this latter rate the appointment would be considered one of the prizes of the provincial profession. The duties do not require more time for their performance than ordinary hospital duties. The practice we are told is partly, perhaps principally, surgical. In an institution of nearly a thousand inmates, employed in workshops, with every modern appliance of machinery, accidents and injuries are likely to be of not uncommon occurrence. The Medical Officer of such an institution should be an expert and accomplished Surgeon. He has to pronounce when a culprit is fit to receive corporal punishment, and must watch its administration, and should be a man of nerve; he has to come in contact with idle skulkers ready to simulate disease and even to put themselves to bodily pain and suffering to escape the labor to which they are sentenced, and to foil such efforts at deception, he must be a man of good judgment, firmness, and discrimination. He has to aid in the reformation of criminals and outcasts from our own and other lands, and should be possessed of humane and kindly feelings: he has to frame statistical returns of the influence of crime and of want upon disease, and should be a man of information and intelligence. In short as the duties are not ordinary duties, so the qualifications of the Surgeon to be appointed, should be more than ordinary qualifications.

It is understood that more than one of the practitioners of Kingston have assisted during the long incumbency of the late Dr. Sampson, in the performance of the duties. There are able surgeons in the city fully competent to the duties of the office. We hope the right man will be selected, and that merit, and not political influence, will decide the selection. It is said the Executive have decided to bestow the appointment at the lesser income on Dr. J. R. Dickson, the

Professor of Surgery in the University of Queen's College. The appointment would be a most judicious one, and the action of the Executive, would meet the full approval of the profession. Dr. Dickson has been a valued contributor to this journal, and his selection would be beneficial to Queen's College in the important items of Clinical and Pathological Instruction.

In fine, if a strong proof of his peculiar fitness for that office were demanded, all that we require to do is to point to the important chair in the University, whose duties he discharges with such talent, as especially qualifying him for the office. If Dr. Dickson has been deemed worthy to teach "the Principles and Practice of Surgery" in Queen's College, Kingston, we know not, from that fact alone, of any one who could be more deservedly selected to discharge the duties of Surgeon to the Penitentiary in the same city. So far therefore as the influence of the *Medical Press* of the Province extends, we give it most unreservedly in favour of this gentleman's selection to the vacant office, as he possesses all the qualities required in a candidate for such an appointment.

THE VACCINATION ACT.

We are much pleased to perceive that our City Council has moved in the matter of carrying out the provisions of the above Act. The following is a summary of the proceedings held by the Council, and we trust that the example thus set will be followed by the Councils of the other cities mentioned. We understand, however, that the Council has been endeavouring to foist upon the gentlemen whom it has nominated the responsibility of paying for the rooms which they must occupy in the several wards for the purpose of the operation. This is excessively paltry, as the providing of the necessary accommodation is expressly delegated to the Council, and should have been carried out within "three months after the passing of the Act;" thus implying their responsibility for the deed. It is said that "Corporations have no souls," and the adage is verified in this instance, as the Council is attempting an act from which each member would individually shrink. As we read the Act, it is the duty of the Council to provide and pay for the accommodation of its officers.

WEDNESDAY, Dec. 10, 1861.

The Council again met this evening. Alderman Beaudry, Acting Mayor, in the chair.

VACCINATION.

The Health Committee presented the Report in favour of carrying into effect the forced Vaccination Act of last session. We have already published a synopsis of the Act. Dr. F. W. Campbell for the East, Centre, West and St. Lawrence wards, Dr. Leprohon for the St. Anns and St. Antoine wards, and Dr. Ricard for the St. Louis, St. Mary and St. James Wards, are recommended by the Committee as "medical practitioners" as required by the Act. The report was referred to the Finance Committee, as it involved a money appropriation.

SUPPORT OF QUACKERY BY THE MEDICAL PROFESSION.

It is only a few months ago that we felt it our imperative duty to challenge the conduct of certain practitioners of Toronto, in certifying to the marvellous effects, &c., of a Heather Balm. The following which we quote from the

Medical Times, will shew that we were by no means wrong in the course which we pursued, but that in England, as here, such practices are denounced, and deservedly so. We wonder if the parties upon whom we animadverted have withdrawn their names from the advertisement or circular alluded to, if not, the extract which follows, "*mutatis nominibus*," will read them a severer rebuke than what we administered.

A FEW WEEKS ago we drew the attention of our readers to the following advertisement which had been frequently published in the daily papers:—

"Liebig's Invigorative Essence.—This most scientifically-prepared and most powerful nutritive cordial ever introduced, restores to their normal condition all the secretions, on the integrity of which perfect health depends. It is a specific for debility of all kinds. There is no need for vaunting its merits in the usual charlatanic style, as, for the satisfaction of the public, Messrs. Baumgarten and Co. (the sole agents for the proprietor) have submitted it to the first analytical authority of the age, whose support is subjoined:—'Chemical and Microscopical Laboratory, 74, Wimpole-street, May 30, 1861:—Having analyzed the preparation to which Messrs. Baumgarten and Co. have given the name of 'Invigorative Essence.' I am of opinion that it is a combination well calculated, from its containing, among other ingredients, pepsine and phosphate of soda, to prove serviceable to the debilitated, the nervous, and the dyspeptic. (Signed) Arthur Hill Hassall, M.D., London, Analyst to the Sanitary Commission."

We came at once to the conclusion that Dr. Hassall in lending his name to the vendors of a secret remedy for the purpose of assisting them to its sale had acted contrary to his duty as a member of the medical profession, and had violated both the letter and the spirit of the contract on the strength of which he holds the diploma of the College of Physicians. During the interval which elapsed since the publication of our challenge on this subject, one of our most esteemed correspondents, disgusted with the evident abuse which was made of the name of Baron Liebig in the advertisement of Messrs. Baumgarten and Co., addressed a letter to this firm, in which he inquired, whether their "Liebig's Invigorative Essence" had been suggested or sanctioned by Professor Justus von Liebig at Munich, and if such was not the case, which person of the name of Liebig was implied by the Liebig of their advertisement.

In answer to these inquiries, our correspondent received a printed circular containing on three pages six columns of printed matter, purporting to set forth the "History, Theory, and Action of the Medicine." "To the intelligent mind the only avenue is reasoning," says the writer of this document, and accordingly he sets about reasoning with iron, phosphate of lime, pepsine, until he has reasoned the data and the fictions concerning them into "indisputable facts," upon which basis he suddenly becomes oracular, and advises that it should be the object of the philosophic experimentalist to combine all the remedial agents of specific action in one invigorating cordial. "This is the object which has been accomplished by the discoverer of the compound called 'Liebig's Invigorative Essence.'" The reasoning process to the intelligent mind then continues, and comes to a climax in the following passage:—"As the greatest assistance (in the 'discovery' of the Essence) has been derived from Liebig's researches on organic chemistry—the idea of the medicine itself originating in a desire to utilise those researches for the public benefit—it was considered to be no more than a graceful compliment to attach to a medicine of such power the name of the man without whose valuable discoveries it would probably never have existed." Our correspondent thereupon addressed a second letter to Messrs. Baumgarten and Co., in which he informed them that as it was evident from their circular that Baron Liebig had neither invented nor sanctioned the Essence to which they attached his name; they were taking an unwarrantable liberty by in any way using it in connexion with their Essence. He also gave expression to his belief that the name of the Munich Professor was attached to the mixture for the purpose of procuring it a sale, and that the alleged intention of paying a "graceful

compliment" was only a sophistical pretext for effecting the real purpose of the promoters of the Essence.

To this Messrs. Baumgarten and Co., replied by a letter in which, after disclaiming the imputed intentions with regard to the name "Liebig," they expressed their desire not to mislead the public, not to give offence to the medical profession, and not to offend the sensibilities of the Baron's friends, all of which, they said, our correspondent's letter sufficed to show they had done. They then gave the assurance that immediately on receipt of our correspondent's second letter they sent to their advertising agents to stop the objectionable advertisements, and that the name of Liebig should never appear in future. But while Messrs. Baumgarten and Co. were candid enough to remove the "imposing" name of Liebig from their flourishing title of advertisement, Dr. Hassall has not even attempted any explanation of his extraordinary certificate, although for more than a month the opportunity has been open to him. He has not even attempted to excuse the help which he gave towards the sale of a mixture which passed under a name calculated to mislead the public; a name, which he found so objectionable, that he did not repeat it in his certificate. Dr. Hassall has not, as he ought to have done, retraced a step to which in an evil hour he was seduced. His name has appeared as defending the Invigorative Essence advertised by the vendors of *axtra mankaz*. The unanimous judgment of all right-minded persons must be, that he has thus disgraced the profession and the college of which he is a member. The College of Physicians, it is to be hoped, will take the subject formally into consideration, and bring the question to the issue of either purifying the member of the infection, or ridding itself of the infected member.

This climax of the crying abuse of advertising articles of sale in conjunction with certain recommendations from members of the medical and chemical professions, which has of late become more frequent than ever, proves that it is necessary to make some inquiries into the nature of those certificates, called testimonials. They mostly set forth that the writer had instituted a careful microscopical and chemical analysis of the substance in question, and that he had found it to be of the nature described by the advertisers. According to the properties of the article recommended, certain finishing strokes are added to the larger features of the testimonial, which are intended to exhibit the candour of the writer, the search of his analysis, or penetration of his intelligence. Thus the analysis of Mr. Souchong's green tea yielded some Prussian blue, but it was less in quantity than in ordinary green tea, or less than might have been supposed. In this manner, the analyst establishes a basis of candour upon which the superstructure of his testimonial rests. If the article analyzed was Mr. Treblestout's beer, it has of course been found wholesome, and free from such noxious ingredients as strychnia, and the amount of extract which it contained was so large, that the analyst was able to pronounce it more nourishing than any other description of beer in existence. Another ingenious inventor, Mr. Chicory, who wants to make life Olympic by feeding man with nectars of his own production, offers them in the shape of essences: among them his essence of coffee ranks first; and the analyst, who has, of course, watched this essence the necessary number of years, as he has no other chemical virtue of the substance to declaim upon, dilates upon its durability, which is of course greater than that of any other similar production. The freedom of bread from alum; the excellence of vinegar, as testified by its fine colour and freedom from sulphuric acid; the distinction of green pickles done in silver pans and "consequently" free from copper, have all been the subjects of such certificates. A great many others it is useless to recount or even to remember.

TUMBLETY TUMBLED UP AGAIN.

"From an officer in the Potomac army, whom we met yesterday, we derive, says the *Buffalo Express*, the astounding information that the notorious Dr. Tumblety, who cut

so memorable a figure in our city a few years ago actually holds the position of senior surgeon on the staff of Gen. McClellan. Our informant asserts that he cannot be mistaken in the fact; that he has seen the "Doctor" several times parading in the staff retinue of the General-in-Chief, and that he held conversation with him. He describes him as the most magnificent personage on the staff. We do not know how to disbelieve this statement, incredible as it appears. If it is a fact that Tumblety has so imposed upon Gen. McClellan and others as to obtain this position, his antecedents and true character ought to be brought to the knowledge of those who have invested him with such a ridiculous honor."—*Montreal Gazette from New York paper.*

It is almost incredible that the foregoing should prove true, but the high positions which the commonest quacks have obtained in the army of the North, render it by no means impossible.

McGILL COLLEGE.

"The south wing of this Institution, to be occupied as a Convocation Hall and Library, is now externally complete, together with the corridors which unite both wings to the centre building; and the improvement which has in consequence taken place in the appearance of the college is very remarkable. The site is one of great natural beauty, and the buildings are now somewhat worthy of it—thanks to the munificence of William Molson, Esq., who has thus completed the original design. The whole college is, however, not yet amply provided for. An addition was made last year to the building of the Medical Faculty, which greatly increased the comfort of the Professors and Students; yet the increase in numbers has almost kept pace with the enlargement in the building, and should the same addition be made for a year or two more, the rooms would be again too small. Besides the present building being unsuitable for the character and requirements of the college, it contains the dissecting room, which should by all means be in a separate building. In process of time both this and the Law School will, without doubt, be supplied with a building or buildings in some good situation, worthy of their high standing, and equal to their growing importance. May the University—as it should be called—of Montreal, with its chief College, that of James McGill, distinguish itself among the seats of learning in the world. In this connection, we may state, that Mr. Phillip's fine full-length likeness of Mr. William Molson, destined to ornament the Hall which bears that gentleman's name, and who besides previous most liberal contributions to the college has made a gift of the present new wing, was lately to be seen at the Merchant's Exchange. The likeness is excellent."—*Daily Witness.*

Besides the foregoing extract from a contemporary daily Journal, we extract the following from the *Gazette*:

Mr. Marshall Wood has modelled an admirable bust of Mr. William Molson for the University Society to be placed in the Library of the University (William Molson Hall). It is a work of unusual merit, which lovers of art, as well as the friends of the beneficent founder of the Hall should see before it is removed. Mr. Wood's temporary studio is over the Post-office, rear entrance.

EDITORIAL SUMMARY.

Death from Hydrophobia.—Mr. Samuel Watt of the township of Hamilton in the County of Northumberland, died on the 28th ult, from the effects of this dreadful malady. Some weeks previously Mr. Watt was bitten by a small dog, which having been caught between the rails of a fence he went to release from agony. The animal turned out to be rabid.—*Whitby Chronicle, Dec. 12.*

Another New Element.—The discovery of another new element has been announced to which the name of Dianium has been given, thus making with, Cæsium, Rubidium, and Shallium, the fourth simple body added by modern research within a comparatively short period of time.

Malingering.—From the letter of a correspondent of the Amer. Med. Times we infer that malingering is not uncommon in the American army, and the disease most commonly feigned is Rheumatism. This shews considerable tact on the part of the malingerer, as it is a most difficult thing to prove its non-existence. During the conscription of the 1st Napoleon, the most common feigned disease was paralysis of the lower extremity or both extremities. Larrey detected the imposition by taking advantage of the irritability and contractility of muscular fibre, the former, of which is not controllable by the will of the individual.

The Arctic Expedition.—The return of the Arctic expedition has already been announced, and the official account of the voyage, with some of the details and results, has been published. The expedition sailed from Boston, July 5th, 1860, and has therefore been absent little more than one year. On the 16th of August, 1860, they were at Upernavik; on the 21st at Tesswissak; on the 23rd entered Melville Bay. At Cape York they found Dr. Kane's runaway boy, Hans, and took him, with his wife and child, on board. On the 27th they entered Smith's strait, and were met by a heavy pack, through which no practicable lead could be distinguished. Here they also encountered a heavy gale, which lasted several days, and obliged them to seek shelter behind Cape Alexander. September 2 they reached Littleton Island, and in the attempt to work up to Cape Hatherton, encountered a severe "nip," which injured the vessel so materially as to compel them to run down into Hartstein bay and anchor. On the 9th, they went into winter quarters in a bight at the head of the bay. The temperature had fallen to eighteen degrees below zero. Thick snow had been falling at intervals since August 25th. Their stores were deposited in a house, built for the purpose, on the shore; the hold of the vessel was converted into a comfortable room for the men, and the upper deck was housed in with boards. This was in latitude $78^{\circ} 17' 4''$ N., longitude $72^{\circ} 30' 57''$ W., twenty miles further south than Dr. Kane's winter quarters. A survey of the harbour and the adjacent coasts was made; the fine pendulum apparatus constructed for the expedition was put up, and a full set of satisfactory experiments were obtained; the magnetic instruments were also placed in the observatory, and observations noted, a meteorological observatory was erected on shore, and records made from it three times a day. A re-survey of St. John's glacier, (so named by Dr. Kane) was also made. In October Dr. Hayes ascended to the *mer de glace* and travelled eastward fifty miles. His greatest elevation was 4500 feet, at which point the temperature was fifteen degrees lower than at the level of the sea. On the 22d of December, Mr. Sontag started on an expedition to open up communication with the Esquimaux for the purpose of obtaining dogs, which resulted in his death from cold, having broken through the ice. Late in March Dr. Hayes made a preliminary journey to Fog Harbour, and visited Dr. Kane's winter quarters. During this journey the coldest temperatures of the cruise were recorded, one day $66\frac{1}{2}$, another 68; their encampments were the snow huts of the Esquimaux. On the 4th of April, he started on an expedition, with sledges and dogs, to extend his observations still farther north, but meeting with hummocked ice of extraordinary thickness, through which he had to cut his passage, he only reached a latitude of $81^{\circ} 35'$ on the 18th of May, when his provisions being exhausted, he was compelled to return. This high latitude has been exceeded or equalled by no explorer, save Sir Edward Parry. The land was taken possession of with the usual forms, in the name of the United States, and the flag used upon the occasion has floated over the most northern known land on the globe. He reached his vessel on the 27th of May, and on the 14th of July put to sea, reaching Halifax on the 8th of October. Thus another of the numerous and hazardous expeditions, to explore the regions of snow and ice in the Arctic regions, has returned, and the great problem of the "open sea" is yet unsolved, the mystery of the

supposed "northwest passage" is yet unfathomed; bound up in the icy chains which the hand of man may never break. Yet, no doubt, invaluable additions to the different departments of physical and natural science have been made by Dr. Hayes. His field of research was new and more limited than he anticipated, but he has, no doubt, explored it faithfully, and in due time his researches will be given to the world.—*Med. and Surg. Reporter.*

Medical Students.—From the best means of information we have at hand, we gather that the attendance at the Medical Schools in New York and Philadelphia is as follows: University Medical College about 200; College of Physicians about 125; Bellevue Medical College New York, 50; in all, less than four hundred. In Philadelphia, Jefferson Medical College about 250; University of Pennsylvania about 275; in all over five hundred. The facilities for instruction in all the departments of medical science are undoubtedly excellent in New York. The preponderance, however, of Students in the Schools of Philadelphia, would indicate that this city still maintains its ancient superiority in this respect. A reference to our Medical Directory will give the Student an idea of the hospital arrangements for teaching.

Enfield Rifle wounds.—A correspondent of the "American Medical Times," sends that journal an extract from a letter received from a friend at Elk water, the head quarters of Gen. Reynolds' division of the army of Western Virginia. The writer is a surgeon of one of the Ohio regiments. With regard to the effects of the bullet wounds from the Enfield Rifle, he makes the following observations—The italics are the writer's: "*I have never seen a recovery from one of those Enfield Rifle wounds involving a large bone where amputation was not performed early; that is, was not a primary amputation.*" The bone is uniformly comminuted, and the fragments are very sharp, so that the patients will die almost to a certainty from irritation, and the discharges, if he do not *from gangrene*, which is not uncommon even if the large vessels escape injury.

Death of a Quack.—M. Giraudeau de St. Gervais, the inventor of the medical *réclame* and advertisement, died a short time ago, leaving a fortune of four million francs (800,000 dollars). This individual was possessed of two *robs* for curing every syphilitic disorder, namely, the *rob Végétal Anti-syphilitique*, and the *rob Boyveau-Laffecteur*. By simultaneously advertising both, he created an apparent rivalry and antagonism between the two nostrums, and thus caused the interest of the public in them never to flag. His yearly expenses for advertisements amounted to 200,000 francs (40,000 dollars), and he had succeeded, nobody knows how, in obtaining the Greek order of the Redeemer, and the Cross of the Legion of Honour. *Requiescat in pace.*—*Med. Times and Gazette*, Sept. 28, 1861.

Alleged Dangers from inhaling sulphuric Ether.—The number of October 24 of our esteemed contemporary "the Boston Medical and Surgical Journal," contains the report of the committee of "the Boston Society for Medical Improvement," on the alleged dangers which accompany the inhalation of Sulphuric Ether. It is a lengthly and valuable report, and contains an appendix containing the number of deaths resulting from the employment of sulphuric ether alone, sulphuric ether and chloroform combined, ether and subsequently chloroform, chloric ether, and chloric ether with subsequently chloroform. From the use of the 1st we find 41 deaths recorded; from that of the 2nd, one; from that of the 3rd, two; from that of the 4th, three; and from that of the 5th, one. The report is strongly in favour of the employment of sulphuric ether. We may take an early opportunity of recurring to the subject.

Death of Sontag.—August Sontag, the accomplished astronomer, who accompanied Dr. Hayes in his last exploring expedition, died from the severities of his protracted voyage. He was a German by birth, and was at the Dudley Observatory when invited by Dr. Hayes to accompany him in the expedition. Though comparatively young, he had travelled extensively and enjoyed a high reputation as a scientific observer.—*Frank Leslie's Illustrated News.*

Law against Abortion in California.—The law against abortion in California is exceedingly stringent. It declares that the person on whom an abortion is practiced shall be held as guilty as the abortionist. The object of this feature of the law is to relieve the physician of vexatious law suits to which he is sometimes subjected by the attempt of certain wicked females to fasten upon him a charge of criminal abortion, when he has not even been applied to at all in the matter. A case of this kind is said to have occurred in San Francisco, and illustrates the necessity of the law in that State, even though the cases which may occur under it may be rare. Procuring abortion is justly regarded as a crime of great magnitude, and the laws of all the States, so far as we are informed, inflict upon the perpetrator of it a heavy penalty; and the law is right. Its penalties are none too severe; indeed hardly enough so to prevent its occasional, if not frequent, violation.—*Med. and Surg. Reporter.*

Remonstrances against appointment of quacks by Surgeons in the American Army.—It appears that the appointment as a Brigadier Surgeon of a quack of the name of Craven, has brought out to Dr. Finley, Surgeon General, U. S. A., a spirited protest on the part of the District Medical Society for the County of Essex, N. Y. Craven is described as a carpenter, then a dealer in merchandize, then keeper of a saloon, after which about two years ago he began the study of medicine, entering the office of Dr. Grant, remaining there two or three months, and then setting up for himself. He has no diploma and has never attended a single lecture. Yet here is a man who is honoured. Surely Dr. Finley will see the propriety of cancelling such an appointment as this, which must have been done in ignorance of the man's character.

The New British Pharmacopœia.—This work is now advancing rapidly to completion, and its appearance is anticipated towards the end of the present year. The last meeting of the committee in whose hands the compilation was placed was held in the Hall of the Royal College of Physicians of Edinburgh on the 12th of last month; after which the work was to be put to press.

White Gunpowder.—Mr. Pohl has been engaged in some experiments on the white gunpowder invented by Mr. Engendre, which consisted of a mixture of one part ferrocyanide of potassium, one part cane sugar, and two parts chlorate of potash. Mr. Pohl finds that a better result is obtained when the ingredients are mixed in the following proportions:—

Ferrocyanide Potassium.....	28 parts or 1 equiv.
Sugar.....	23 " or 1 "
Chlorate of Potash.....	46 " or 3 "

The products of the explosion appear to consist of nitrogen, carbonic oxide, carbonic acid and the vapour of water, cyanide of potassium, chloride of Potassium, and a bicarbide of iron (FeC_2). One hundred parts by weight of the powder yield 47.43 parts by weight of gaseous matter, and 52.55 of saline residue. Ordinary black powder has been calculated to yield 68.06 of solid residue, and 31.38 of gaseous products. Mr. Pohl calculates the relative volume of gas produced by the explosion of equal weights of the white and ordinary black powder in a closed space to be as 1.67 of the former to one of the latter. Hence, as the action of an explosive powder principally depends on the volume of the gases formed, for equal weights, the new white powder would produce 1.67 times the action of the other. But for equal volumes of the powder the ratio would be different, because the white powder is not so dense as the black; for equal volumes the white would do 1.292 the work of the other. To produce the same explosive effect, 60 parts by weight of the new would replace 100 parts of the old. The weights of the residues in the two cases would be 31.53 from the white, and 68 from the black. One of the advantages attending the white powder is, that the temperature of the flame is much lower; consequently a greater number of shots could be fired without unduly heating the weapon. The new powder can scarcely be exploded by pressure or percussion. It is only the heaviest blow of iron on iron that will effect its combustion..

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT MONTREAL IN NOVEMBER, 1861.

By Archibald Hall, M.D.

Day.	DAILY MEANS OF THE										THERMOMETER.		WIND.		RAIN AND SNOW.			GENERAL OBSERVATIONS.
	Barometer corrected and reduced to 32° at 6 A.M.	Temperature of the Air.	Dew Point.	Relative Humidity.	Ozone.	CLOUDS.		Maximum read at 9 P.M.	Minimum read at 7 A.M.	Its General Direction and Force from 0 Calm to 10 Violent or Hurricane.	Rain in 24 hrs read at 10 A.M.	Snow in 24 hrs read at 10 A.M.	Total rain and melted snow					
						Amount.	General description											
1	Inc's.	o	o	0-100	0-10	0-10												
2	30.336	40.6	30.8	70	6.5	8.3	Cu. St.	50.2	33.2	N.N.W.	0.10		0.10					
3	30.080	38.2	32.2	83	10.0	10.9	Cu. St.	40.4	29.2	N.N.E.	0.20		0.20					
4	29.502	42.7	40.0	91	10.0	10.9	Nimb.	46.2	35.6	N.W.	0.38		Inap.	0.38				
5	29.550	44.6	40.3	87	10.0	10.9	Nimb.	49.3	41.2	W.S.W.	0.20		0.20					
6	29.653	44.9	40.0	85	10.0	10.9	Cu. St.	50.3	35.3	S.S.E.	Inap.		Inap.					
7	29.596	43.7	40.4	90	10.0	6.5	Nimb.	47.7	39.2	N.	0.02		0.02			Heavy Fog at 7 a.m.		
8	29.662	44.1	35.2	73	6.5	6.5	Cu. St.	50.2	31.0	N.W.	0.05		0.05			Auroral light.		
9	29.723	37.3	30.9	79	6.5	6.5	Strat.	40.2	33.5	N.W.	1.6	Inap.	Inap.	Inap.				
10	29.843	39.3	32.0	78	9.0	10.0	Cu. St.	43.2	33.5	W.N.W.	1.6	0.03	0.03			Lunar Halo.		
11	30.109	35.7	27.2	71	7.0	6.5	Strat.	40.2	33.9	N.E.	0.17		0.17					
12	29.681	43.3	37.4	82	10.0	10.9	Nimb.	47.7	33.9	S.S.W.	0.54		0.54					
13	30.170	37.5	28.5	71	7.5	9.3	Cu. St.	42.9	31.3	N.W.								
14	29.991	35.2	27.6	75	9.0	10.0	Cu. St.	37.7	31.3	W.N.W.								
15	29.850	35.4	27.6	73	6.0	4.6	Cu. St.	39.9	21.7	W.N.W.	1.6		1.6			Hard frost.		
16	29.584	33.9	27.2	76	8.5	8.0	Cu. St.	37.5	23.0	W.N.W.	1.6		1.60	0.11				
17	29.590	38.0	31.9	82	9.5	9.5	Nimb.	44.2	28.0	W.N.W.	1.6		1.6	0.14	0.14			
18	29.741	37.0	27.7	69	5.5	6.6	Cu. St.	41.2	33.6	N.	1.6		1.6					
19	29.928	35.4	27.0	71	3.0	4.0	Cir. St.	40.2	30.0	N.W.	1.6		1.6					
20	30.200	31.2	26.2	81	2.0	1.0	Cir. Cu.	35.2	25.5	N.N.E.	1.6		1.6					
21	30.203	31.1	25.2	78	2.0	0.6	Strat.	36.2	24.3	N.N.E.	1.6		1.6					
22	30.160	31.8	25.7	76	4.0	7.0	Cu. St.	35.2	24.3	N.N.E.	1.6		1.6			Imperfect Solar halo at 1 pm.		
23	30.087	32.9	28.4	84	3.3	3.3	Cir.	38.2	26.3	N.N.E.	1.6		1.6					
24	29.657	33.0	30.6	92	9.0	9.3	Nimb.	37.2	28.0	N.N.E.	1.6		1.6					
25	29.396	37.3	33.8	93	10.0	10.0	Nimb.	40.2	31.5	N.N.E.	1.6	Inap.	4.50	0.71				
26	29.660	37.1	32.7	90	10.0	10.0	Cu. St.	40.2	32.4	N.N.E.	1.6	Inap.	Inap.	Inap.				
27	29.924	36.1	29.2	80	10.0	10.0	Cu. St.	40.2	32.0	W.N.W.	1.6	Inap.	Inap.	Inap.				
28	29.995	30.4	26.3	83	10.0	10.0	Cu. St.	36.2	23.4	E.	1.6		1.60	0.15				
29	29.972	31.8	26.7	82	7.5	8.6	Cu. St.	38.5	23.4	W.S.W.	1.6		2.00	0.17				
30	29.686	34.8	31.5	90	10.0	10.0	Nimb.	38.4	27.6	S.	2.0	Inap.	2.00	0.17				
31	29.694	35.1	29.4	80	6.5	10.0	Cu. St.	38.0	32.2	N.W.	2.0	0.06	0.06					
S's											1.69	9.30	2.29					
M's	29.846	37.36	31.05	80.8				41.46	31.13									

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT TORONTO IN NOVEMBER, 1861.

Compiled from the Records of the Magnetic Observatory.

Day.	DAILY MEANS OF THE						THERMOMETER.		WIND.		RAIN AND SNOW in 24 hours, ending at 6 A.M. next day.			GENERAL REMARKS.
	Barometer reduced to 32° Fah.	Temperature of the Air.	Relative Humidity.	Amount of Cloudiness.	Max'm read at 6 A.M. of next day.	Min'm read at 2 P.M. of same day.	Dew Point at 3 P.M.	General Direction.	Mean Velocity in Miles per hour.	Rain.	Snow.	Total rain and melted Snow.	Ozone in 24 hours ending 6 A.M. of next day.	
1	Inches.	o	0-100	0-10	o	o	o							
2	29.8765	42.45	81	10	44.2	39.0	38.0	N. 70 E.	10.94	0.458		0.458		
3	3245	40.33	94	10	44.0	39.5	39.0	N. 70 E.	20.73	3.132		3.132		Very heavy rain storm.
4	Sunday	40.05	83	10	44.5	37.0	36.5	N. 70 E.	8.25	.191		.191		
5	3022	45.07	82	8	52.4	38.6	42.5	N. 70 E.	6.85	.004	Inap.	.004		
6	2282	46.07	82	5	51.6	33.6	40.0	N. 70 E.	6.85	Inap.	Inap.			Faint Aurora 10 p.m.
7	3053	43.80	77	8	46.0	33.6	31.0	N. 70 E.	3.13					
8	5432	38.25	73	4	46.0	33.6	31.0	N. 70 E.	2.42	Inap.	Inap.			Solar halo.
9	4310	40.65	82	10	45.2	41.0	41.0	N. 70 E.	2.42					Faint Lunar halo.
10	5702	35.92	73	3	44.0	31.0	24.5	N. 70 E.	9.14	.121		.121		
11	Sunday	42.82	75	5	46.0	28.4	30.0	N. 70 E.	15.40	.013		.013		
12	5403	37.83	79	7	46.2	29.5	34.5	N. 70 E.	3.59	.006		.006		
13	9113	41.73	75	9	45.0	34.0	39.5	N. 70 E.	3.44					Faint Lunar halo.
14	6478	41.73	75	9	45.0	36.0	27.0	N. 70 E.	6.43					
15	6105	37.38	69	10	45.0	29.2	22.5	N. 70 E.	11.82	0.1		0.10		
16	4728	31.70	66	8	35.8	27.6	26.0	N. 70 E.	19.10	0.1		0.10		Rainbow 1 a.m.
17	5873	32.37	78	8	35.8	27.6	26.0	N. 70 E.	8.98					
18	Sunday	32.37	78	8	40.2	28.0	23.0	N. 70 E.	9.38					
19	7610	33.25	75	0	41.0	23.0	23.0	N. 70 E.	17.79					
20	3897	33.47	71	1	39.4	25.6	27.0	N. 70 E.	4.80					
21	6190	33.70	77	10	42.2	30.0	33.0	N. 70 E.	3.44	.134		.134		
22	8053	28.50	93	10	43.8	37.0	40.5	N. 70 E.	0.69					
23	4535	39.87	83	10	44.0	34.4	35.0	N. 70 E.	14.42	.236		.236		
24	1583	35.20	81	10	37.4	33.5	32.0	N. 70 E.	7.35	0.3		0.30		
25	Sunday	34.0	80	0	34.0	30.0	30.0	N. 70 E.	1.47	Inap.	Inap.			Solar halo.
26	3440	30.67	86	6	37.0	23.3	30.0	N. 70 E.	3.31					
27	6848	32.18	79	2	40.8	25.0	32.0	N. 70 E.	3.31					
28	4752	35.02	81	10	38.2	23.6	34.0	N. 70 E.	11.53	.051	0.2	.071		Lunar halo 6 a.m.
29	6022	30.43	81	10	37.0	27.8	21.0	N. 70 E.	5.52	2.0		2.00		Dense fog during morning.
30	3343	35.73	84	9	39.0	29.2	31.5	N. 70 E.	7.10	Inap.		0.5	0.50	
31	4862	31.33	77	9	34.0	30.5	25.0	N. 70 E.	8.42					
S's										4.346	3.2	4.666		
M's	29.5371	37.14	79	7	42.59	31.99	32.35	N. 46 W.	7.44					