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Original Communications.

Midwifery Statistics. By A. A. FERGUSON, M.D., of Franklin Centre, Que. (Read before the Medical Association of Northern New York, Malone, Nov., 1877.)

The statistics which I offer have been gleaned from the fields of rural practice, and in this particular differ from the statistical tables we generally see, inasmuch as the latter are taken either from the practice of city physicians or from hospital reports, that is from cases occurring in the upper and lower classes—the extremes of society. Here at any rate extremes meet, for far apart as they are socially, yet physically are they near, and the common ground on which they meet are ennervation and defective vitality; in the one arising from luxury and idleness, in the other from want and overwork. Country practice introduces a middle-class, in which, if we find work, and sometimes overwork, we also find a diet nutritious and ample enough to appease the appetite which that work has provoked. This equilibrium between demand and supply will probably account for the greater weight of the infants born in the country, as well as for the preponderance of male births.

Presentations.—Of a total number of 300 cases, there were 284 of vertex presentation. I regret that I have not kept a note of the different positions usually noted under this head. Of the remaining 16 cases, 2 were of the arm, 8 of the breech and 6 of the foot.

Results:—4 mothers died, 2 from epileptic convulsions, 1 from cerebral congestion and 1 from peritonitis. 8 children were born dead. The cases of arm presentation were favorable to the mother; 1 child died. In the footling presentations the results also were favorable to the mother, but 2 of the children were lost. The breech presentations were favorable to both, though one of the children (premature) was still-born. Ratios of vertex presentations, 94 p. c.; arm, 1 in every 150 labors, or 0.6 p. c.; breech, 1 in 37½, or 2½ p. c.; foot, 1 in 50, or 2 p. c. Of deaths:—mothers, 1 in 75, or 1.3 p. c.; children, 2½ p. c.

Births.—296 were single, 4 cases producing twins. In one case the mother had twins twice in succession. Of the 8 twin children, 3 presented by the foot. Ratio of twin cases, 1 in 75.

Funis.—Prolapse of the funis occurred twice, and was not returned. Results favorable:—1 born alive, the other still-born but resuscitated. The cord was found coiled round the neck in 64 cases, or about 1 in 5. Around other parts of the body in 8 cases. This complication existed in 40 males and 32 females.

Sex.—Of 304 children, 176 were males and 128 females, an excess of males of 16 p. c.

Weight.—The weight of 180 children was correctly ascertained: 4 weighed from 3 to 4 lbs.; 6 from 4 to 5 lbs.; 12 from 5 to 6 lbs.; 22 from 6 to 7 lbs.; 24 from 7 to 8 lbs.; 56 from 8 to 9 lbs.; 38 from 9 to 10 lbs.; 10 from 10 to 11 lbs., and 8 from 11 to 12 lbs. Maximum weight 11¾ lbs.; minimum, 3¾. Average weight of male, 8½; of female, 8⅛ lbs.

Placenta.—In 182 cases, the placenta was expelled naturally within 5 minutes. In 68 from 5 to 10 minutes, in 24 from 10 to 15 minutes, in 10 from 15 to 30 minutes in 12 from 30 to 60 minutes; in 2 cases 2 hours. 2 exceeded that time and were extracted by hand.

Duration of Labor.—Longest time, 96 hours. This was rather an uncommon case, the birth being that of a monster-female, and of course born dead. The shortest time 1½ hour, and occurred in a case of twins, both children were born within 2 hours. The average duration of male births was but very slightly in excess of that of females. The average duration in 200 cases was 10 hours. Where cord coiled round the neck the average duration was 13 hours.

Version.—Podalic version was performed 3 times; results favorable to 3 mothers and 2 children.

Forceps.—These were applied in 30 cases, or 1 in 10. Epileptic convulsions called for their use twice, and though resulting favorably to the children, both mothers subsequently died. In four instances the children were born dead.

Craniotomy.—No case calling for this operation has occurred in my own practice, but I have been twice called upon to perform it, both cases occurring in the practice of unlicensed practitioners. In the first case the head had become so impacted that it was impossible to pass the forceps. The mother, a primapara, had been thirty-six hours in labor, and so severe were the pains that rupture of some of the minute bronchi had taken place, producing a fearfully emphysematous condition of the face, arms, etc. Fearing lest rupture of the womb should occur, I resorted to craniotomy. In this instance the mother made a good recovery. The second case was that of a multipara. On my arrival I found that

labor had continued for twenty-four hours; that the advance of the head had not been in proportion to the severity of the pains; that the pains had suddenly ceased; that the administration of ergot and stimulants had failed to produce any effect. Upon examination I found the patient terribly exhausted, vomiting, difficult respiration, and no labor pains. My notes do not state, nor can I now remember whether the forceps were used or not. Craniotomy was had recourse to, but the mother died within an hour after the operation.

Monsters.—Two cases. The first, a female, had no neck; the head squatting on the trunk and bent back so that the occiput seemed to be attached to the dorsal vertebræ, consequently its face was where the top of the head ought to have been. The second, also a female, had no forehead: and on the top of its head was a peculiar fungoid growth, with an aperture through which the finger could be thrust down to the brain. Both children were born dead.

Remarks—Ergot I use very sparingly. Chloroform I have never used.

My patients are allowed to choose that position which seems most comfortable. My French patients prefer a half-sitting position on the floor; the English prefer the bed or a lounge, lying either on their side or back. I never interfere during the first stage of labor; but if the second is likely to be prolonged, thereby exhausting the mother and endangering the life of the child, I at once use the forceps, from the use of which I have never seen any ill effects. I never support the perineum, for *gentle* pressure is totally inadequate to prevent rupture, and excessive support, while retarding delivery, is apt to produce the laceration we are so anxious to avoid.

Progress of Medical Science.

A NEW TREATMENT OF CATARRH OF THE BLADDER.

Prof. Dr. G. Edlefsen, of Kiel, publishes in the Deutsch. Archiv. Klin. Med. XIX, 1, 1877, a long essay on the treatment of catarrh of the bladder. The author first considers the previous and prevalent methods of treating this affection, and recommends a new treatment, which has proven of signal efficacy in his hands.

The view lately advanced that the best method of treating cystitis, even acute cases of it, consists in the introduction into the bladder, through the urethra, of water or medicated fluids, is not in accordance with the author's observation. There are connected with this treatment dangers which have induced the author to limit it to cases in which internal general medication has failed, that is to old and obstinate cases.

The urine is a very sensitive solution of highly decomposible substances, and it becomes all the more sensitive, and all the more inclined to putrefactive changes when it contains, as in cystitis always white blood corpuscles, albumen and mucin. Besides, the mucous membrane of the bladder is exceedingly sensitive, and nothing acts upon it more injuriously, at least when it is in a pathological condition, than alkalinity, and above all things the ammoniacal alkali of the urine. In spite of the most scrupulous care and cleanliness—the experience of catheterization has abundantly proven it—the entrance of minute organisms cannot always be prevented, and once entered, those organisms, in their swift reproduction, speedily excite or accelerate decomposition of urea, which in turn mingled with blood (pus) serum, leads to alkalinity of the urine. Thus damage is inflicted upon the mucous membrane by the very means employed to prevent it. Hegar has reported a number of mishaps with the local treatment of catarrh of the bladder. But entirely aside from this question, the author claims that that treatment should have the preference which is the least severe, and this is the case with medication by the stomach, provided such medication exercise no injury upon any organ of the body. The author subscribes with his whole heart to the principle established by Prof. Dittel, of Vienna, to the effect that no instrument should ever be introduced into the bladder in cystitis, unless imperatively necessary. There are cases of cystitis attended with urethral structure of high degree, in which the introduction of fluid is impossible, and yet the treatment of the cystitis is just as satisfactory.

The new remedy which the author employs, is the chlorate of potash. In the dose required, this remedy exercises no bad effect either upon the stomach or any individual organ of the body, and from the observations made as to the effect of this agent, after its ejection with the urine, upon the mucous membrane of the bladder, the author believes that it will eventually be used by injections into the bladder wherever injections are permissible. The most effective remedies hitherto employed besides water irrigation and diet regulation, were oil of turpentine and balsam of copaiba. "Whoever has used these agents must agree with me when I maintain that there are but few cases of vesical catarrh which resist these agents, and these cases are either due to tuberculosis, cancer or other incurable disease, or they are cases of very long standing, before having been submitted to this treatment. No other remedy, according to the author, will so quickly render acid the alkaline urine of cystitis as the oil of turpentine, and in the second rank, the balsam of copaiba. They are now not to be confined, as Felix v Niemeyer maintained, simply to the chronic cases; they furnish the best results in recent cases also. The author always prescribes the balsam of copaiba so soon as

the first bladder symptoms present in gonorrhœa; in acute cystitis from other cause, when the disease is only of a few days duration, he gives the oil of turpentine, and in the rule but a few days continued administration suffices for a cure.

When we remember that the normal reaction of human urine is acid, that the mucous membrane of the bladder is continually bathed by acid urine, we may readily understand why an alkaline urine is damaging. The re-establishment of the normal reaction would seem thus to be an indication in the treatment of catarrh of the bladder. The mineral acids do not suffice to effect this reaction, but the turpentine oils introduced into the stomach accomplish it in a few hours, except in the most obstinate and rooted cases. The catarrhal secretion is also diminshed by it, the acid reaction reacts in turn upon the cervical mucosa, and the subjective manifestations, in the rule, speedily disappear.

How is it then—in contradiction to this theory—that the alkaline mineral waters have always enjoyed such a reputation in the treatment of catarrh of the bladder? Lebert, as is well known, boasts of bi-carbonate of soda as a specific almost. The author would not attempt to solve this question altogether, but he thinks the chief advantage of the waters is the quantity and consequent dilution of the urine and irrigation of the wall of the bladder.

But it is not to be forgotten that turpentine sometimes irritates and inflames the kidneys and the bladder, and may even induce hematuria. These accidents are, however, so rare as not to interfere with the administration of turpentine and copaiba in the rule, unless there are complications with ulcer of the stomach, catarrh of the stomach, dyspepsia or inflammation of the kidneys. The other remedies recommended, folia uvæ ursi, salicylic acid, benzoic acid, etc., are occasionally of value, but cannot be relied upon.

The new remedy the author recommends is chlorate of potash. He recommends it after thorough and conscientious trial and with full conviction of its value; it is a rational remedy in every way, it never damages the stomach or any other organ. It substitutes turpentine perfectly in cases where turpentine cannot be given.

That the chloric acid salts, when administered internally, pass into the urine, was demonstrated in 1856 by Lambert. The value of the chlorate of potash in affections of the mouth and pharynx leads the author to their administration in affections of the bladder, the epithelium being in both cases alike of the pavement variety. The action of this remedy seems confined to this variety, as it has no effect upon the trachea or bronchical tubes. Its action is not to be explained by simple contraction of the muscular coat of the vessels, as it not only reduces the hyperæmia and catarrh, but also closes ulcers over quickly as if it exercised a specific action in the reproduction of epithelium. The author's results were extraordinary, still there are cases in which he failed with it, and was compelled to resort to turpentine and copaiba. He orders for adults usually: potass., chlorat. 15.0, aqua., dist. 300.0, of which a tablespoonful every two or three hours. He lays stress upon the prescription because it is necessary to bring the patient under the influence of the remedy quickly. Should the taste of the drug after long administration become insipid or sickening, it may be corrected by using cherry laurel as a vehicle (10.0—300.0); any syrup should be avoided. The pus begins to disappear from the urine after its use very quickly—an important difference from the action of salicylic acid—and the subjective distress is lessened or disappears even before the pus has entirely vanished. The acid secretion is restored, but not so quickly as after turpentine, but the restoration of the normal reaction, the reproduction of a normal mucosa with normal epithelial cells, with corresponding diminution of the catarrhal secretion, constitute a cure.

A CONTRIBUTION TO THE THERAPEUTICS OF MIGRAINE.

(Read before the Section on Practice of Medicine in the New York Academy of Medicine, Nov. 20, 1877.)

By E. C. Seguin, M.D., President of the New York Neurological Society.

Gentlemen:—The contribution to the therapeutics of migraine which I have the honor to read this evening, will probably strike you as very fragmentary and inconclusive, but I would ask you to consider in a charitable spirit that it is the result of only a few hours' work, and that it is intended as a suggestive rather than a didactic and formal essay.

So short has been the time which has elapsed since I was asked to participate in this evening's work, that I have not been able to collect scattered notes of cases and to make inquiry of former patients; both of which would have been necessary had I wished to base my statements upon statistics. At some future time it may be possible to supply the data upon which the succeeding assertions rest.

Briefly stated, my thesis is that by the long-continued use of cannabis indica, migraine or sick-headache may be cured, much relieved, or mitigated in severity.

This idea is not by any means original with me, but was brought out by an English physician, Dr. Richard Greene, who published a short article upon the subject in *The Practitioner*, Vol. IX., p. 267, London, 1872. After reading the article I immediately began using the remedy, cannabis indica, as directed by Dr. Greene, and have continued to do so ever since. My former partner, Prof. William H. Draper, has also used the treatment somewhat during the same period of time; and both of us have been much gratified by the results obtained. I may add, that some inquiry has convinced me that, in this country at least, the article passed unnoticed, and the plan has not been generally tried.

Before proceeding to give details concerning the treatment, it might not be amiss to recapitulate the diagnostic characters of migraine or sick-headache. This affection is essentially neuralgic in its chief manifestation, viz., a severe or excruciating pain *in* the head and orbit, but not along the superficial branches of the trigeminus. It affects both sexes, from the age of six or ten years to that of forty or fifty. In some patients it makes its first appearance at puberty, and terminates before the sixtieth year. In females it may, after undergoing aggravation or transformation, cease at the menopause. Very rarely does the disease cease before thirty, and still more rarely does it first appear at that age.

Migraine is pre-eminently an inherited disease, perhaps more directly so than any other neurosis. I possess numerous tables of families in which many members of three generations were affected.

Migraine is periodic in its manifestations, nearly as much so as epilepsy; patients have attacks every two months, or monthly, or every week—seldom several in a week. In some women the periodic return of migraine coincides with menstruation.

An attack of sick-headache usually begins in the very early morning, and lasts all day—seldom longer in uncomplicated cases. In many cases certain premonitory symptoms precede the occurrence of pain. The day or evening before the attack some feel unusually bright and well. At the earliest waking on the day of attack there may be chilliness, or numbness of a limited part of the body, dim vision, colored vision, or hemiopia. These optical disorders are of exceeding interest, and are best observed in those patients whose attacks begin some time after rising. They usually last less than half an hour. Although amblyopia, hemiopia, photopsia are often very serious symptoms, yet in migraine they lose their prognostic significance. In other persons nausea is an early symptom. Pain follows upon the above disturbances and sometimes makes its appearance without them. It is usually in one side of the head, hemicrania; deeply placed "in the brain" or "back of the eye," as patients tell us; it grows in intensity, is sharp, or beating, or pressing, and may reach such a degree of severity that patients strike their heads violently against hard objects, use chloroform, or beg for hypodermic injections of morphia to obtain relief. During the existence of this pain, which may extend to the rest of the head, there is hyperæsthesia of the eye and ear, great irritability, pallor of the face, cool skin, intense nausea, and severe vomiting. So prominent a symptom is vomiting, so early does it appear, and so abundant is the matter ejected, that the sufferers generally, and, I regret to say, physicians occasionally, consider the headache as caused by "biliousness;" thus reversing the true order of cause and effect. For a while after vomiting there may be some relief to the suffering.

Toward evening the pain diminishes in intensity, changes its character to a dull general headache, and after a night's sleep the patient awakes quite well; in many cases feeling better than before the attack. Sometimes, however, in gouty subjects, or in women at the menopause, headache more or less typical will endure for two or three days.

It should be added that there are cases in which no nausea or vomiting appears; and patients are disposed to separate these from the category of sick-headache, and speak of them as "nervous headaches." I believe that these two varieties are of the same general kind,—of the migraine type.

It would be out of place in this short paper to trace out the varieties and transformations of migraine, and I have only said enough of the symptomatology to make it unmistakably clear what are the cases in which the plan of treatment about to be presented is applicable.

The pathology of migraine is one of the most open questions in medicine, and I can only briefly state my own opinion, reached by a careful study of physiological considerations and clinical data. I believe, with Anstie and many others, that a lesion (at present undemonstrable) exists or occurs in those parts of the pons and medulla oblongata which give origin to the sensory roots of the trigeminus. Various systemic states, and various irritations from the external world, the abdominal organs, the cerebrum, serve to provoke the attacks.

One very potent exciting cause of attacks is mental overwork or anxiety; another generally recognized is that condition of the system in which oxalate of lime appears abundantly and frequently in the urine, and in which uric acid quickly separates from it—in brief, acidity, or a gouty disposition. Indigestion may also be an exciting cause.

Guided by the above pathological and ætiological notions, I have treated migraine by—

1. Treating the patient, and removing all exciting causes.
2. Treating the attacks themselves.
3. Treating the disease, or the supposed fundamental pathological state in the nervous system.

First.—The treatment of the patient consists in removing all relievable exciting causes, and more especially in correcting acidity. For this purpose I employ the ordinary means, viz., giving nitro-muriatic acid and alkalies, and greatly reducing the saccharine and amylaceous foods of the patient. In cases attended by debility, anæmia, and imperfect nutrition, it may be necessary to resort to tonics, including cod-liver oil.

Second.—Treatment of the attack. The first thing to be done, in my opinion, is to place

the patient under circumstances which secure quiet and semi-darkness. The attempt to "fight out" a sick-headache is nearly always vain, and may be injurious. It is better not to allow the patient any food, not even liquids, until toward the close of the attack, or even not till next day; by this, nothing is lost, and much wretchedness is avoided. Ice, or ice washed in brandy, is grateful.

If the patient have a warning aura of migraine before nausea or pain, much can, I believe, be done to cut short the attack or diminish its severity by the use of guarana, caffeine, or croton chloral hydrate. In my hands, guarana, or the powder of the seeds of *paullinia sorbilis*, has proved very efficacious. I have prescribed the fluid extract of guarana, Caswell & Hazard's Elixir of Paullinia, the French Paullinia powders, and powdered guarana prepared by our druggists, and all of these preparations have in my hands often cut short or prevented attacks, *if given in the early stage of the disorder*.

Of the elixir or fluid extract I give a teaspoonful, to be repeated twice, at an interval of an hour. The powders are administered in twenty or thirty grain doses, also repeated every half hour or hour. I think that I may report that nearly one-half of my patients have derived great relief from some preparation of guarana, and that in several of them attacks have been absolutely prevented, and they have been enabled to go about on the same day.

Caffeine, in doses of two grains, repeated every hour, until three or four doses have been taken, I have lately employed, upon the recommendation of my friend Dr. Geo. M. Beard, and it has appeared to do good.

Croton chloral hydrate, recently recommended in all neuralgic affections of the head and face, I have recently prescribed in doses of 15 and 20 grains, repeated every hour until four doses are taken or relief obtained. This remedy is to be used more especially in cases where pain is the first symptom, and in other cases if seen when the pain is fully established.

I have no personal experience with the use of large doses of bromide of potassium and of alcoholic stimulants, for the relief of attacks.

Hypodermic injections of morphia and atropia (gr. $\frac{1}{3}$ to $\frac{1}{2}$, and gr. $\frac{1}{60}$) have permanently relieved attacks in a few of my cases; but I am very reluctant to employ this means, so fraught with the danger of the formation of the opium habit. I never allow my patients to take opium or morphia themselves in this disease.

I would add that there is very probably a real ultimate usefulness in shortening or preventing every attack which may threaten to occur during the systematic treatment of the neurosis; we may thus be doing a good deal to interrupt the *morbid habit* which the nervous centres have acquired.

Third.—Treatment of the disease. No treatment of this sort had been tried, to my knowledge, before Dr. Greene made his remarkable researches upon the effect of cannabis indica. Dr. Greene reported cases of many years' standing as having been months and years without attacks while and after taking cannabis indica, and in other extremely bad cases marked reduction in the frequency and severity of the attacks was obtained.

I have said, in the opening page of this small contribution, that I and a few medical friends have used the cannabis treatment ever since Dr. Greene's publication, and with satisfactory results.

The principle of the treatment is to keep the nervous system steadily under a slight influence of cannabis for a long period of time; in other words, we are to employ the "continued dose" of the remedy, as Clarke and Amory say, in speaking of the use of bromide of potassium in epilepsy.

I give to adult females one-third of a grain of the alcoholic extract of cannabis indica before each meal, increasing the dose after a few weeks to one-half grain. Males can generally begin with one-half grain, and it is well to give them three-quarters grain in two or three weeks. These doses must be taken with the greatest regularity, just as faithfully and regularly as bromides in epilepsy. Indeed, when beginning such treatment, I usually obtain a promise from the patient that he will regularly take the pills for a period of three months.

As a rule, no appreciable immediate effect is produced by the above doses, though I have known lightness of the head and slight confusion of mind to result from an initial dose of one-half grain three times a day.

Under this apparently and essentially simple plan of treatment, I have known what may be termed excellent results to be obtained. Of course, I do not mean to say that all my patients have been benefited, but, without a statistical table, so difficult to construct from the experience of private practice, I feel certain that about one-half of my cases have been relieved. A few—two or three—after being more than a year without return of their migraine, have passed from under immediate observation. One of these now very rarely has headache, although for several years he has taken no medicine. The majority of patients relieved have obtained months of freedom from attacks while taking the remedy.

I think that we may say of cannabis for migraine that it is nearly as efficacious as the bromides in epilepsy. Both *may* cure, both *do* bring about remarkable interruptions in the series of attacks, both must be employed in the shape of the continued dose.

Cannabis in migraine is less effectual than the bromides in epilepsy, but, on the other

hand, it is superior to them in not producing unpleasant or injurious effects.

My friends and former partners, Drs. William H. Draper and Frank P. Kinnicutt, have used the above plan of treatment frequently in the last five years, and their results substantially agree with my own.

Some surprise naturally arises upon seeing so much good done by small doses of a neurodic medicine in a disease so deeply rooted as migraine. Our wonder may never cease respecting the *modus agendi* of the drug—its essential potent action; but its gross and practically interesting effect is very analogous to a well-established acquisition of empirical therapeutics. I refer to the successful employment of belladonna or atropia in epilepsy. This treatment, especially vaunted by Trousseau, is by no means useless, although it is no longer fashionable since the more useful bromide treatment has come into general use. I still, however, employ belladonna in epilepsy in conjunction with the bromides, and this combination sometimes brings about gratifying results.

I may be allowed to briefly mention one illustrative case. When Dr. Brown-Séquard went to Europe in 1875 one of his patients came under my care. She had a bad form of epilepsy, and in spite of the most skilful use of the bromides by her illustrious physician she had been having a fit every two weeks for months. I made little change in the amount of bromides she was taking, merely substituting my own simpler solution for Brown-Séquard's mixture, and gave her one-quarter grain of belladonna three times a day—just enough to keep her throat a little dry. From the very beginning of treatment the epileptic attacks became fewer; intervals of one, three, and fourteen months being obtained. In the present year, owing to the uncontrollable cause of the epilepsy, she has had three or four seizures.

A close parallel may, I think, be drawn between the two diseases, epilepsy and migraine; and between the two remedies, belladonna and cannabis; thus, in my opinion, logically forti fying the proposition advanced upon empirical grounds, that cannabis is useful in the treat ment of migraine.

1. Migraine and epilepsy are both nervous affections characterized by the occurrence of periodical attacks; the attacks themselves in both diseases are largely made up of vaso-motor disturbances: in both it is probable that the medulla oblongata is primarily or secondarily diseased: both affections occur in the same families, and may be present at successive times in the same patient. The late Dr. Anstie has expressed the opinion that the two diseases are akin, and states* that migraine may develop into genuine epilepsy. I have in my private case-books cases illustrating this proposition, and I am now treating a physician who states that after nocturnal epilepsy appeared, before beginning bromide treatment, his old migraine grew less frequent and less severe.

2. As regards the two remedies, cannabis and belladonna: both are intoxicants and deliriants; both dilate the pupil, and it is probable that the action of both upon the central nervous system, when administered in the shape of the continued dose, is very similar.

In conclusion, I would earnestly ask the gentlemen who have honored me with their attention this evening, to give the cannabis treatment of true migraine a critical trial.

* The Practitioner, Vol. IX., 1872, p 356.

USE OF THE COLD DOUCHE, AND FRICTION WITH TOWELS WRUNG OUT OF COLD WATER, IN CASES OF CHRONIC PHTHISIS.

Dr. A. Von Sokolowski is Dr. Brehmer's assistant at the Gôrbersdorf (Silesian) Sanatorium, where a very great number of phthisical patients are treated every year. He remarks (*Berliner Klinishe Wochenschrift*, Nos. 39, etc. 1876) that a variety of opinions prevail amongst medical men as to the propriety and usefulness of the cold douche in pulmonary phthisis. Some consider it of the highest utility; others regard it as quite unfit not only for consumptive cases, but for all analogous ones. It occurred to him, therefore, that it would be useful to carefully note the effect of this treatment in the cases under his observation at Gôrbersdorf. The results are as follows. A hundred and five cases of consumption were treated by the cold douche. These may be subdivided into three categories. 1. Patients with deposits of very limited extent (infiltration) in one or both apices of the lung, and patients only suffering from catarrh of the apices, with marked hereditary taint. These deposits were partly recent, partly of old date; sixty-six patients belonged to this category. 2. Patients with extensive infiltration, without any demonstrable breaking down (destruction) of tissues, and whose general condition was good; nineteen patients belonged to this class. 3. There were thirty-three patients who had physical signs of breaking down, or softening of the deposits (destruction of lung-tissue) yet with the general health little impaired. This class includes both limited and extensive deposits. Of the whole number, sixty-six had no hereditary history of phthisis, whilst in thirty-nine cases the history of phthisis in the family was perfectly clear and indubitable. The hydrotherapic treatment was supplemented by attention to diet, and an air-cure. The duration of the hydrotherapic treatment was on an average about three months.

The final results of the treatment were as follows. Of the hundred and five patients (1) thirty-nine left the institution with so much

improvement that they might be considered as perfectly, or at least for all practical purposes, cured; (2) thirty-four left it with very considerable improvement; (3) nineteen with some improvement; (4) seven left it with no improvement; (5) two of them were worse rather than better; and (6) four of them died. We thus see that thirty-nine of the hundred and five cases, or 37 per cent., terminated in recovery. Those which recovered perfectly were for the most part cases of the limited deposits in the lung. In such cases, after the treatment, there was considerable improvement of the general condition, gain of weight and strength, with increased appetite, and perfect absence of all pathological symptoms as regards the organs of respiration, though one or two may have shown slight variations from normal percussion-tones, and prolonged expiration at the apex of a lung; but this slight dulness at the apex is sometimes consistent with recovery, as it may be due to thickening of the pleura. It is not pretended that there is absolute freedom from relapses under other conditions of climate and modes of life. Years are required to settle this point affirmatively. In the second class, or those relatively cured, must be placed those cases in which there had been considerable destruction of lung-tissue, with subsequent contraction, etc. Their general health was improved; all hectic symptoms, where such were present, had disappeared; but the damaged lung remained as a sort of *caput mortuum* to the injury of the organism. Such cases must of necessity be very liable to relapse. If the 37 per cent. seem a large proportion of success, it is to be remembered that the cases subjected to this douche treatment were selected from those suffering from the most favourable forms of the disease. Only 25 to 30 per cent. of the Gôrbersdorf patients were subjected to the douche. Only eleven of the cured cases had hereditary phthisis. Of the four fatal cases, one died of typhlitis and general peritonitis, of a purulent kind; one, after hæmoptysis, died of tubercular meningitis: a third, after hæmoptysis, died of acute and rapid phthisis; as did the fourth and remaining case.

As regards the immediate effects of the douches, and those of the combined or repeated douches, they are as follows: 1. The capillary vessels of the skin become accustomed to a sudden contraction (shown by pallor, cold feeling, and emptiness) and then become dilated for a longer time (shown by purple red colour, and a pleasant feeling of warmth). 2. There is an increase of cutaneous respiration. 3. There is increased tissue metamorphosis, and improvement of the general condition of the patients. The skin is too often neglected in consumptive patients, and at first the douche often proves very unpleasant. The reaction is promoted by vigorous rubbing with towels, and very soon the skin begins to resume its functions, and the douche is no longer unpleasant.

Sokolowski considers the douche indicated—I. In those predisposed to phthisis, but not actually consumptive, as (1) children of phthisical parents, whilst growing up; (2) people who have very sensitive skin and mucous membranes, and are always taking cold; (3) in so-called "primary catarrh of the apices;" (4) in chronic bronchial catarrh, not definitely localized with history of consumption in the family; (5) in chlorosis of constitutional or hereditary type. II. In people already suffering from phthisis; (1) in all the acquired inflammatory kinds, if the general condition of the system be good; as (*a*) in limited deposits in one or both apices of lungs; (*b*) in more extensive lung-changes, *i. e.*, when the size of the deposit is larger, even with considerable breaking down of tissues in consequence of chronic, stationary phthisis, without pyrexia [in a note he says that slight evening exacerbations of temperature do not forbid the use of the douche; and he refers to a paper of his in the *Deutsche Zeitschrift fur Praktische Medicin*, No. 46, 1875]; (2) in constitutional inherited phthisis when the lung symptoms are still limited and slight, and the general health is good. But improvement should already have set in under the use of appropriate diet and fresh air. In summer the douche may be used freely. In winter we must be far more cautious. Pharyngo-laryngeal catarrh is a decided contra-indication against the use of the douche in winter. Not only the time of year, but the weather of each day must be taken into account. The chief contra-indications are: 1. Great general debility, apart from lung symptoms; very anæmic people mostly belong to this class; 2. Well-defined hectic symptoms, even when not very severe; 3. When no improvement results from the use of the douche, or there is faulty reaction, a great feeling of weariness, long-continued chilliness, faintness, etc., produced by its use. As temporary reasons forbidding its use are: 1. The menstrual period; 2. Severe nasal catarrh, especially in winter; 3. Hæmoptysis; 4. Well-marked muscular rheumatism, and other complications or incidental maladies. Whether a tendency to hæmoptysis forbids the douche is much disputed. Sokolowski thinks the objection theoretical. The experience of these hundred and five cases is against it; 70 per cent. of them had more or less hæmoptysis; 27 per cent. rather considerable losses of blood. In the eight months of douches there were only nine slight, and four severe attacks of hemorrhage—only once immediately after the douche—thus, in only fourteen of the seventy-four was there any bleeding from the lungs during the treatment. Indeed, slight hæmoptysis was several times

checked by the douches—once in his own person, for Dr. Sokolowski was himself a patient at Gorbersdorf in 1873 and 1874, and made use of the douche. He remarks that both the profession and the public attach an undue importance to slight bleeding from the lungs. He has known a patient to lose ten pounds in weight in two or three days after a trifling loss of blood. Others became melancholic or mad. Others again fainted at the sight of a drop or so of blood. Only special forms are dangerous, such as the aneurismal, etc. The moral treatment is of vast importance in all cases. The cold douche will actually check some cases. Many hemorrhages from the lungs occur in the early morning with subnormal temperatures, and slow, small pulse. This *pulsus rarus et parvus* (sixty in his own case) is often the precursor of bleeding; doubtless due to congestion of lungs and weakness of heart. He has known a glass of wine and a walk check some hemorrhage. As to the kind of douche, he agrees with Braun, in his *Balneotherapie*, (Berlin, 3te Auflage, 1873, p. 249), that few things require more skilful control than the douche, and few are so dangerous as this in the hands of an enthusiast. The natural temperature of the water from the hills, used at Gorbersdorf, is from ö +4° to +10° Réaumur (41° to 54° Fahrenheit). and this is used without modifying it for special cases. There is high natural pressure, owing to the height of the sources. Two kinds of douche are used, (*a*) the rose, or rain-douche, which spreads over the whole body, by falling like a shower from above; and (*b*) the jet-douche, which is either perpendicular or lateral. There is a special chamber. The medical attendant, on hearing the patient's name, turns on the appropriate tap. It is generally applied between 8 and 10 A.M., and at first only from four or five seconds. After the douche, the patient is rubbed vigorously, and then, if the weather permit, walks out, and climbs the hills; or, in bad weather, takes exercise in a long saloon for the purpose. Hardly any douche exceeds thirty seconds. The first, and sometimes other douches are followed in some cases by dyspnœa, or by violent palpitation. These symptoms sometimes depend on the time being too protracted. If they persist, along with weariness and general weakness, it is better to leave off the douches. Headache may be sometimes avoided by protecting the head. Stabbing pains, with violent cough and expectoration, are met with in a few cases. Brisk rubbing with a towel dipped in rather cold water (50° to 59° F.) may be substituted for the douche with great advantage, particularly in the winter. Rubbing with a dry towel succeeds this. The whole affair must not exceed five minutes. Hectic is considered to contra-indicate both these and the douche. The same remarks generally applies to night-sweats.

PARENCHYMATOUS INJECTION OF ERGOTINE.

Dr. L. Collins, of Guilford, Ind., in *The Clinic*, speaks favorably of injecting a solution of ergotine into the tissue of the cervix in cases of subinvolution of the uterus and chronic engorgement of the neck of the organ. He uses a needle about four and a half inches long, attached to a hypodermic syringe; operates through a common glass speculum, first producing local anæsthesia by placing a pledget of cotton, saturated with chloroform, against the os, and throws into the cervical tissue a solution containing two or two and a half grains of Squibb's ergotine. The injections were repeated every six days. Very little local irritation is said to follow and the pain, if any exists, soon assumes an intermittent character.

DISEASES OF THE NERVOUS SYSTEM.

A Lecture Delivered at Bellevue Hospital Medical College,

By C. E. Brown-Séquard, M.D.

Effect produced when brain disease strikes at the origin of nerves—Diagnosis of hemiplegia—Distinction between disease of one-half of the spinal cord and disease at the base of the brain—New symptom—Effect upon temperature, etc.—Zone of anæsthesia—Disturbances of other organs; kidneys, heart, lungs, etc.—Absence of convulsions in disease of the pons varolii—Diagnosis of disease of the crus cerebellum—Paralysis a constant symptom of brain disease.

(Reported for *The N. Y. Medical Record.*)

Gentlemen:—At the last lecture I referred to a number of cases, with the purpose of showing that any lesion in the side of the brain can produce the greatest variety of forms of paralysis—the greatest variety as regards the extent, the degree, and the persistance of paralysis. This, of course, has led a number of you to think it to be extremely difficult to make a diagnosis of the locality in the brain of the disease which produces paralysis. No doubt, it is extremely difficult, but as you will see, from what I shall say to-day, there are features which can lead to diagnosis of locality of lesion, even when what we observe is entirely in opposition to the views which are generally accepted.

But before I speak to you of those facts which lead to diagnosis of the seat of the disease that has produced the paralysis—the symptoms of the disease—I have a few words more to say upon a point which escaped notice in the previous lectures. It is this; the theory published by Dr. Broadbent has been put forth with the view of explaining certain difficulties which we find as regards the seat of paralysis. As I told

you yesterday, in most cases of brain disease producing hemiplegia, the hemiplegia consists almost exclusively of paralysis limited to the arm, the leg, and to some of the muscles of the face. There are many parts of the body which escape paralysis in the immense majority of cases of disease of the brain. These parts are the muscles of the trunk, the muscles of the neck, those muscles which go from the trunk to the limbs—the arms or the legs. Those muscles escape paralysis more or less, rather more than less, in the immense majority of cases. Dr. Broadbent has tried to explain this fact in admitting that there are certain parts of our body which depend on a centre located in the medulla oblongata or at the lower part of the pons varolii, and which has the power to act upon both sides of the body. So, admitting that one side of the brain is destroyed totally, including that nerve centre-centre which is the corpus restiformis upon the same side, the corpus restiformis upon the other side is alone sufficient to move the two sides of the body, and thereby the muscles which have escaped paralysis. The view is certainly true in a great measure, but it is faulty in this: Dr. Broadbent, as well as most medical men, considers the corpus restiformis as a motor-centre. The reality is, as I hope to be able to demonstrate, that a small part of one side of the brain is sufficient for both sides of the body, not only for the muscles which escape paralysis but for the muscles of the limbs as well.

I now pass from this to what I have to say regarding the significance of certain symptoms in the diagnosis of the seat of the brain disease which causes paralysis. There is one fact, very important indeed for you to understand fully before I enter into details upon this point. As you well know, there are nerves arising from the base of the brain, nerves which serve as centres, which serve for general tactile sensibility, and also as nerves of motion. Then you must make a distinction between cases of paralysis of those nerves dependent upon disease which strikes at the very place from which those nerves arise, in which case the trunks of the nerve itself or its immediate roots within the base of the brain are implicated, and those cases in which these nerves are paralyzed when the lesion is beyond the place of their entrance into the base of the brain.

Suppose, for instance, a lesion occurs in the medulla oblongata in the immediate region where the root of a motor-nerve has its origin; if the disease strikes there, it of course destroys some of the fibres of the nerve, and it destroys the cells also from which the nerve-fibres arise. But let the disease be located in another part of the brain—at a point beyond—where there are no nerve-fibres arising which form a connection with the nerve which goes down from the medulla oblongata, then you will have a result completely different from what you have when the cell itself of the motor-root is struck by the disease. In those cases of paralysis of nerves in the base of the brain dependent upon destruction of the cell which gives rise to the nerve-fibre, or striking the root itself before it reaches these cells, you have just the same result produced as if the nerve-trunk had been affected outside of the brain.

Something quite different takes place when the disease is beyond the origin of these nerve-fibres. In what I have already said in a previous lecture with reference to paralysis of the muscles of the face, muscles of the eye, paralysis in the tongue, in the neck, and elsewhere, I had in view only those cases in which the paralysis depended upon disease inside of that zone or layer of nerve-cells which gave rise to the motor nerve-fibres going to the tongue, to the eye, etc. There is no question that, when you find disease in the base of the brain striking the nerve or its roots before they reach the cells of origin, there will be paralysis upon the same side of the body in which the disease is situated. It is quite evident that it must be so. You have a cause acting the same as if you had divided the nerve itself outside of the brain, and of course you have paralysis of the nerve.

In what I have now to say, you will find that what I have just mentioned is of the greatest importance; I will illustrate at once the meaning of this. You will see that in case of disease of the pons varolii, for instance, a little above the place of origin of the facial nerve—the nerve which acts upon the muscles which give expression to the face—there is a characteristic condition produced.

If the disease is upon the roots of the facial nerve, or upon the cells which give origin to these fibres of the facial nerve, the muscles of the face upon the same side of the seat of the disease will be affected. If the disease is elsewhere as a rule, the muscles of the face upon the side opposite to the seat of disease will be affected. So you see that in disease in the same organ, the pons varolii, you may have results just the reverse of each other. The face may be paralyzed upon the right or upon the left side; but as regards the limbs, as a rule, you will find them paralyzed upon the side opposite to the seat of the lesion. What I wish you now to fully appreciate is the fact that, when the disease strikes at the origin of the nerves, necessarily it produces paralysis in the nerve; that nerve may be the olfactory, the optic, or any one of the cranial nerves. In any of these cases the very same thing will occur with regard to the seat of the paralysis; it will always be upon the same side with the lesion.

DIAGNOSIS OF HEMIPLEGIA.

I come now to the diagnosis of various cases of hemiplegia. I must first point out the fact that disease of one-half of the spinal cord, as

well as disease at the base of the brain, can produce hemiplegia, and how you are to determine where the seat of the disease is, is what I will try to explain. You may find two persons struck down suddenly with loss of consciousness, some times with convulsions–convulsions are not essential, however—and after there is recovery from the shock, you find that there is paralysis, in both cases, on one side of the body. We will suppose that the right side is paralyzed. One of these persons makes grimaces upon the side of the face corresponding with the side on which there is paralysis of the extremities; so you may be inclined to think that there is paralysis of the face upon the opposite side.

NEW POINT IN DIAGNOSIS.

This point in diagnosis, so far as I know, has not been mentioned except by myself, and as it is a constant phenomenon in certain kinds of lesion of the spinal cord, I wish you to be quite aware that in that case there is merely an appearance of paralysis upon the side of the face opposite to that on which there is paralysis of the limb. If you pay attention only to the appearance of paralysis of the left side of the face and on the right side of the body, and establish the fact that the man has had an attack of apoplexy, loss of consciousness, etc., you will certainly, and quite naturally, according to the teachings of science until now, be led to admit that there has been somewhere in the brain a lesion which has produced all these symptoms. That may be a mistake, or it may be correct; because lesion in one-half of the spinal cord near the medulla oblongata can produce all these symptoms. I will say at once that when you examine the face, you will find that the side which seems to be paralyzed is not the paralyzed side. You will find that there is no paralysis of the face upon either side in that case. You will find that the appearance of paralysis comes only from the fact that, on the side of the lesion in the spinal cord, there is simply a spasmodic state of certain muscles of the face.

In case of spinal hemiplegia, paralysis of one side of the body, depending upon disease high up, and limited to one-half of the spinal cord, you will find that there is a series of symptoms such as I mentioned a moment ago. You will find features which certainly will distinguish these cases from cases of hemiplegia, depending upon disease of the brain. If you examine the patient carefully, you find that there is paralysis, and, as I have supposed the lesion to be in the right half of the cord, the patient is paralyzed in the right limbs; but there is no diminution of sensibility. On the contrary, there is considerable increase of sensibility, as measured by the esthesiometer. The hyperæsthesia may be extremely great. Indeed, in the case of one of my dear friends, Mr. Charles Sumner, at the two points in the spine which had been injured by a cane in an assault made upon him in the Senate Chamber, both points of the instrument could be distinctly recognized, no matter how near to each other thay were placed.

That kind of feeling—that of touch—may be increased considerably in many other cases; but in spinal hemiplegia the tactile sensibility is increased in the paralyzed limits to a considerable extent.

Other kinds of feeling are also increased. Painful feeling is often considerably increased, and sometimes it is so great that a mere touch produces a scream. There is also an increase in the power of detecting differences of temperature. There is lack of power of enduring the contact of anything very cold, or very hot, as those things will produce decided pain. There is besides an increased sensitiveness to tickling. But there is another feature which will assist in making a diagnosis between this form of paralysis and that form dependent upon disease in the base of the brain, and that is the condition of the muscular sense. When the patient has but little power of motion the muscular sense is very good indeed, and he will know perfectly well where his limb is without the necessity of placing the hand upon it to determine its location.

Now, in the contrasting condition, there is loss of sensibility of all kinds. The loss may be absolutely complete, so that the patient is not able to feel any blow, prick, tickling, galvanism, etc.

As regards the temperature in the limbs there is another distinguishing feature. You will find that the limbs are very much warmer where the muscles are paralyzed, and lessened in warmth upon the opposite side. There is then a double effect upon the temperature; increase upon the side of the lesion, and diminution upon the opposite side. But these are not the most interesting features of such cases. You will find that the face is warmer upon the side of the lesion, and that is because the fibres of the sympathetic nerves going to the blood-vessels of the head are divided upon that side of the spinal cord. There is higher temperature in the face, higher sensibility, and greater redness of the eye and ear. There is also a symptom to be observed in the eye; and that is dilatation of the pupil upon the side of the lesion. These are effects which we know will follow galvanizing the sympathetic in the neck. All these effects are found in connection with disease of one-half of the spinal cord.

The fact that the muscles are contracted is in consequence of the greater afflux of blood to the part; it is not due to changes occurring in the nerve centres, but to the local fact of being fed far more abundantly than in health. Hence they are in a state of greater tonicity, as it were; but there is no trace of paralysis on

either side of the face. That fact will serve as a diagnostic feature between the form of hemiplegia depending upon disease of one-half of the spinal cord, and hemiplegia depending upon disease in the base of the brain. Besides there are a great many symptoms of disease in the base of the brain which do not exist with disease affecting one-half of the spinal cord.

I now pass to other facts. In cases of disease of one-half of the spinal cord, you will find that there is usually a feeling of stricture about one-half of the body at a level with the seat of the cord.

ZONE OF ANÆSTHESIA.

At that place there is something that can be recognized which is very interesting indeed, and which is in harmony with the view regarding the origin of nerve-fibres. As the lesion in the spinal cord necessarily destroys some nerve-fibres which do not supply the motor-trunk, there is a zone of paralysis of sensibility at the level of the injury in the cord. Some of the sensory roots have been involved; hence the loss of sensibility in that circumscribed region. We have hyperæsthesia below and above the seat of the lesion, and a small zone of anæsthesia at the place where the lesion occurs, so that the body is separated into *three* zones—*two* of hyperæsthesia, and *one* of anæsthesia. Nothing of this kind is present in hemiplegia depending upon disease in the base of the brain. You can already see that diagnosis can be easily established, and you will see this much more clearly as I come to speak of the symptoms of hemiplegia depending either upon disease of the medulla oblongata, or other parts of the brain.

GENERAL SYMPTOMS.

When there is disease in the medulla oblongata, or pons varolii, there are general symptoms which are of great interest, not so much for diagnosis, as for prognosis. They are important in deciding upon the chances for restoration to health, and the chances of death; and also the means of treatment are not the same as when the disease exists in other parts of the brain. These general features are that, according to the seat of the disease in the base of the brain, there are nerves implicated which show where the disease exists. Supposing it to be in almost the entire length of the base of the brain, from the origin of the optic bands down to the spinal cord, you will find that all the nerves which take their origin in that part are more or less implicated in the disease. If you know what these nerves are, you can easily understand what the symptoms will be. I will simply mention that as the *third* pair of nerves is implicated, certain results will be manifest in the eye, and you will find the pupil affected, and the motion of the eye will be affected. Other nerves are implicated, and the effects are exceedingly complex, but they are in perfect harmony with the known functions of the nerves having their origin at the base of the brain. So the diagnosis may be perfectly clear, and you will find, as a rule, that the paralysis, instead of being upon the same side, as in the case of disease of one-half of the spinal cord, is upon the opposite side of the body. If there is loss of feeling, it is where loss of movement exists.

DISORDERS IN THE KIDNEYS, LUNGS, AND HEART, ETC.

But there are other features: there are disorders which take place in many of the organs of the body. The urinary secretion is disturbed; sometimes increased immensely, with or without the presence of sugar. When sugar is present, the quantity of urine is not so much increased as when the sugar is absent; but it may be considerably increased in quantity. We may have then both forms of diabetes—insipidus and mellitus. These two forms of diabetes are found in connection with all diseases in the base of the brain, but they may exist in connection with disease very far from the brain. To my knowledge, these forms of diabetes never exist when the spinal cord is the seat of disease.

There are many other features. I have shown that lesions of the pons varolii, or medulla oblongata, affect the lungs almost at once. That is the fact in most cases in which the lesion is made in animals. I may say that it is frequently so in man. One of the chief effects produced by lesion in the pons varolii in man is considerable congestion of the lungs. Another effect, which depends almost only upon lesion in the pons varolii where the crus cerebri comes into it, is hemorrhage into the lungs. This occurs very frequently indeed; sometimes it is slight, and sometimes enough to destroy life rapidly. It was known that hemorrhage into the lungs occurred in connection with hemorrhage into the base of the brain, but it had been supposed that it took place because of the same alteration in the walls of the blood-vessels in the lungs as was present in the blood-vessels in the brain. My friend Professor Charcot and Bouillaud made the great discovery that hemorrhage in the brain depended almost always upon the rupture of small aneurisms—miliary aneurisms. It was imagined, and it has been found to be the case, that the blood-vessels in the lungs also have the same kind of aneurismal dilatations, and it was thought that in those cases in which hemorrhage, either small or large, took place in the lungs, after having hemorrhage into the brain, it was dependent upon the same cause. Without doubt it is so in some cases, but, as a rule, when the hemorrhage in the lungs appears very quickly after that which occurs in the brain, it is produced in

a direct manner by an alteration in the circulation in the lungs.

I have asserted that the breaking of blood-vessels in the lungs depends upon this change. The arteries and veins become so contracted that there is not a trace of blood in them, and then the congestion goes so far that a capillary breaks, and there is hemorrhage. It is one of the causes of death in disease of the pons varolii, or perhaps at other parts of the base of the brain.

This cause of death has not been sufficiently guarded against, and it very frequently happens that no examination of the chest is made in these cases. This is a fault which I myself have fallen into, but it should always be kept in mind that great alteration can take place in the lungs in consequence of disease in the base of the brain.

The opposite may occur, perhaps, in one out of ten cases.

We have, then, *first*, congestion of the lungs, and, after a time, there may occur, foci of inflammation in connection with acute disease in the base of the brain. As the patient has more or less difficulty of breathing, on account of the brain disease itself, the disease of the lungs passes unnoticed, and no local treatment is applied which could be of great service to the patient. I have no doubt that we may recall to memory a great many cases published as fatal cases of disease, occurring at the base of the brain, which terminated fatally, not because of the brain disease itself, but because of subsequent disease of the lungs, which passed unnoticed during life.

There is, therefore, in cases of disease of the brain, an effect, which is of great importance, produced upon the lungs. Another effect which is of great interest can take place. As you well know, the parvagum takes its origin in the medulla oblongata. And you know that if this nerve is galvanized, the heart's action is arrested. Well, acute disease in the medulla oblongata, or close to it in the pons varolii, will produce irritation of the par vagum, and may reduce the heart's action to such an extent as to prove fatal. You doubtless know that there are a number of cases upon record in which death was caused by pressure upon the medulla oblongata, from displacement of bones, or some other cause. There is this feature, then, in connection with disease in that region : that is, there is a diminution in the beat of the heart—a diminution in force rather than a diminution in speed.

There are other features belonging to lesion in those parts. As you well know, the œsophagus, the pharynx, and the larynx are supplied with nerves which arise from this region. There may be spasm in these organs. In a case which I shall always remember, for it occurred in the person of a most dear friend of mine, there was such spasm in the œsophagus that it was absolutely impossible to feed him by the mouth ; not even a tube could be passed through the œsophagus, so great was the spasm, and we were obliged to sustain his life by nutritious injections into the bowels. The material used was the fresh pancreas of an animal, with hashed meat. The fat is removed from a fresh pancreas, and the influence of the remaining portion upon nutrition is pretty nearly the same as if a series of meals were taken in the usual manner. In the case of my poor friend, life was maintained eight days solely by this process of eating.

There is, therefore, an effect produced upon these parts by disease situated at the base of the brain, as mentioned. There are other features of interest. You may diagnose very easily, for instance, whether there is disease present upon the origin of the trigeminus nerve by change in the state of the cornea. The cornea becomes somewhat inflamed and after a time the eye may be destroyed. You already know that Magendie has long ago shown that when the trigeminus is divided in an animal there will follow impairment of nutrition in the eye, and after a time the organ will be lost. Magendie also has shown that all the senses are affected by division of the trigeminus—the sense of sight, of audition, of olfaction, as well as the sense of taste. This conclusion of Magendie would not have been drawn had he been familiar with the phenomenon of the loss of function. When the trigeminus is diseased or divided, the nerve-fibres produce no action, and that result is quite sufficient to produce loss of sensation, and the nutrition of other organs of sense is disturbed by such result.

A blow upon the frontal nerve, for instance, may be sufficient to cause loss of sight, and, besides, a considerable alteration in the nutrition of the eye. Irritation produces loss of all the senses, and in that case it may be from reflex action affecting the blood-vessels, thus changing the nutrition. Disease of the optic thalamus, for instance—a part far away from the origin of the trigeminus—can produce by its effect, through the trigeminus, an alteration of sensation, and an alteration of nutrition in the cornea and loss of the eye, the same as if the trigeminus itself was diseased or divided. Therefore, when you find loss of nutrition upon either side of the face, and alteration of sensation upon that side, you can judge that the cause or lesion is upon the side where the trigeminus is disturbed.

Now comes something in the way of diagnosis that is of the greatest importance. In a case I found these symptoms associated with paralysis of the limbs upon the same side. I concluded, therefore, that the lesion was upon the pons varolii in the origin of the trigeminus, and I concluded so from the fact that there were

present the changes in nutrition and sensation which I have just described. The patient died subsequently, and Dr. Edes, of Baltimore, found the lesion at the exact point at which it was thought to be situated. There was no special maturity in making the diagnosis, but I mention the fact simply to show that you may find disease upon one-half of the pons varolii producing upon the same side paralysis of motion and changes affecting the sensation and nutrition of the eye, upon the same side. But disease at the same point can produce just the reverse, and we may have paralysis upon the opposite side, anæsthesia upon the opposite side, and rigidity of the muscles. So you may have paralysis upon the same side with the lesion, or paralysis upon the opposite side. I will add that you may have motion lessened in that part, with clear symptoms belonging to the trigeminus, without paralysis in the trunk or in the limbs. There is in this last case, perhaps, some difficulty in the diagnosis. You may think that the trigeminus alone is affected, but it is not necessarily so; for a great part of the pons varolii may be destroyed without producing paralysis, except in the nerves which arise from that region of the brain. Those nerves have been most affected, but in some cases, one especially published by Stanley, a tumor had destroyed one-half of the pons varolii, and there was only incomplete paralysis upon the corresponding side.

The diagnosis in that case would have been clear, from the fact that the trigeminus was affected completely, and the eye was destroyed. There was also present a symptom which is not rare in connection with irritation of the trigeminus, and that is paralysis of the face. There is, therefore, no great difficulty in diagnosis of disease affecting these parts. Another feature you will find very frequently in these cases of disease at the base of the brain. You will find that there is, instead of paralysis of the limbs, anæsthesia or a great deal of hyperæsthesia.

ABSENCE OF CONVULSIONS IN DISEASE OF THE PONS VAROLII.

You will also find that there is a remarkable absence of symptoms. The pons varolii has been considered as a part perfectly able to produce convulsions. It is so in animals, and convulsions are readily produced by irritating that part of the brain; but it is not so in man. Disease there produces convulsions less frequently than disease elsewhere in the brain. So if you find that convulsions are not present, and there are symptoms showing that the nerves arising from this part of the brain are affected, you will almost certainly be led to admit that there is disease at that point. There is a part close to the pons varolii which may give rise to most interesting features, and indeed it is not rare that disease in the pons varolii produces some of these symptoms. It is that part which is close to the edge and unites the pons varolii with the cerebellum, the crus cerebellum. When this part is irritated, a rotary movement of the body is produced. It is not special to irritation of that part, however, but irritation of the crus cerebrum and other parts of the brain may produce the same kind of movement.

DIAGNOSIS OF DISEASE OF THE CRUS CEREBELLUM.

Diagnosis of disease of the crus cerebellum alone is usually very easy. Hemiplegia depending upon disease of the crus cerebullum may appear upon the same side or upon the opposite side of the body. As a rule, it appears upon the opposite side. But there are two cases out of the entire number, which is not large, of disease of the crus cerebellum, in which paralysis was present upon the same side. The crus cerebellum has been considered as the point of union of those parts of the brain which produce voluntary movements with those parts which produce sensation. So you see that in case of disease of one crus cerebellum you should have always complete paralysis of movement, and complete anæsthesia upon the opposite side of the body. This is absolutely false. Out of some thirteen cases of this kind upon record, complete paralysis is not at all frequent, and cases of complete anæsthesia are very rare —indeed, I know of only two such cases. The facts, then, are not in harmony with the theory that the crus cerebellum is a part containing all the motor and sensitive fibres going to the opposite side of the body. So little is that true that there are cases in which destruction of the crus cerebellum has occurred without paralysis at all. Certainly, there are ten cases on record in which the entire mass of the crus cerebellum has been destroyed without producing paralysis upon the opposite side, and without producing anæsthesia. I have said that paralysis in some of these cases *seemed* not to exist at all, but it is quite an essential matter that, in the future, more reliable means are employed to ascertain whether paralysis is present or not, than those which are usually employed.

PARALYSIS A CONSTANT SYMPTOM OF BRAIN DISEASE.

If you see a man walk about, see that he is able to stand firmly upon his legs, and that he grasps with both hands firmly, etc., you are at once inclined to think that there is no paralysis. I must say that, although there are many cases of disease of the brain in which there is not marked paralysis, my belief is that, in every form or kind of brain disease, were we in the habit of studying the patient more care-

fully, we should have a great chance of finding some degree of paralysis.

Most of the instruments employed for this purpose are exceedingly defective.

[A description of an instrument was given. The inventor is one of the Professor's friends. It gives a very clear measure of the strength of the legs, and it can be used to measure the strength of any part of the body.]

I do not think that we can find the exact strength a patient who has brain disease possesses, unless it is measured by some reliable instrument. When I say that sometimes disease almost entirely destroys one corpus cerebellum, or any other part of the brain, without the production of anæsthesia or paralysis, I only mean that so far as the cases have been recorded, no paralysis has been noticed, but I suspect that some degree of paralysis was present.

ULCERATION OF THE OS UTERI.

The *Doctor*, for October, contains the following practical article:—

All acquainted with the practice of an out-patient department for the diseases of women cannot fail to have been struck by the very numerous cases of ulceration of the os uteri presenting themselves for relief. The cases are so common, the distress of the affection so debilitating, the discomfort to married life so great, and the cure so within the limits of the ordinary practitioner, that we hope to do good service by a few remarks on the subject. We shall classify the cases, dividing the os into three zones:—

1. Ulceration at the os uteri, on one or both lips.

2. Ulceration extending to half the inferior part of the cervix uteri.

3. Ulceration involving the whole of the cervix and os.

1. Ulceration at the os uteri, on one or both lips. (*a*) Very many of these cases pertain to the newly married, and are undoubtedly the result of excessive venery. There is always a history of nausea or retching, backache, a white or muco-purulent vaginal discharge, some scalding on urinating, vaginitis or vaginismus, and constipation. An examination by speculum reveals an abraded surface, some discharge about the os and more or less uterine congestion. (*b*) Other cases belong to multiparæ, who have had untoward labors, whereby the external os has been lacerated, and one or other lip has become inflamed, and taken on unhealthy action. This condition is generally a bar to future pregnancy. In both classes cervicitis may be present. The lesion does not affect the cervical canal to any extent.

2. Ulceration extending to half of the inferior part of the cervix uteri. These cases are very common, occurring in women who have had difficult or many labors. The extraction of the child has divided the os into two portions, of which the posterior has been generally found to be the larger. There is a more or less free muco-purulent discharge from the vagina, and in addition to the symptoms enumerated under Class 1, the patient complains of dragging pain in either one of the groins, with pain extending to the knee of the same side. On digital examination the finger readily enters the cervical canal, and ulceration is detected. Pressure on the uterus elicits pain: the fundus is somewhat displaced; the whole organ is invariably enlarged. The extent of the disease is not seen by the speculum, which tends to bring the divided parts together: hence the necessity of a careful digital exploration.

3. Ulceration involving the whole of the cervix and os. On exposing the parts the cervix is found to be inflamed, soft, tender, much enlarged. Cervicitis is marked. The os is generally round, and the cervix is somewhat flattened at its free extremity, as if it habitually rested on the perineum. This affection is usually noticed in old cases of prolapsus, in virgins, and in sterile women. The cause may be attributed to flexions, relaxation of the uterine ligaments, and excessive venery. In these cases the pain extends along the spine and shoots down to either knee. There is pain in nearly every position the body can assume. Care is required to discriminate between these cases and those of a malignant type.

General Treatment.—We cannot too forcibly inculcate the necessity of absolute *rest* in the horizontal position. By this means, congestion about the uterus is lessened, and the ulcerated surface prevented from impinging on any part. The diet should be liberal. The bowels should be kept well opened. All marital intercourse should be forbidden.

Medicine.—There being generally a state of anæmia to contend against, we would first recommend the vegetable tonics and cod-liver oil, afterward the ferruginous preparations. Where any induration exists, iodide of potassium should be administered. It is essential to raise the tone of the body, as concurrently with its improvement, so the healing process will be expedited.

Topical Applications.—Much care is required in deciding whether to deplete or not, in choosing the form of caustic to be applied, and in prescribing an effectual injection. In all cases where the veins are prominent about the os, we would commence either by leeching or puncturing with a lancet. The latter we prefer. In cases of slight ulceration, touching the part with nitrate of silver or chromic acid followed by a plug of cotton wool steeped in glycerine, is generally effectual. Should the ulceration be obstinate, we would apply fuming nitric

acid. The cotton-wool, saturated with glycerine, must be introduced daily. Where the lips of the os are divided, it must be concluded that the inflammation has extended along the cervical canal. In these cases the external os should be well burned with the caustics named: if necessary, the actual cautery should be employed; but the cervical canal must not be molested. These failing, plugs of iodized cotton-wool should be applied daily.

ON THE INFLUENCE OF SLEEP ON THE ACTIVITY OF THE KIDNEYS.

It has been ascertained by Prof. QUINCKE (*Archiv für experimentelle Pathologund Pharmakol.*) that whereas the urine secreted during sleep is scanty and of high specific gravity, that secreted during the first three hours after waking is more abundant and of lower density than during any similar period of the twenty-four hours. A number of observations were made to establish this point, the subject remaining in bed, and taking neither food nor drink for the three hours in question. The fact admits of being interpreted in various ways. We may suppose the absorption of fluid from the intestinal canal to be arrested during sleep and resumed on waking. This hypothesis is a most unlikely one, for the periodic variation takes place as usual when no liquid has been taken within four hours of retiring for the night. It is probable that the physiological activity of the kidneys may be checked during sleep, owing partly to diminished energy of the secretory nerves, partly to contraction of the renal blood-vessels, partly to a lowering of tension throughout the arterial system. This is the most probable explanation, but it is still in need of proof.—*London Med. Record*, Oct. 15, 1877.

QUINIA ERUPTIONS.

Dr. Ringer, in his "Handbook of Therapeutics," states that workers in bark sometimes suffer from a scaly papular eruption, sometimes from a vesicular weeping eruption, and occasionally with great swelling of the genitals or of the face and eyelids, with redness of the eyes. Itching of the whole body and urticaria are also said to have been produced by quinine. A recent number of the *Berliner Klinishe Wochenschrift* contains two communications on this subject, one from Dr. Buch of Hamburg, the other from Professor Pfluger of Berne. Dr. Buch's case was that of a man-servant, æt. 25, suffering from intermittent fever. For four or five days the patient took a grain of quinine every two or three hours, and on the fourth day an exanthematous eruption, in small patches, the size of a pea, reddish in colour, and somewhat raised, appeared on the legs. The eruption disappeared on pressure; there was neither pain nor itching. The spots gradually became pale and disappeared, but a few days afterwards, on the medicine being resumed, the back was found to be covered with similar patches, some very large, and a few smaller papules. There was also considerable pain and tenderness in both knees, but no swelling. The eruption disappeared with the discontinuance of the medicine. Posner (Handb. der klin. Arzneimit ellehre) mentions that rheumatoid pains sometimes follow the use of quinine. In Professor Pfluger's case the patient was a musician, very anæmic, and much reduced by venereal disease and mercurial treatment. By way of a tonic he was ordered decoction of bark. He had taken twenty-one doses when he was seized with shivering followed by fever, a feeling of intense itching and burning, especially in the hands and arms, which parts, as well as the face and feet, were much swollen and reddened. There was much excitement, distress, and thirst. The patient attributed his symptoms to the medicine, and asserted that he felt them coming on after the second dose. The febrile symptoms lasted for three days, and in fourteen days the patient was much as usual. There was some desquamation of the epidermis. Dr. Pfluger concluded that the symptoms were due either to some impurity in the medicine, or to some idiosyncrasy on the part of the patient. He therefore tested the matter further by administering small doses of quinine. All the symptoms at once returned, and with increased intensity; the face, arms, and hands were enormously swollen, so as to suggest an attack of violent erysipelas. These symptoms lasted longer than before, and the desquamation on the hands was so marked that the separated portions resembled fragments of a glove.—*Med. Examiner*, Oct. 25, 1877.

CHURCHILL'S TINCTURE OF IODINE.

By THEOPHILUS PARVIN, M.D.

Churchill's tincture of iodine is so valuable in uterine therapeutics, it is to be regretted that druggists are not more generally familiar with its preparation. It has happened to me within a few weeks to have two prescriptions for this tincture filled, in one case, with the ordinary tincture, in the other with the so-called colorless tincture. Even when an eminent teacher in a college of pharmacy was applied to by an Indianapolis druggist for the formula for Churchill's tincture, he gave one for a compound of iodine and chloral in alcohol, and also referred to the solution of iodine in glycerine advised by Thomas!

The following is Churchill's formula as given

in the fifth edition of his Diseases of Women: he stated then, 1864, that he had been using it for twenty years:

℞ Iodin. pur.....	℥	iiss.
Iodid. potassi.....	℥	ss.
Spt. rectificat.....	f ℥	xii.
Alcohol.....	f ℥	iv. Solve.

After employing this tincture for thirteen years, I know no single agent used in the local treatment of uterine disorders at all equal to it. It may be used as a stimulant, alterative, counter-irritant, caustic, and as a hemostatic, and for the purpose of exciting absorption of hypertrophied tissue. Its hemostatic properties are of especial utility in the treatment of hemorrhagic endometritis, and after the use of the curette or forceps in the removal of the smaller intra-uterine growths, hypertrophies of the glandular and vascular elements of the lining membrane. —*American Practitioner.*

THE USE OF HYDROBROMATE OF QUININE IN DISEASES OF CHILDREN.

In a communication to the *Allgemeine Med. Central Zeitung*, Dr. Steinitz, of Breslau, gives the results of his experience of the use of hydrobromate of quinine in children's diseases.

He used it in an extensively prevailing epidemic of hooping-cough, giving it generally in a mixture composed of three to five parts of the hydrobromate in one thousand of syrup, the dose being a teaspoonful every two hours. In no case was it necessary to use any other remedies. The hooping-cough had in twenty-three cases lasted on an average ten weeks, and in fifteen others twelve weeks; and in the use of the remedy the paroxysms became in the course of a week less frequent and milder. No after-effects upon the alimentary canal were discovered. Three deaths occurred, all in very atrophic and scrofulous individuals, in whom other complications were present. Dr. Steinitz takes the opportunity of remarking that he prescribed in several cases the extract of castanea vesica, which has been extolled as a remedy, but without good results.

He also used the hydrodromate of quinine in cases of spasm of the glottis. Three of the patients died after only a few paroxysms. The remaining six recovered. The medicine was prescribed as stated above, and was borne well. In all the six cases the attacks diminished, at times varying from the third to the fifth week, in intensity as well as in frequency; and the duration of the disease was in no case longer than from four to six months. This result is satisfactory when compared with the previous course of the disease under the use of other medicines, such as bromide of potassium, oxide of zinc, valerian, and musk, none of which could be borne for several months together.

Dr. Steinitz has also given the hydrobromate of quinine in the dental convulsions of children, but cannot as yet speak of its efficacy in this malady. He regards it, however, as deserving a trial.—*London Med. Record.*

CLINICAL LECTURE ON FRACTURE OF THE FEMUR.

Delivered in the Amphitheatre of Bellevue Hospital, New York.

BY

FRANK H. HAMILTON, M.D., Surgeon to Bellevue Hospital, etc.

GENTLEMEN:—I shall to-day show you some cases of fracture of the femur which have united, or are uniting, under the plan of treatment that I have successfully used for the last few years. I shall show you these patients, in order that you may understand the peculiarities of our practice, and see the points of difference that may exist between it and other methods of treatment now in use.

In order that you may fully appreciate what I shall have to tell you, it is necessary that I should call your attention to the progress that we have made in the treatment of this injury during the last century. In doing this, I shall limit myself entirely to the consideration of fractures of the shaft of the bone, not including fracture of the neck or of the condyles, and, furthermore, my remarks will be confined to fractures occurring in adults. The treatment of fractures of the neck and condyles and of the shaft in children, requires special consideration, and I wish to speak now of the general management of fractures of the shaft in adults.

First, then, I wish to remark that fractures of the shaft of the femur are almost always oblique, so much so that it almost never happens that we can set them, in the ordinary acceptation of that term. They are almost invariably so oblique that, unless we can manage to keep them constantly in position by means of extension and counter-extension, the fragments will override each other to a considerable degree. These specimens which I have brought here to show you will illustrate this fact very nicely. There will always be as much extra thickening as you see in the bone that I hold in my hand, unless you can overcome, by some means, the force of the powerful muscles that cause the displacement, for two, or three or four weeks. In any case there will always be as much projection as the thickness of the shaft of the bone. You will observe the same thing in this specimen, though the fracture was higher up in the bone. There is a distance of four inches between the points of the fragments. You see at once that there can be no such thing as setting. The ends of the bone may be placed in a favourable position, and held there, but they will never hold them-

selves. In this instance, although extension was made, and plaster-of-Paris applied while the patient was under chloroform, you see how much shortening there has been. The patient died a few years after the injury, and, on autopsy, it was found the shortening was as much as could be permitted to take place. The lower fragment had overridden the upper until it had ascended as high as the neck of the bone, which would allow it to go no further. In this third specimen, also, you see the overlapping of the fragments, but here you see, likewise, that there was an extraordinary proliferation of bone.

Here, then, is the question that confronts you in the beginning: How is the tendency to overlap to be overcome? Not by setting and bandaging, because the muscles act too powerfully to allow the fragments to be held in place; lateral supports would not be sufficient, as this method would not prevent shortening. How, then, I say, are we to overcome it? Until the latter part of the last century all surgeons employed a straight splint, simply pulling the limb out, and binding a long splint to it. This method is illustrated by the splints I now show you, that were given to me by a surgeon who served under Stonewall Jackson. It is a simple and practical device, and was employed by the surgeons who followed that great commander. It was the only device which could be employed and conveniently conveyed by an army moving only on horseback. Essentially this plan of treatment was followed up to the time of Pott, of England, who wrote a brief essay on fractures, declaring that hitherto fractures of the thigh had always united with shortening; but he suggested an improvement on the old plan, which was soon accepted by English and American surgeons, but not by the French and Germans for some time. This improvement was the flexed position, and it soon became known as the position of the double-inclined plane. His theory was a specious one. This plan of treatment by the double-inclined plane or flexion has its advocates up to the present time. In the United States it has been adopted chiefly by Dr. Nathan Smith and his son, and by Dr. Hodgen, of St. Louis, each one of whom, however, employs also suspension. There are, as I have said, a few leading surgeons who use it still to-day, but almost universally we have returned to the straight position.

There have been many forms of splints for the straight position. There was Boyer's apparatus, in which there was a screw at the bottom, to pull the leg down. Then there was Dessault's modification, and after these there have been an almost inexhaustible number. There are no less than thirty or forty that I could mention. Here is one with a screw working inside of a box, and a strap to attach to the foot. Here is one invented by a Canadian surgeon, which has a screw at the bottom, and a cross-piece to keep it steady on the bed. This is Bowen's splint. Here is still another; but it is useless to show more of them, there is so great a variety; they are, however, all modifications of the old long splint. Now, how did they contrive to get hold of the foot, in using this form of apparatus? Always by means of a gaiter. Here I show you Gibson's, which, as you see, is well padded, to prevent excoriations. Here is another, which has the virtue of being red, and there are a great many others, all so devised as to prevent, if possible, excoriations of the skin. But, notwitstanding the numerous kinds, there always was ulceration when the extension applied was equal to fifteen pounds. I have seen many of these, sometimes enormous in extent, that have lasted for many years.

Now, in the straight position, besides extension, we must have counter-extension, and our next inquiry must be to see how this was accomplished. It was always obtained by some mode of pressure in the perineum. At first, a long splint, padded, was pressed up in the perineum, and bound to the limb. Then a perineal band was used, flat or round, placed between the thighs, and fastened at the head of the bed, or to the upper end of the long splint. The best of these was a flat pad, of cotton, sewed up in stout linen. But all of these methods were extremely liable to cause bad ulceration and sloughing in the perineum, especially with delicate females. I recollect a case of a man who had an ulceration as broad as my hand, and very deep, that it took a long time to heal, caused by one of these perineal counter-extending bands. So here we were between two evils: first, trouble with the extending band at the foot; and, next, the same difficulty with the counter-extension at the perineum. We were always limited in extension to ten or fifteen pounds, and never could go beyond it without fear of producing the most disastrous results. At length, Josiah Crosby, of Hanover, devised a method of obviating these difficulties by means of adhesive bands, which took hold on both sides of the leg, all the way up to the knee, and thus distributed the pressure so that it did not fall on any one part. In this way the instep was saved from bearing the brunt of the force, and it was found that an extending weight of twenty pounds or more could be used, and never cause an ulceration. This method was invented twenty-six years ago, and was one of the greatest triumphs of surgery.

As a means of counter-extension, Dr. James L. Van Ingen, of Schenectady, first suggested raising the foot of the bedstead. More than twenty years ago he sent me a letter in which he described his plan. I said, at that time, that it would not do, as he elevated the foot of the bedstead about two feet. I did not believe that it would answer, as the position was too

uncomfortable for the patient to remain in for any length of time. The idea, however, was an excellent one, to use the weight of the patient's body as the counter-extending force. Dr. Moore, of Rochester, however, took up the idea, and pretty soon it became generally adopted. It was soon found that it was not necessary to raise the foot of the bed so high, and still gain the object; four or six inches will suffice, and the position of the patient is by no means uncomfortable. It is now many years since I have seen a perineal band in use.

This, gentlemen, is what we have thus far gained in the treatment of fractures of the femur. We have found a means of extension by which we can apply twenty to twenty-two pounds of force, and the same with counter-extension. We are now speaking of the injury as occurring in adults; when the patient is a child, we do not need so much force. In placing the patient in position, the pillow must lie under the head only, and always away from the shoulders; otherwise, we can only utilize the weight of the pelvis for the counter-extending force.

Now, why is it that we can only use twenty to twenty-two pounds of extending weight and no more? The reason lies in the fact that the force must be limited by the ability of the ligaments around the knee-joint, and especially the posterior ligaments, to bear the force of extension, and these cannot bear a greater amount of extension. The pain produced by the stretching first begins behind, as these ligaments are not accustomed to tension. In the normal position the posterior ligaments are not put upon the stretch. We never stand perfectly straight, and if we try to do so for a moment, the tension upon the posterior ligaments causes pain. When we apply the extension apparatus, we are pulling upon ligaments that are unaccustomed to a strain. Some individuals will endure twenty pounds, and some even twenty-five pounds, but the last is excessive. My rule is to apply the extension at first very moderately, and add to the weight until the patient cries *peccavi*. These, then, are the steps of progress, and they are easily marked.

A few years ago, under the suggestions of the German surgeons, to whom we owe many improvements in surgery, we began to use plaster of Paris; but this was a step backward, instead of forward. By this method we cannot get the slightest extension or counter-extension. The limb shortens as much as it is possible for it to do, and you can easily see the reason. If you put the plaster all the way up to the perineum, and endeavour to use that as a point for extension, you will get ulceration. In one case I saw an enormous ulcer as the result of this. If you do not use the perineum as the means of obtaining the extension, you have to use the oblique surface of the thigh and the curvature of the nates. In a small man this amounts really to nothing, and the consequence is, that the plaster rapidly loosens, and you have not the slightest extension or counter-extension. While the plaster method was being used in this hospital, I saw more shortened and more crooked legs then there ever were before, and, besides that, I saw three deaths. Taking it all in all, so far from making progress were we, in adopting this method, that we actually took a retrograde step, and I am happy to say to-day that the practice is now almost entirely abolished. I assure you that you will never use it more than twice in country practice. I speak of it, not in order to advise it, but I am obliged to refer to it, because it was once getting into extensive use.

But let us see what we use now. Look at this patient, and you see the limb held closely by adhesive plaster, and fortified by a bandage, and to the foot-piece, which is clear of the malleoli, is attached a weight, acting over a pulley. This method is sometimes called Buck's extension, but it was not his invention any more than mine, nor mine more than any other person's. With this mode we ought not to get above three-fourths of an inch of shortening, and I so stated when I first published my book. In this case, you see, there are two cords and weights, one on each side of the foot-piece, This is a device of my assistant house-surgeon, Dr. Munroe, and is designed to prevent rotation outward of the limb, which it does very nicely.

You might suppose that extension would keep the bones from uniting, but this is not at all so. So long as I have treated fractures of the thigh, and it is now nearly forty years, I have never yet met with a case of non-union in my own practice. I have seen such cases in the hands of others, but it has never yet been my misfortune to have a case of the kind of my own, although I have often seen them nine weeks in uniting.

In this second case that I point out now, as you see, a silicate of soda bandage has been used, but it is entirely unnecessary. On this patient we have used a contrivance of Esmarch, to prevent the outward rotation. The leg is settled in a pad, with a broad under-rest, which is fastened to a cross-piece, steadied on a frame, but slides slightly up and down. We have just begun to try it, and cannot, as yet, form a definite opinion of its value.

In this case you see everything that we generally use, and that is called Buck's extension apparatus; but, as I previously remarked, although we are indebted to Dr. Buck for many practical points in the treatment of fractures, and especially of this fracture, the credit of its invention does not belong to him. It may, with most propriety, be called the American plan exclusively. The extension is made by one pulley and weight. Dr. Buck used an up-

right piece of wood, with a pulley fastened in, and this was fixed to the foot-piece of the bed. The weight may be anything that is convenient—a stone, a brick, a flat-iron or a bag of shot. Instead of the wooden upright that we formerly used, we now simply employ an iron wheel, which is fastened to the bed with screws. The foot-piece to which the cord is attached must be quite broad, so that the adhesive plaster will not press on the malleoli. The plaster is laid only up to the knee, and not on the the thigh, above, for, if it is, it may do as much mischief as good. Then the plaster is held more firmly in place by a bandage. It may give a quarter of an inch or so, but never entirely. This method was first described, as I have before said, by Dr. Crosby, of Hanover, New Hampshire.

Over the fracture itself we should place four short side-splints, so as to nearly encircle the limb. The best material for this purpose is felt, made of several thicknesses of cotton cloth, secured in place by five or six separate pieces of bandage. We can thus open and inspect the fracture a dozen times a day, if we choose. To prevent eversion, we use a long splint, which will run along the entire length of the body, and hold it in an unchanged position, and I regard this long splint as one of the most essential things in the treatment. Its utility is twofold: *first*, in preventing eversion, and, *secondly*, preventing bending outward at the point of fracture. The small splints are placed inside the long one. This, then, is the model splint, the perfected method. Let us for a moment recapitulate its elements. Extension is made by weight and pulley, and the attachment by adhesive plaster. We have four short splints, a long splint, and the counter extension is obtained by utilizing the weight of the body, by raising the foot of the bed.

In the plaster of Paris method we always used to find that, at the end of a week or two, the dressing had become loose. We had then to open it, and cut out a piece, in order to bind it tighter, and when we did this, it would not lie evenly on the leg; it did not fit, so that we were obliged to take it off entirely, and apply a new one. This was a prodigious labor. In this case my house-surgeon has put a limb up in plaster, in order to show you the method. It must go below the ankle, to get extension, and above the pelvis, for counter extension; but it gets loose in a very short time, and the fact is, that we do not get either the one or the other.

Now, in regard to measuring a limb, I will say a few words: There is no difficulty in getting the length accurately; at any rate, we can get it with certainty up to one or two-eighths. I do not measure from the round edge of the anterior superior spinous process of the ilium, but get my finger under it at the insertion of the tensor vaginæ femoris, and press. From this point I measure to the external malleolus.

Dr. Jarvis S. Wight, of Brooklyn, in a paper published in the *Archives of Clinical Surgery*, by a number of measurements made on healthy individuals, attempts to prove that nearly every person has naturally a shorter limb on one side than one on the other, and that often, after fracture, we find apparent shortening where there is, in reality, none whatever, the fracture having taken place in the already short limb. This cannot be so, for in nine out of every ten cases of fracture of the femur we do get actual shortening; and how would this happen so constantly if the fracture had occurred in the longer limb ?—*New York Hospital Gazette, Nov.* 15, 1877.

IMPACTED CERUMEN.

Free syringing generally is all that is required for the removal of this common and troublesome cause of deafness. Often the mass does not come away until a considerable time is spent in syringing. But it will always ultimately yield. After a portion has been removed, and when the grub of cerumen or waxy cast of the meatus is washed out, the latter should be examined with a speculum. Much harm may be done if this step be not attended to, the healthy membrane may be forcibly syringed and much mischief accrue. On the removal of cerumen, the membrane is generally seen dull, with an absence of transparency, and the surface of the malleus has an inflamed appearance. The collection being removed, an interval of a few days will generally set things to rights; and if this be the sole cause of the symptoms nothing further is necessary. If any tinnitus or pain persists, or if the deafness is not relieved, we must suspect other mischief and proceed to examine the ear closely. The usual complaint made by patients suffering from "wax in the ear" is a deafness with a stupid feel and some form of tinnitus. I generally Politzerize a patient after removal of wax. I may here say that most ridiculous errors are often committed from the non-recognition of this simple cause of deafness. Nothing can be more exasperating than for a patient to return a long distance to a surgeon, and find that the source of all his blistering and leeching, and perhaps physicking, lay in a mass of easily removable wax; yet this often occurs. The characteristic black shining surface of the wax can hardly be mistaken with any degree of care. At times the surface has a peculiar lustre which causes it to look like the membrane; but it is only necessary to mention this in order to prevent any surgeon from falling into so unfortunate an error. Two imprudent practices may be referred to in connection with this matter. First, the habit of inserting picks,

rolls of towels, etc., into the ear to cleanse the meatus. This can only do harm, and ensures the consolidation of any cerumen in the canal and its impaction on the drum. Secondly, the fashion of placing cotton wool in the ear. It will be sufficient to mention that not long since I removed three layers of wax and two of cotton wool from the ear of a gentleman who was completely oblivious of the presence of the wool.—*H. Macnaughon Jonés, M.D., in Dublin Medical Press and Circular.*

MIDWIFERY WORK.

It is curious to speculate on the amount of midwifery work that can be done by one practitioner. Lately our attention has been directed to an instance in which twelve cases a week, or over six hundred a year, were attended in one practice. The practitioner, naturally enough, required a holiday, and engaged a *locum tenens.* He promised the *locum tenens* a "very easy time of it," as it was the slack season and summer time. To the surprise of the *locum tenens* he found thirty visits daily had to be paid, he was up every night with midwifery, and on one occasion had three cases in the twenty-four hours. Opinions would differ, of course, as to what constitutes "a very easy time of it." To our thinking such work is almost incredible, and we are disposed to look upon the man who can do it as a sort of prodigy. Probably it is not done alone by one man. Certainly no one individual should do it. Half this number would exhaust the powers of an ordinary man, especially when added to the usual work of practice. Even half the number of cases generally implies an assistant or a partner. Then it would be curious to know what the average stay with a patient in labor is. There must be a good understanding with patients that they are not to send till an advanced stage of the case. We are really curious on the subject. While confessing to thinking strongly that such an amount of obstetric duty is bad both for the patients and the accoucheur, we should be glad to know how it is accomplished; what amount of sleep falls to the practitioner; with what frequency instruments are used; what is the proportion of cases in which the child is born before his arrival; how long the work can be done by one man without obligation to his neighbors or the help of an assistant; and what is the number of years over which it can be extended without injury to health.—*The Lancet,* November 10, 1877.

A correspondent of the *N. Y. Medical Record* writes as follows concerning the way in which they manage "these things" in the town of Waterbury, Conn.: "There are no losses, however, as *all* the bills are paid, and there are no free patients. The poor of the town are admirably provided for, and I wish some such plan could be adopted in New York City. When a patient wishes to avail himself of the dispensary, he is obliged to apply to one of the "selectmen" for a recommendation. If the selectman is not satisfied as to the applicant's poverty, the application is *refused.* When, however, the case is genuine, the selectman gives the patient a ticket of admission to the dispensary, and the *town* pays the doctor and buys the medicine; consequently Waterbury neither manufactures paupers nor starves its doctors . . . The people seem not only grateful for what is done for them, but also anxious to settle their bills."

RAISING THE ARM IN EPISTAXIS.

Dr. Mackenzie, in an article in your last number, alludes to the treatment of raising the arm above the head, and stopping the nostril on the affected side, as sometimes effectual in arresting the flow of blood.

Having tried this plan on one or two occasions effectually, I naturally sought for an explanation of the success of a method apparently so empirical. The reason of it at length appeared to me both simple and interesting. It was this: In holding the arms up above the head—for in my cases I did both,—the scapulæ are elevated and rotated outwards. and by this means extension is made upon the ribs by the serrati magni muscles; the chest thus expanded causes an increased flow of blood from the venous or right side of the heart to the lungs, and *pro tanto* from the head, and a temporary or partial stasis or diminished flow of blood to the left or arterial side of the heart, thus reducing the *vis à tergo,* and allowing to such extent, therefore, time for the blood to coagulate in the vessels of the nose.

This explanation was confirmed by an observation which just reverses the condition of things. A patient came to me suffering from occasional attacks of hæmoptysis, and spontaneously remarked "that it was sometimes brought about by raising his arms above his head, as in removing anything from a shelf or otherwise." This statement beautifully fitted in with my views, and struck me at once as a remarkable confirmation of what before might be taken only for a possible or plausible explanation. —Robert W. Ellis, in *The Lancet,* Nov. 17.

Signs by which Phthisis is recognized in its Earliest Stages without the Aid of Physical Examination of the Chest.—(The *Medical Record,* September 1, 1877.)

1. Retraction of the skin over the cheeks.

2. Cerulean hue of the sclerotic, due to anæmia of the conjunctiva.

In bronchitis and emphysema there is conjunctiva, and also in the later stages of phthisis.

3. Atrophy of the lips, of the ears, and a thin pinched appearance of the nose. Wherever the skin

closely covers cartilages, as in the ears and nose, a showing through, as it were, of the cartilaginous framework is one of the earliest signs of the loss of flesh.

4. Pallor of the cheeks and face as compared with each other and with the malar surfaces.

5. Dilatation of the nostril upon the affected side. This is the case in all pulmonary affections, but especially in the earliest stages of phthisis.

6. The respiration is invariably accelerated, and the disturbance affects expiration as well as inspiration. In certain nervous disturbances the respiration is accelerated, but it is the inspiration only which is at fault.

7. Sinking of the clavicle more upon the affected side than upon the opposite, and giving the appearance of having a very long neck.

8. Great hyperæmia of the pillar of the fauces, present long before the pulmonary disease manifests itself, and continuing until pus is expectorated. When purulent expectoration is established, decomposed pus irritates the throat, and then the other parts usually become hyperæmic.

9. Intense congestion of the throat, early hoarseness and vomiting are unfavorable symptoms, and indicate enlargement of the bronchial glands. This vomiting is caused by pressure upon the pneumogastric by the enlarged glands. A large proportion of phthisis cases will tell of having had sore throat for a number of years previous to the development of any chest symptoms.

THE CANADA MEDICAL RECORD
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MONTREAL, JANUARY, 1877.

"Notice is hereby given that application will be made at its present Session of the Parliament of the Province of Quebec, to authorize the College of Physicians and Surgeons of the Province of Quebec to grant a license as physician and surgeon to Robert J. Burke, of Stanstead Plains after examination.

"Stanstead Plains, 22nd December, 1877."

We cut the above notice from the *Quebec Official Gazette*, where, we doubt not, it has been seen by very few of the profession. If it had been seen, we are of opinion that action would have been taken by some, at all events, of those who represent the profession on the Provincial Medical Board to oppose any such legislation as is applied for. We are aware that, at the meeting of the College held at Quebec in September last, several graduates of American schools applied for an examination, which the Board felt they could not legally grant, and so decided. We are likewise aware that one of the Governors suggested some such legislation as applied for above, with a view of meeting the difficulty. Subsequent to this discussion, however, the Committee on the new by-laws of the College reported, and in Section 6, of Chapter V., provided for the difficulty. This clause states that before any person from recognized Colleges outside of Her Majesty's Dominions can obtain the license, he must attend a six months' course at a Medical school in this Province. After this he is in a position to go up for the preliminary and professional examination before the Board if he should not elect to graduate at the school he has attended. This by-law was passed by the Board, and on the 3rd of December last, by an order in Council of the Lieut.-Governor of the Province, it, with others, became law. Now at the very next session of the Legislature we find special legislation being introduced to counteract this by-law, which after mature deliberation was adopted. We think this attempted special legislation should be condemned by all who have the interest of the profession at heart. The gentleman making the above application began practice in this Province in direct violation of a previous Act, and had not the Act, which was very defective, been superseded by the present one, doubtless he would have continued to practise without fulfilling the requirements of the law. The present Medical Act being strict in its penal clauses, all who are unqualified to legally practice in the Province of Quebec are anxious *now* to put themselves right. After much discussion the Board has decided how this can be done. We think it unwise therefore for the Legislature to step in and force upon the Board for examination certain persons from Colleges outside Her Majesty's Dominions who refuse to enter by the path decided upon and provided for by by-law of the College of Physicians and Surgeons. Again it is positively unfair to those who, occupying a position similar to the above applicant, have, in compliance with the by-law referred to, been since last October in attendance at the various schools of Medicine in this Province. We are told, but to us it seems incredible, that the secretary for Quebec of the Provincial Medical Board, on being called before a Committee of the House, expressed his opinion, that the Board would not be opposed to such a Bill as applied for by Dr. Burke.

We hold that the Secretary, nor any other officer, had the right to express any such opinion Their duty is simply to enforce the Act and the by-laws of the College, and the Act applied for, being in direct opposition to the latter, should receive their unrelenting opposition.

BELMONT INEBRIATE ASYLUM.

On reference to our advertising columns our readers will observe an advertisement relating to the Belmont Asylum for the cure of Inebriates, and the treatment of this unfortunate class is of such vital importance that we propose to devote to it some little space in this issue. The evils arising from the immoderate use of intoxicating liquor are so heart-rending, so widespread, and so generally recognized, as to require no comment from us. So much, indeed, has this question forced itself upon the attention of our profession and of the public that, in our day, it has become a subject of legislation on this continent, in Great Britain, and elsewhere. Formerly, intemperance was looked upon as a crime, and the victim punished as a criminal, but it is now getting to be admitted that intemperance is a *disease*, and that efforts for its repression should be curative in their nature, as in the case of any other disease. Dr. Parish, President of the "American Association for the Cure of Inebriates," in delivering an address before the Association in New York, in 1872, said:—"I believe we are a unit on the proposition that intemperance is a disease. We are dealing with it as a disease of the most grave and fearful character. * * * * We confess to much astonishment that some public teachers should be so ready to stand in the way of reclaiming inebriates by any way whatever. It is difficult to comprehend why objection should be made to a man who believes himself to be diseased seeking relief from a physician, or going to an hospital where he can receive aid under the most favorable circumstances, any more than to a man who is convicted of sin and repentant seeking Christian counsel and sympathy to aid him to reform." A Committee of the British House of Commons, appointed during the same year to look into the matter, strongly recommended the establishment of reformatories for inebriates. The report stated that—"Small fines and short imprisonments are proved to be useless, as well by the testimony of competent witnesses as by the fact that the same individual is convicted over and over again to even more than one hundred times. * * * It is in evidence that a large proportion of the criminals passing through our gaols attribute their fall to drink, one witness having stated the amount as equal to seventy-five per cent. in a particular gaol; about twenty per cent. of the insanity recorded in Great Britain, and about fourteen per cent. in the United States, are placed to the same cause, and nearly one-half of the idiots in the latter country are stated to be the offspring of intemperate parents."

Now we have the experience of many prominent physicians, who have stated that a twelve months' total abstinence from all liquor is sufficient to take away the desire for it from even the most confirmed or hereditary drunkard, and in view of the foregoing facts should we not do all in our power to assist those afflicted with this terrible disease in emancipating themselves from its shackles. In the United States this matter has received much attention, and there are now a number of institutions of the kind in that country. A novel experiment has ing been inaugurated in Minnesota, viz., that of imposing a special tax on the liquor-sellers of the State for the purpose of the support of the State Inebriate Asylum, which tax was adjudged perfectly constitutional by the Supreme Court, and was, we believe, collected.

The Belmont Retreat for Inebriates, started in 1864 by Mr. Geo. Wakeham, who was for many years previously Superintendent of the Beauport Lunatic Asylum, is, we believe, the only institution of the kind in the Dominion of Canada. It has a Government license, and is aided by a small annual grant from the Local Government; it has generally under treatment from twenty to twenty-five patients, but has accommodation for more than twice that number. It has struggled on in the face of numerous difficulties, and is certainly an institution which should be supported by the inhabitants of the Dominion, in preference to sending afflicted ones to the neighboring States for treatment. Situated in one of the most picturesque spots in the environs of the city of Quebec, surrounded by extensive grounds and gently sloping meadows, with a background of scenery well fitted to induce repose and peace: these

natural advantages, combined with the care and attention which the patients receive, have led to the permanent cure of a large number of those who have remained in the institution the necessary time, the proprietor computing his cures at about seventy-five per cent. We would urge upon the Local Government, and especially upon the Treasurer, to whom, as a medical man, the subject will come home, the desirability of augmenting the present grant to this deserving institution; such a measure would, we are sure, meet with the approval of the country, and we think it would also be well were the Minnesota experiment tried, and the state aid to such an institution drawn directly from the pockets of the liquor-sellors by a special tax, a proceeding, the reasonableness of which will be admitted, doubtless, by all but the liquor-sellers themselves.

In this Province an act was passed in 1870, providing for the interdiction of habitual drunkards, in order to restrain them from squandering their property. This Act, whilst conceived with the best intentions, has proved, so far as we can learn, defective in many points, and it should be superseded by a Commitment Act such as that in force in the neighboring States. This Act provides that, "any Justice of the Supreme Court, or the County Judge of the county in which any inebriate may reside, shall have power to commit such inebriate to the State Inebriate Asylum, upon the production and filing of an affidavit or affidavits by two respectable physicians and two respectable citizens, freeholders of such county, to the effect that such inebriate is lost to self-control, unable from such inebriation to attend to business, or is thereby dangerous to remain at large. But such commitment shall be only until the examination now provided by law shall have been held, and in no case for a longer period than one year."

The Local Parliament being now in session we think the time opportune for calling atten, tion to these matters, with a view to the inception of such further legislation as may seem desirable on this all-important subject, and we would especially recommend a liberal and substantial grant to the Belmont Retreat, to aid it in its struggles towards a more secure footing. We know that the proprietor is always happy to show visitors over the premises and afford them all information, and we would advise members of the Local Legislature, now in session, to visit the Retreat, and thus, perhaps, obtain some ideas which may be of use in any future legislation on the subject.

ILLNESS OF DR. PELTIER.

We are sure there are many among our readers who will regret to learn that Dr. Hector Peltier, of Montreal, was seized with an apoplectic attack on Tuesday the 22nd of January. As we go to press we learn that there are no signs of improvement, and little hope of a favorable issue.

MONTREAL BRANCH OF LAVAL UNIVERSITY.

We are no longer left to give our readers news on this subject, which some, perhaps, might feel inclined to doubt, for the official announcement of the appointments in the Medical Faculty have been issued, and are given below. We can only add, that we regret exceedingly to see some of the most important chairs so split up between several professors as to show that side influences have been strongly at work. Edinburgh, Glasgow, and King's and University Colleges, London, only require one Professor of Clinical Surgery and one of Clinical Medicine. Why does the branch of Laval, in Montreal, require more? We leave those better able than we are to give the answer.

UNIVERSITY OF LAVAL, AT MONTREAL.

FACULTY OF MEDICINE.

P. Beaubien, M.D., Honorary Professor.
P. Munro, M.D., Professor of Surgery and Dean of the Faculty.
J. P. Rottot, M.D., Professor of Medicine and Clinical Medicine.
E. H. Trudel, M.D., Professor of Obstetrics and Clinical Midwifery.
W. H. Hingston, M.D., Professor of Clinical Surgery.
J. G. Bibaud, M.D., Professor of Anatomy.
J. Emery Coderre, M.D., Professor of Materia Medica and General Therapeutics.
H. Peltier, M.D., Professor of Physiology.
T. E. D'Orsonnens, M.D., Professor of Chemistry, Medical Jurisprudence and Toxicology.
A. T. Brosseau, M.D., Professor of Clinical Surgery and Operative Medicine.
E. P. Lachapelle, M.D., Professor of Pathology.
A. Lamarche, M.D., Professor of Histology and Pathological Anatomy.
E. A. E. Desjardins, M.D., Professor of Ophthalmology, and Clinical Professor of Diseases of Eye and Ear.

Angus C. Macdonell, M.D., Professor of Clinical Medicine.
A. Ricard, M.D., Professor of Botany and Clinical Professor of Diseases of Children.
A. Dagenais, M.D., Professor of Clinical Medicine.
A. Larammée, M.D., Professor of Hygiene, and Clinical Professor of the Diseases of Old People and Venereal Diseases.
G. O. Beaudry, M.D., Professor of Practical Anatomy.

SUCCESSFUL CASE OF TRACHEOTOMY IN DIPHTHERITIC CROUP.

At the meeting of the Medico-Chirurgical Society of Montreal, held on the 30th of Oct., last, Dr. John Bell read an account of a successful case of tracheotomy, the subject of which was a boy two and a half years old, rather delicate, who had a year before suffered from a severe attack of bronchitis, and who, at the time, was suffering from diphtheria. The boy began to be ill and feverish on the 20th September. Having complained of difficulty in swallowing on the 24th, his throat was examined, and white membranes were found covering both tonsils and extending up the pillars of the fauces. The treatment he was subjected to consisted of tincture of iodine locally, together with a sulphite of soda, sulphurous acid and glycerine wash, and also the administration of the citrate of iron and quinine. The extent of the diseased surface increased until the first of October, when dyspnœa began. Poultices were then applied to the throat and carbolized steam was constantly produced near the bed. His strength was kept up by means of milk, meat broths and brandy. On the 3rd the dyspnœa and cyanosis having become extreme, chloroform was administered and tracheotomy performed by Drs. Bell and Roddick. Respiration had ceased before the tube (Durham's) was introduced, but was soon restored by artificial efforts. The usual improvement in the color and appearance after the operation soon took place. The tube was kept free from blood and mucus, both by the vigorous blowing of the little patient and by the introduction of feathers. A stream of strongly carbolized steam was directed against a moist sponge placed over the mouth of the tube, and this was kept going constantly until after the removal of the tube. The local treatment of the throat was continued until the membranous patches had entirely disappeared. On the 6th the tube was removed for the first time, and washed, the opening remaining patent in the meantime. On the 9th the patient was able, on the edges of the wound being held together, to force a small quantity of air through the larynx. On the 10th, considerable congestion of the back and base of the right lung was discovered, accompanied with blood-stained sputa. This, however, gradually resolved under simple treatment. The average range of the pulse, respiration and temperature during the time the tube was in the trachea was: P. 125, R. 34, T. 99·6. Nothing further worthy of note occurred in the history of the case. The tube was left out altogether on the 19th, after which the wound soon contracted and healed over, the voice also returning without any serious defect in character. Some irritability of the bronchial mucous membrane, especially on exposure to draughts, remained for some time. The boy has since remained well, and quite recovered his former degree of plumpness.

On the 16th of October, his sister, aged five, years, who lived on the same flat, took the disease in a well-marked form, and also his mother on the 15th, with severe initial symptoms. The little boy had a diphtheritic patch at one angle of the mouth, and the surface of the incision in the neck at first became covered with a thin greyish white layer. There seemed to be little or no septic poisoning of the blood, and no evidence of any paralysis has since appeared. That the case was one of undoubted diphtheria was not questioned by any of the members present at the meeting. The case is one of interest, not only from its result, but also from the fact that it is the first successful tracheotomy in diphtheria that has been performed in this city. The principal point of interest in the treatment of this case was the thorough use of antiseptics, particularly of carbolic acid in steam projected against the moist sponge covering the tracheotomy tube.

MARRIAGE.

In Montreal, on the 8th January, at the Church of St. James, by the Rev. M. Sentenne, Edmond Robillard, Esq., C.M., M.D., M.C.P & S., Q., to Miss Antonia A. M. du Mazuel.