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Original Communications.

THE PHYSIOLOGY OF CONVULSIONS.

By WILLIAM FULLER, M.D., C.M., Professor of Anatomy, University of Bishops College. Read before the Medico-Chirurgical Society of Montreal, May 1876.

GENTLEMEN,—There are few circumstances more trying to the physician than the management of a case of convulsions, especially to one who has just commenced his career of practice, armed as he may be by knowledge acquired from lectures and books but yet doubtful, through want of experience, of the practical application of the means which he has been taught to use. Regarding the suddenness of the call, the great anxiety of the friends, the frightful aspect of the patient and the apparent necessity of immediate action all conspire to disturb that equanimity of mind necessary for correct observation and sound judgment.

In studying the physiology of convulsions I have come to the conclusion that they result from an anæmic state of the nervous centres, produced by spasm of the vessels through irritation of the sympathetic nerves from local disturbance in some part of the organism, or from an insufficiency of blood in the vessels, as in case of excessive hemorrhage, and perhaps from an altered state of that fluid from the poison of the eruptive fevers or strychnine &c.

A spasm is either local or general; in the organs of the mind, producing irregular trains of thought, hysteric emotion, depraved irresistible appetites, or, unconsciousness; in the spinal cord producing general or local pains or spasms in the body; in the vascular system of the body producing the general chill which precedes a fever, or local anæmia as in cold hands and feet, and what nervous patients describe as dead fingers. These and many other conditions have their origin in spasms of the arterial system, shutting off the supply of blood to nervous centers or to parts of the body; they are all similar in nature and call for similar remedies. They sometimes replace each other and are beyond the control of the patients will. The irregular circulation in the organs of the mind produced from extrinsic causes is a subject well worthy the study of the theologian, the moralist, and members of the legal profession, whose mental philosophy studied from consciousness, seldom recognizes the groundwork of that science in physiology; hence it is that with the one the wrongdoer is wicked, and the other condemns him as a criminal. How few recognize that great essential "a sound mind in a sound body."

This is the explanation of the different views taken

of cases in our criminal courts by the Bench and the doctors. Let us continue, at the risk of being the subjects of derision, to testify where our conscience dictates, in the interests of mercy, and let the same understanding make us charitable toward all men. We are, however, seldom called to treat these cases until some unfortunate is ripe for the lunatic asylum or on trial for his life. We will now consider the nature and treatment of spasms affecting the bodily organs. The phenomenon of a chill is that a local or general irritation of the sympathetic causes spasm of the arterial coats and unstriped muscular fibres generally, shutting of the supply of blood to the skin, producing a sensation of coldness and cutis anæmica. The heart beats violently to overcome the obstruction, paralysis soon follows the expenditure of nervous force, and the capillaries become distended with an overflow of blood which is the phenomenon of simple fever. Nature's object in this is to relieve a local congestion by withdrawing the blood to other parts of the body and thus equalizing the circulation. All parts of the body now start from equal conditions to tone up their vessels, if this process obtains equally throughout the body there is a continuous recovery, but if, on the other hand, the part primarily affected fails to keep pace with the rest of the body, after a certain time it is necessary to repeat the process, which probably is the cause of the periodicity of certain diseases, as in intermittent fever, periodical pains, or periodical drunkenness or insanity of any kind. In low fevers the chills are slight owing to the depressing or paralyzing influence of the poison, hence the dusky appearance of the skin, its sluggish circulation and the bluish and long-continued congestion remaining after the application of mustard plasters in typhoid fever, &c. The same condition in the nervous centres produces the sluggish comprehension and other nervous symptoms observed in fevers. Convulsions frequently follow or take the place of chills especially in children, a fact which proves their close relationship. Now what are the facts from which we can form a just conception of the nature of convulsions, and can we draw a comparison between them and chills? I think we can prove them to be identical. Let us observe closely the phenomenon of a convulsion: There is variableness of the temper, fretfulness, excitement, frequently the child sings just before it is attacked, and the joyous mother is suddenly transported into grief by the unexpected change. The face is observed to be alternately pale and flushed; or, irregular patches are seen as travelling spots of redness. The pupils alternately contract and dilate. There are frequent starts out of a restless

sleep from dreams, rolling of the eyeball; twitches in different parts of the body precede the general convulsion, which is unequally distributed, and generally follows a successive course over the body, repeated in the same order in each subsequent convulsion, sometimes affecting only one side, which side is generally semi-paralyzed after the attack ceases. Each convulsion is followed by a state of congestion of the face, and more or less profound unconsciousness. Now what is the signification of these phenomena? Doubtless they are the result of irregular circulation, produced, as in chills, by irritation of the sympathetic and irregular contractions of the vessels until the maximum contraction is reached in the convulsion, which is followed by dilatation of all the vessels and congestion of the nerve centres, which is the cause of the unconsciousness and of the cessation of the spasmodic action. Excessive hemorrhage is productive of convulsions, owing to a deficiency of blood supply; so also fainting fits are frequently accompanied by or pass into convulsive movements. The object here to be attained by nature is, by the temporary spasm of the vessels leading to the nervous system, to paralyze those vessels in order that, while the body which may remain prostrate without a fatal result, those parts which are necessary to life may be more abundantly supplied until the vital fluid is replenished. Further, with a view of testing these ideas, I have observed in the slaughter-house that spasms occurred in the animals only when they were nearly bled out; and I further caused two calves, which I selected as nearly equal as possible, one to be suspended by the legs and the other laid on the floor with its head elevated; they were both bled as nearly equal as possible, and, as I anticipated, the one on the floor was convulsed much sooner and much more than the one suspended—showing that while anæmia favors, congestion of the brain opposes, general convulsive movements. Again, compression of the veins of the neck is said to control a convulsion. However, I have not met with success, through inefficient performance, as it is scarcely practicable in the presence of friends. The exciting stage of anæsthetics appears to be of the nature of a convulsion, and the second stage resembles the congestion subsequent to it. This is probably the action of these drugs on the body and their use in convulsions, by keeping the cerebral vessels in a state of paralysis. If these conceptions of the nature of convulsions are correct, it follows that beside removing the cause, if possible, they may be controlled by such remedies as either

produce tone in the primary part at fault by very *small and repeated* doses of some medicine acting *directly* on that part, or by a large dose of some medicine sufficient to cause paralysis of the whole vascular system. Unfortunately it is difficult to make a correct diagnosis of the cause, or in the present state of our knowledge of *Materia Medica* exactly to adapt a medicine to its use in this manner. Again, we are seldom called until the spasms are developed, consequently we are obliged to adopt those measures which give relief speedily to the urgent symptoms. The latter course is one which we may adopt with almost certain success, and as is seen in a study of the disease, it is not contrary to the efforts of nature herself; hence the use of anodynes and anæsthetics is appropriate in doses sufficiently large to produce paralysis of the cerebral vessels and congestion. Of the use of chloroform, chloral, bromide of potassium, warm baths, bleeding, &c., we are all acquainted. Perhaps nitrate of amyl might be useful, on the same principle. I have no experience, but it appears to produce cerebral congestion very quickly; I think it deserves a trial. Of all remedies I am most in favor of opium; and so much confidence have I in this remedy, which I have used for six years, that I rarely think of anything but my hypodermic syringe when I am called to a case of convulsions. The few unsuccessful cases which I have had, have not shaken my confidence in this remedy. I introduce the hypodermic syringe loaded with three or four doses and slowly inject at intervals of twenty minutes on $\frac{1}{2}$ hour until the pupils begin to contract. As soon as I find the pupil contracted I go home, confident that the spasms have ceased, at least until the influence of the medicine has passed. I have adopted this treatment in infants two or three months old with perfect success and without any mishap. If infants are more susceptible to opiate^s they require less, and of course any method of treatment is not responsible for a want of caution. I have observed that if the pupils failed to contract after a reasonable dose of the opiates, the case is unfavorable, and in six cases which occurred to me all died either from recurring convulsions, or of meningitis; and here it may be objected that the opiate is contraindicated in, or might produce inflammation of the brain or meninges; but I am of a different opinion, and that opium is no more contraindicated than any of the above named remedies, except perhaps the warm bath and bleeding, since the others produce the same result as the opium or the fit itself, viz: congestion of the cerebral vessels. I think for certain reasons that cerebral difficulty is already established in these cases where the

pupils refuse to contract, and from observation in a recent case, and a successful one which I saw before, I believe that leeches should be employed at once in cases of this kind.

Let me say a word about removing the cause. I think we should not be in too great a hurry. I have known a child to be in imminent danger of strangulation after an emetic by vomiting while in a fit, and drawing a piece of apple into the larynx during an inspiration. Also to purgatives I am strongly opposed as adding another irritation to that already existing. I never give a purgative in threatened convulsions without first administering an opiate in order to leave room for the additional irritation.

It remains to say a few words about puerperal convulsions. Do they differ in their nature from other convulsions? I believe that they do not only in this, that we know their cause to be congestion of the kidney, and since the kidney is so important an organ, when its functions are disturbed nature makes more strenuous efforts for relief. The same remedies on the same principles are useful in these as in other convulsions. I have injected morphia in $\frac{1}{2}$ grain, doses while the patient was in the convulsions, and also during the stertor that followed, with uniform benefit, in all preventing a recurrence for several hours. One case died on the 3rd day. She was convulsed before labor began, and was unconscious for the most part until she died. The urine became semi-solid on boiling, and remained so during the whole period.

I saw one case where veratrum viride appeared to produce a very decided effect. This case occurred in the lying-in hospital during my studentship, about twelve years since. It was under the care of the late Dr. Hall. The convulsions in this case occurred at intervals of about 20 minutes, and had lasted about 24 hours. Chloroform had been administered without much apparent benefit, and the case was considered hopeless,—such was the word sent to her friends. It was observed that just before a convulsion the pulse rapidly rose to 140 or more, and fell after the spasm had ceased. It occurred to us that if the pulse was reduced it might be of some benefit, so, considering that the girl was of a robust constitution and that it might be some time before the Doctor returned, we took it upon ourselves to prescribe. Accordingly we gave 4 drops of the fluid extract of veratrum viride and two more in half an hour. The pulse was reduced to about 80, and I think it was about an hour when the spasms ceased and did not return. The girl made a steady and good recovery which, under the circumstances, was attributed to

chloroform. My impression at the time was that the medicine diminished the flow of blood to the head by diminishing the force of the circulation, but I think now that, like nausea, it diminishes the arterial tension by paralyzing the unstriated muscular fibres and favors passive congestion. I am not inclined to believe in the uremic theory of puerperal convulsions, not only from the action of the medicines in general use in these cases, but from the fact that they are relieved by bleeding, since the blood which remains in the vessels surely possesses the same proportion of the poison; and as for the theory that the difficulty is due to carbonate of ammonia, I may state that I have injected this salt into a vein without causing any symptoms whatever.

My friend, Dr. Duckett, of St. Joseph street, related to me a case, where the bromide of potassium appeared to intercept the convulsion. This woman was one of four sisters, all of whom, as well as herself and her mother had convulsions with every child. She was put upon fifteen grain doses three times a day for a week, and when labor began, as she evinced the symptoms which precede spasm, viz, headache, vertigo, imperfect vision, and muscular twitches; he gave her three doses of thirty grains each, at intervals of one hour with complete relief to the symptoms, and there were no spasms. The bromide appeared to have no influence upon the pains. In a case of my own where there was a large quantity of albumen in the urine, and considerable effusion in the face and hands, for a month previous to the confinement, I gave ten grains of the bromide of potash with diuretics, three times a day for a week previous to labor, with relief to the headache, and no convulsions occurred. It has appeared to me from observation and enquiry that puerperal convulsions in very many instances is due to tight lacing. The mother, as well as the daughters, in Dr. Duckett's cases, in whom the disease was considered to be hereditary, were all accustomed to tight lacing. Also the frequency with which convulsions are observed in primipara and unfortunate girls who naturally strive to conceal their condition, tends to confirm this observation. I will now close by speaking of a condition which might be interesting to nervous surgeons, and public speakers. Unconsciousness occurs in two opposite conditions of the vessels of the brain, viz, anamia and congestion. A nervous person on attempting to act or speak is affected by a violent emotion which produces a spasm of the cerebral vessels; his heart beats violently, his face is pale, the index of

the condition of his brain, and the words come forth slowly and with stammering, or he becomes confused and forgets entirely what he intended to say. It is not until symptoms of reaction set in, or, as the popular phrase has it, "until he gets warmed up," that fluency and ease is acquired. I have found a minute dose of morphia or a few whiffs of ether useful in this most embarrassing condition. Let me add the caution, that too large a dose produces the opposite condition of the vessels, quite as fatal to a successful result. I dare say alcohol acts similarly on some constitutions.

I feel, in closing, that my limited experience prevents me from doing justice to the subject about which I have chosen to express a few ideas.

Progress of Medical Science.

A STUDY OF THE CASES OF DISEASE OF THE SKIN TREATED AT DEMILT DISPENSARY, DURING THE YEAR 1875.*

* Read before the New-York Medical Journal Association, January 21, 1876.

BY L. DUNCAN BULKLEY, A. M., M. D.

Physician to the Skin Department, Demilt Dispensary, New-York.

The number of cases of diseases of the skin which have come under my care in the Demilt Dispensary during the past year, and which I propose to analyze in the present paper, is six hundred and seventeen.

I. *Eczema*.—Of the two hundred and eighteen cases of eczema, one hundred and eleven were in male and one hundred and seven in female subjects, giving a preponderance of four males.

In regard to the location of the disease, in seventy-one cases where this was noted it occurred in the following order: Head, eighteen; hands, thirteen; legs, thirteen; ears, eight; beard, four; face, four; palms, three; arms, two; hands and arms, two; scrotum, two; lip, one; eyelid, one. Of eleven cases in which the side of the body was recorded, the disease affected the left side in eight, and the right in three.

In the treatment of eczema I have, of course, followed, to a greater or less degree, the accepted and well known methods as indicated in the textbooks; but in the two hundred and eighteen cases, probably at least fifty modes of treatment have been required; for no disease of the skin exemplifies more than eczema the error of a routine habit of prescribing, and none exhibits more clearly the necessity of studying the case, and not simply ordering this or that accepted remedy irrespective of the particular requirements of the patient, or, as I have elsewhere stated, eczema requires management quite as much as treatment.

The treatment of eczema in children, of which we have seen that there were one hundred and two

cases of ten years or less of age, offers a field of great interest for the study of the therapeutics of the disease. Every phase of it is here seen—acute, sub-acute and chronic, moist, pustular, squamous and papular; and the measures applicable to one form do positive harm in another. While, therefore, I can not discuss in full the treatment, I will mention a few of the more salient features of the disease as they have presented themselves in this clinic during the past year. I will not, however, reiterate points made in my analysis of the preceding year, and would refer those interested in the subject to that, as expressive of much that would be said at the present time did space permit. I have ordered poultices to the heads of infants with eczema vesiculosum (I believe but twice) at the Dispensary during the year, and then only a *single application* of the same, and that after the eruption had been left alone for a while, with only the repeated application of an ointment. The object of the poultice is to remove an incrustation; and after a single application over night, the head is to be washed in borax and lukewarm water, two drachms to a pint, no soap; and the appropriate ointment is to be reapplied as often as necessary in order to keep the parts thoroughly protected. I therefore order no more poultices nor washings, unless absolutely required; for, as a rule, the crusts which form afterwards will separate in a few days under the continued soaking with a soft ointment or cod liver or almond oil.

Last year I mentioned the use of tannin in ointment, one drachm to the ounce, as having given me good results; this year habit, perhaps, and the desire to test the value of different remedies, has led me to employ largely the bismuth subnitrate in ointment, half a drachm or one drachm to an ounce; and with many skins it acts very much better than the zinc ointment. I have also returned, in a measure, to the employment of the old unguentum picis or tar ointment of the pharmacopœia, diluted two, three or even more times, either with simple or rose ointment, or in combination with oxide of zinc ointment, and I find that it does not merit the neglect into which it appears to have fallen. I have no new experience to add in regard to the tannin ointment before recommended, when used it has proved serviceable.

I have employed baths more than formerly in the treatment of eczema, both in children and adults, among the poor, and they have at times rendered great service. As is well known, the application of simple water to eczematous skin does harm, and is to be avoided as far as possible; but the same does not hold true in regard to water medicated so as to offer a soothing element, by means of the carbonate of potash and soda, borax, acetate of potash, etc., combined with starch.

In a case of eczema of the scrotum in a boy, very great relief was obtained by soaking in a warm bath every night in an ordinary wash-tub half full, with something over an ounce of carbonate of soda, with

four tablespoonfuls of dry starch boiled, and the subsequent application of the tar ointment diluted with twice as much simple ointment, cured the case, which had been most distressing and troublesome. The boy took, at the same time, a little arsenic in rhubarb and soda mixture; but the relief afforded by the local treatment was so immediate and certain that no doubt could be entertained of its very great value.

Acute and exuding eczemas do not as a rule do well in baths, at least in my hands; but many children with subacute and chronic forms of the disease, more or less general, were treated with baths similar in the main to the above with advantage. It must be remembered that, after coming from a bath all the diseased parts must be dried with the least possible friction, which is best attained by throwing a warmed linen sheet around the body and drying by pressing this on the surface; and also equally important that diseased surfaces must always be covered immediately with some protective dressing, otherwise the effect of the bath may be irritating, having dried the skin more than can be remedied by the natural oiliness of the surface. In private practice after a bath, the glycerate of starch or vaseline—the perfumed or “pomade vaseline” is most agreeable—may be applied to the entire surface if there is any tendency to general roughness or scaling, and furnishes a most elegant means of rendering the integument soft and supple.

In regard to the internal treatment of eczema, I find no reason to alter the opinions expressed last year as to the internal origin of a large share of cases, and of the consequent necessity of properly selected internal medication and dietary regulation.

I confess that I have been a little surprised, however, at the effects which I have obtained from arsenic in many cases. For the purpose of clinical study, I have given a large number of children no other treatment but arsenic, except occasionally a little zinc ointment as a placebo. I have given it to infants as well as older persons, administering it in increasing doses till some of the physiological effects were observed, though this limit was not always sought, and I have seen both impetiginous and dry eczemas disappear in a very short time. I regret that I can not, at the present time, give definite results from my experience, for I am not yet able to determine exactly in what cases this method will do good, and when it will be inert or harmful. I believe, however, that the effect of arsenic is much more marked in the eruptions of children than in adults, my previous experience in the latter having forced me to report much less favorably than has been done by certain dermatologists, notably of the English and French schools; but of its very great efficacy in certain cases of eczema in children, there can be no doubt. I will mention in brief a striking case which has attended very regularly at Demilt during the past year.

Thomas Hayes, five years of age, was first presented at my clinic May 11, 1875, with the following history: When four months old an eruption, ans-

wering to the description of impetiginous eczema, developed upon the cheeks and head, and from that time he has never been free from the disease. It has gotten somewhat better at times under certain treatments, but has never left him, nor at any time has he been so as not to be much distressed with it. It has occupied in turn much of the body, affecting at times the popliteal spaces and other parts. When first seen, his whole face, eyes, head and neck, were covered with a moist papular eczema, bearing evidences of great itching; and his father testified that he tore the parts constantly, his sleep at night being almost entirely prevented. The arms were likewise the seat of a dry, papular eczema, considerably scratched, which had persisted since twelve months of age. The little patient wore the troubled, exhausted look common to such sufferers, and the father appeared almost equally distressed because of the apparent hopelessness of the case. He was immediately given cod liver oil in increasing doses and the oxide of zinc ointment, with directions not to wash the parts but to keep them constantly coated with the ointment, and to remove the woolen tippet which he had worn and which was irritating the inflamed head, neck and ears. There was but slight improvement from this; but in view of the very chronic character of the case, and because the child seemed to be one who required the oil, this treatment was continued unaltered till July 10th, a period of two months, when he was given a mixture containing three minims of Fowler's solution and two grains of ammonio-citrate of iron with bark tincture, three times a day, and the tar ointment was added to the zinc to assist in allaying the itching, the oil being continued.

This treatment was followed faithfully for six weeks, till August 31st, with really no gain, when, in view of the great amount of itching, I resolved to give arsenic and push it till good or bad results were obtained. Accordingly, the other treatment being suspended, equal parts of Fowler's solution and cinnamon water were prescribed; and four drops of this were ordered three times a day, the dose to be increased by two drops every other day until twenty drops three times a day were reached—the same local treatment being used, the ointment to be washed off with a solution of two teaspoonfuls of baking soda in a teacup of water, once daily. At this time the eruption was about in the state described as existing at the first visit, three and a half months previously, his general condition having improved but very slightly also under the oil and tonic.

In twelve days it was recorded that there was great improvement, and four days later (Sept. 16) still more relief; he was then taking twenty drops of the mixture, or ten drops of Fowler, three times a day; a large portion of the eruption had become papular, there were almost no excoriations; the child slept well and looked fifty per cent. better. The dose was then increased to thirty drops after meals, augmenting in the same manner two drops every other day. This dose being soon reached, it

was continued at thirty drops, or fifteen of Fowler's solution of arsenic, three times daily, until December 4, three weeks longer, when it was noted that the eruption had nearly disappeared, the father stating that the child had never before been so free from the eruption since its inception. December 30, he still continues well. The father testifies that whenever the arsenic is omitted, even for a day or two, the itching returns. The dose of the mixture was then ordered to be increased to forty drops (twenty of Fowler) three times a day, the dose of thirty drops not having caused any inconvenience.

On January 15, 1876, it was recorded that the forty drops had disagreed with the stomach and caused vomiting; in order, therefore, not to withdraw the remedy entirely, the dose was lowered at once to ten drops three times a day, with instructions to increase slowly to thirty, a point at which he had previously tolerated the arsenic perfectly. At his last visit almost every trace of eczema had disappeared; the color of his cheeks was of a natural rosy hue and the skin there smooth, the ears perfectly normal, and, but for slight papulation here and there, the disease could hardly be suspected. He sleeps well and eats well. March 11, 1876, he remains well.

To complete this history, I should state that the father is a decided asthmatic, and had eczema eighteen years ago; the mother is healthy. The child had wheezing lately, that is before commencing treatment; it has improved with the improvement in the eruption. There was no change made in the local treatment from first to last, and during the latter part of the time this was rather neglected.

I have elsewhere* written strongly against the evil of falling into the "rut" of treating eczema by means of Fowler's solution and zinc ointment, and mention the fact here to warn any against believing that because I have given *single case* where arsenic proved *the* remedy, that therefore it is valuable and to be administered in every case of eczema. Far from it; the cases, in my experience, are comparatively few where anything like this effect can be obtained. In this child I believe it was indicated by the asthma of the father and slight wheezing in the child; while the great amount of itching showed a nervous element which called for such a nerve tonic.

During the past few months I have been using a preparation of arsenic but little known or used in this country, but which I think bids fair to be far more useful than the well known Fowler's solution. This is the solution of the chloride of arsenic, the liquor arsenici chloridi of our Dispensary—the old De Valangin's solution. Its advantages are that it is better tolerated by the stomach, and that it can be administered in large quantities; and thus far, in public and private practice, it has yielded results which I have failed to obtain from the more commonly employed forms of arsenic. The Dispensary states that its strength is two-thirds that

of Fowler's solution, but that it is to be given in the same doses. In one very old and obstinate case of eczema of the beard, in a man aged thirty, this preparation has been administered in doses of forty drops three times a day with the happiest results. He has been under treatment elsewhere for several years; and although persistent epilation and local remedies have done the most toward removing the disease, he still feels that when he omits the arsenic he has more irritation than when under its influence. He, of course, reached these large doses slowly, beginning with five drops after meals; he gradually increased by a drop or two a day to the full doses mentioned.

In pustular or impetiginous eczema, I have had very good success with the hyposulphite of soda, in large doses, thirty grains for an adult three or four times a day, largely diluted and given usually in cinnamon water, on an empty stomach. Last year I reported favorably of its employment in furuncles. I refer now to the more superficial suppuration of eczema. I think I have not used as much cod liver oil this year as last, the class of patients not requiring it, they being in the main better fed and less depressed and exhausted. I have, however, employed more acetate of potassa; indeed, as we rise in society we find, as I have before suggested, more need of two classes of internal remedies in treating many diseases of the skin, namely, evacuants or diuretics and nerve tonics; that is, we find more the results of over and wrong indulgence among those better able to procure luxuries, for which cathartics and diuretics are demanded, and we encounter also nerve exhaustion from responsibility and mental strain, which requires nerve tonics.

Infantile eczema was very generally treated after Mr. Wilson's plan, namely, a grain or two of calomel every day or two, or twice a week, according to the effect; and arsenic and iron, with a syrup internally, with generally a little compound tincture of bark to take the place of the wine. Cod liver oil was given to those of strumous habit.

2. *Phthiriasis*.—The treatment employed for the head form was always that described last year, namely, soaking three times in kerosene oil within twenty-four hours; then washing thoroughly with castile soap and warm water, and applying afterwards cod liver oil, if the head be very sore, or zinc ointment, or the white precipitate-diluted three times. I have used this plan in private practice, and do not find that it is objected to; whereas the thoroughness and certainty of cure of a single soaking renders it a treatment to be recommended. It kills the nits and they become detached on repeated combing, which does not happen when an agent has been used which does not penetrate them. In private practice good results are obtained, but not so quickly, by means of highly scented white precipitate or citrine ointment, diluted three times; and the nits may be separated by means of a wash of equal parts of acetic acid and cologne.

3. *Acne*. In regard to the causation of acne, a large share of the patients presented some of the

* The Management of Eczema. G. P. Putnam's Sons, 1875.

manifestations of imperfect digestion, coated tongue, constipated bowels, flatulence or oppression after eating; although a first general question will commonly elicit the answer that these patients are perfectly well with the exception of the eruption on the face. Most of the girls with the simplex and punctata forms worked in factories, went to school, or lived out as servants; and another year's experience convinces me more firmly than ever that this disease is due to imperfect digestion, even though the results of it are not shown before they reach the urinary secretion, where, in place of the normal results of disintegration, we find urates, oxalates or phosphates.

The element of confinement to the house and want of fresh air seems to be wanting in those of the male sex who were affected with acne simplex and punctata; for we find among them two laborers, a farmer, butcher, driver, plumber and carpenter. But when one studies the diet commonly employed, it will be found that many habitually transgress in quality and quantity; and these are the ones prone to be affected with skin diseases and acne especially. Our people need much education on the subject of hygiene and diet—topics sadly neglected in the teaching of the schools, lay and medical, and which the practitioner has mainly to study and develop for himself, and should instruct the patient in.

Quite a share of the patients with the simplex and punctata forms of acne received acetate of potassa first, followed by tincture of the muriate of iron as soon as the new elements of disease cease to form. I have also given glycerine internally, with citrate of iron and quinia dissolved in it, with good results to those with thick, doughy skins. Last year I stated that arsenic, in my experience, was of very little use in acne. I must modify this in regard to the De Valangin's solution already alluded to, which I have used in certain cases with excellent results, which I hope to communicate more in full at a latter day.

Locally I have little new to offer at present, beyond what was reported last year, except that certain cases I have found to do well under citrine ointment, diluted three times, and well rubbed in at night. The first effect is stimulating and the face appears worse, when the treatment is to be suspended and returned to in a few days.—*American Practitioner*.

TREATMENT OF PLACENTA PRÆVIA.

Dr. T. GAILLARD THOMAS, after narrating to the New-York Obstetrical Society (*American Journal of Obstetrics*, Feb. 1876) the notes of a case of placenta prævia, made the following remarks. Is it better to allow a pregnancy, during which the woman has become exsanguinated and dangerously reduced by repeated hemorrhage from placenta prævia, to go on to term, or should premature labour be induced? He chooses the latter alternative, and has lost but one case of placenta prævia in which he brought on labour prematurely; the case

died of post-partum hemorrhage. The children, of course, usually succumb. In the case just mentioned he detached the placenta (which was centrally inserted), cut the cord and removed it, leaving the child in the uterus; no hemorrhage occurred; twenty-four hours later the child was safely expelled. The uterus contracted well apparently, but three hours afterwards the family physician was hurriedly called and found the lady dying of hemorrhage. In his opinion the induction of premature labour offers greater safety, both to the mother and the child, than the plan of allowing the pregnancy to go on to term. The hemorrhage from this malposition of the placenta generally occurs suddenly, often at night, and before the physician can reach the patient she is beyond medical aid, or at least at the point of death. These repeated depletions also debilitate the child, and the question arises whether a child born prematurely at the eighth month is not fully as likely to live, or more so, than one weakened by repeated hemorrhages. If the labour is induced by rubber bags, the hemorrhage will be slight, and the danger to the mother not great, for these rubber dilators compress so thoroughly as to arrest the bleeding from the placenta during the dilatation of the os; of course the diagnosis should be correct, and a granular endocervicitis producing occasional discharge of blood should not be mistaken for placenta prævia. This method of treatment is not mentioned in the obstetrical text-books.

THE EARLY RECOGNITION AND TREATMENT OF LATERAL CURVATURE OF THE SPINE (a)

By T. CARR JACKSON, F.R.C.S.,
Surgeon to the Great Northern Hospital, &c.

PERHAPS there is no class of diseases involved in greater obscurity in their origin, or presenting greater difficulty to the practitioner, than those affecting the spinal column.

It was an observation attributed to the late Mr. Abernethy when beset with difficulties, "that complex forces produce complex results;" and assuredly we have in this structure an exemplification of his remark, for the spine equals, if it does not surpass, all other parts of the frame in complexity of structure, and its functions must necessarily be equally complicated, whether we view it as the centre of the skeleton, as a bond of union between different parts of it, or as concerned in the production of a variety of movements, upon the integrity of which much of the beauty and symmetry of the human figure depends.

It is not, however, my intention to dwell upon the anatomy and physiology of the vertebral column, my main object being to glance cursorily at the most important facts relating to what has hitherto been regarded as a formidable and unmanageable deformity, with observations directed more especially to its early recognition, inasmuch as it is only in its very earliest stage that treatment is of any avail,

(a) Abstract of a paper read at the Harveian Society of London, October 21 1875.

so far as a cure is concerned. Scoliosis, or lateral curvature, is by far the most common form of spinal deviation, and is not, like angular curvature or Pott's disease, almost exclusively confined to the humbler ranks of life. It rarely manifests itself under thirteen or fourteen years of age, and in the large majority of instances in females. This period of life is intimately associated with the phenomena of growth—a period also when the health is likely to become impaired, the constitution deranged and enfeebled, producing physical debility.

It will not be necessary for me to dwell upon the causes which induce debility, which I hold to be the chief predisposing cause of lateral curvature; but as the term is vague without some special application to its object, I may briefly allude to its more prominent forms.

In the first place there is a large proportion of females in the middle and upper ranks of life who do not enjoy even a moderate state of health. In these the usages of modern society call so much more on the mental than the physical powers, particularly in the instance of young females during the period allotted to education; and more especially when the peculiarities of the female system begin to disturb the constitution, that it is but too obvious the part a debility of this description plays in the production of deformity.

Secondly, rapid growth is a very striking source of debility, out of which deformity may arise. The spine in such persons being endowed with an unusual degree of flexibility, it requires a muscular action of great power to sustain its firmness in the erect posture, and this is usually wanting.

Thirdly, severe and protracted illness will induce a form of debility no doubt many of you are familiar with, where patients are utterly unable to stand long after they are able to sit up in bed, "illustrating the remarkable difference in the relative amount of muscular force required to hold the spine erect and to maintain the erect position of the body." Admitting, therefore, that debility, *inherent or induced*, is the most frequent of the predisposing causes, we shall cease to be surprised at the large number of young persons who are thus affected since they must bear a certain proportion to the causes that give rise to the loss of muscular power.

"Now the animal body in reference to its muscular movements must be considered as a system of moving powers; each movable part has its own system of muscular action adapted for the purpose of its own particular motion and its own centre of motion, about which the moving powers act. Hence it follows that any disturbance of the muscular power cannot be considered apart from the influence of gravitation." The application of a mechanical cause, therefore, is the touchstone of that disturbance of the centre of gravity which results in deformity, inasmuch as the waving line of the spinal column allows of a due distribution of the weight with respect to the centre of gravity, the line of which carried

through the entire trunk must fall within its base of support, the space covered by the feet, or by one foot when we support the body on one only. Here also it may be incidentally mentioned that the causes which induce debility do not alone affect the muscular apparatus; they influence also those structures to which are mainly committed the charge of preserving the relative position of one vertebra to another—viz, the ligaments which link the vertebræ in a continuous chain and determine the limits of their motions upon each other, as well as those entering into the composition of the column. A German author, whose name I cannot call to mind, has pointed out how a low state of hæmotosis constitutes the general predisposition to scoliosis—that is to say, an anæmic condition of the blood with an insufficient nutrition of the various structures of the body deprives the cartilages and bones of their usual firmness and elasticity, thus rendering them susceptible of an alteration of their respective forms; the softness of bone is therefore a simple result of a low state of nutrition, and not of any specific structural disease, as in caries.

If therefore, we take into account the immense quantity of elastic material in the spine, and that the strength of the whole mainly depends upon it, and the necessity which exists for the maintenance of equilibrium in all parts of it under every change of posture or application of extraneous force, we can readily imagine how the centre of motion, and consequently the centre of gravity, becomes altered when from any cause the muscular power is defective, and the body thrown into such a position as shall enable the mechanical causes to act in obedience to the law just propounded. It cannot fail to strike every observer that mechanical causes must be constantly exerting their prejudicial influence when the system is weakened and muscular power diminished. So long as the weight of the body is transmitted to the ground by two pillars of equal length, so long will the vertebral column occupy the central space between them, but reduce the value of either as a pillar of support, and the weight remaining unchanged, the opposite limb performs the extra duty; hence we see what trivial circumstances are sufficient to retard the train of evils which may subsequently follow.

Now, to entertain a correct idea of the operation of these two causes, vital and mechanical, as they may be termed, we must first consider in what scoliosis consists. Lateral curvature is not a mere curving of the spine to one side. The starting point of all lateral deviation is *torsion* of the vertebral column upon its axis. This deflection is produced in a manner precisely similar to that which may be artificially produced by bending a piece of whalebone, or a flexible green twig, into the shape of the letter S. If one of the extremities be forcibly twisted in one direction, the other will immediately become distorted in a contrary manner. This invariably happens for the vertebral column, the

inferior torsion always being the converse of the superior deflexure, and if it were possible to untwist one end, the other would spontaneously return in the same proportion to its proper shape, exactly as in the case of the twig or whalebone.

The main object, therefore, in diagnosis should be to detect the earliest sign of torsion, for unless this is clearly made out the progress of the case to the second stage is inevitable, from which recovery is not possible. The symptoms usually attendant upon lateral curvature are not only very numerous, but also exceedingly anomalous in character, besides which the earlier indications of the disease, those denoting the rotatory twist alluded to, either fail to strike the eye of those unused to investigate these matters, or, worse still, are attributed to some other source than that from which they really spring. Thus, for instance, it is most common to find that the symptoms are dated not only from that period when the eye had detected some morbid change in the patient's symmetry; whilst it is very evident that a variety of phenomena must have occurred prior to the advent of such a serious result.

Foremost amongst the early symptoms that denote torsion are an awkward carriage or position, a shambling, ungraceful walk, which strongly contrasts with the light, airy step of those whose symmetry is unimpaired. These symptoms strike the practised eye as a group indicative of debility, defective vitality and elasticity—a conflict, in fact, between the operation of mechanical laws and vital force. A stage further and the weakness becomes increased; the patient will be found to droop either forwards or to one side whilst sitting, especially at lessons, and she requires constantly admonishing to keep herself erect. In all probability some sense of weakness is experienced in the back, which is but too often set down to obstinate perseverance in a bad habit.

At a still later period more marked evidences of the affection begin to manifest themselves, and are too obvious to require pointing out. A description of them would least me beyond the scope of these observations—viz, the early recognition of the disease.

The objective signs of early rotation are very few, and it is a most essential point in making the examination to investigate strictly the condition not only of the spine itself, but of the extremities in connection with it. I have already alluded to the fact that trivial circumstances will induce spinal deviation in those predisposed to it, any injury or congenital defect that disturbs the equal action of the legs producing lameness. The habit of standing on one foot, the pinching of a tight shoe, the abomination of the modern peg top-heel boot, are frequently instrumental in its production, and it is necessary that any one, or a combination of them, should be determined, in order that their effect upon the spine itself should be accurately made out.

On examination of the spine itself we shall find but little to denote the severity of the possible sequences—nothing more, perhaps, than a slight

prominence of one hip, or rather crest of the ilium. The lumbar wall sinks a trifle in the very earliest stage, the opposite side being more directly vertical in outline. This sinking corresponds to what afterwards becomes the concavity of a curve; but what I take to be the most important of all is a slight prominence of the sacro-lumbalis and longissimus dorsi lying upon and slightly raised by the transverse processes of the lumbar vertebræ.

Even in this early stage the scapula is slightly elevated and removed in an appreciable degree from the median line, and becomes more noticeable when closely compared with that of the opposite side; yet a degree further and these symptoms can scarcely be passed over or mistaken. The ribs in the dorsal region of the right side bulge slightly, the prominence of the lumbar muscles is more pronounced, and the right haunch stands out in clear relief. The flexibility of the spine is impaired, the outward symmetry of the body is deranged—circumstances that are mainly dependent upon a persistent rotated condition of the vertebræ, and the supervention of secondary pathological changes in the structures entering into the formation of the spine and those in relation with it; beyond this point the deformity rapidly increases. The ribs of the right side bulge outwards, the spaces between them being widened; the scapula of the same side is tilted upwards, and its inferior angle rendered prominent—sometimes remarkably so, in consequence of its escape from the embrace of the latissimus dorsi, and forms a very peculiar and prominent feature. The ribs on the opposite side are depressed and flattened, and the left shoulder sunk below its natural level. Here, however, we are dealing with results. Lateral curvature in its ordinary acceptation has become established, and to pursue it would occupy space and time beyond the limit assigned to this paper.

Treatment.—Sir Charles Bell has with great truth remarked that if this condition of the spine be neglected, a girl whom nature intended for a fine young woman becomes “an object.” When, therefore, a patient is brought to us suffering from the early symptoms which denote the starting point of lateral curvature, viz, the rotatory twist, the primary step should be to institute a rigid examination with a view to discover the mechanical cause or extraneous force from which the rotation has originated—what, in fact, has disturbed, or has a tendency to disturb, the action of the centre of gravity, which, in a pathological sense, means the superincumbent weight, in combination with extraneous forces, acting upon structures physically incapable of bearing it—the preponderance of physical disturbance to the natural function. All attempts, therefore, to redress the grievance by any other method than that of counteracting the disturbing force must necessarily fail.

It unfortunately happens that cases in their early stage rarely come under our observation, when restoration is easy—I may say certain. The valuable period is generally wasted in the trial of remedies that cannot do good, and may produce serious injury.

The disease being in its essence a constitutional defect in healthy nutrition, the surgeon must form a just estimation of the sources of the constitutional defect in each particular case; the remedies, to be useful, must be directed to the cause of the disease, and not to its effect. The patient should not only be protected against influences likely to depreciate the physical standard or her constitution, but measures should be adopted to enhance its vigour and fortify the frame against distortion. The patient should live regularly and generously, avoid fatigue, and, in the language of a word-painting American, "abstain from all conflict with the laws of physiological hygiene;" should alternate in proper proportion between rest and locomotion, providing for freedom of exercise without indulging in habits likely to exhaust her physical power by over-exertion; in fine, for a year or more should live for physical well-being alone, until puberty, with its attributes has become fairly established and the constitution confirmed. Other measures, however, are necessary to avert the impending deformity—viz, those relating to the operation of the mechanical cause, the superincumbent weight acting, as I have already explained, by deviating the centre of gravity. It must be evident that, so long as a patient stands erect—equally balanced upon her feet—the centre of gravity will fall in its proper place, but let her stand at ease, or sit upon one haunch, to relieve the weariness inseparable from general debility and languor, and the spine is at once thrown out of its perpendicular. The effect of this is to incline the pelvis, on which, as a *base*, the spine rests, and that, too, a very small one compared with its height—viz, the sacro-lumbar articulation, and the line of gravity inevitably traverses a new series of curves, causing the spine to rotate upon its axis and subsequently inducing curvature out of the mesial plane. The spine is projected to the left side at the lower part, and to preserve the balance the body is twisted to the opposite side above.

Rotation would appear to be the starting point of every deformity. In *varus* the anterior part of the foot rotates upon the transverse tarsal joint of the foot, the primary disturbed motive force being in the *tibialis anticus* and *posticus* muscles. In *genu valgum* the tibia is rotated upon the femur by the action of the *biceps long* before the bending inwards occurs, and one of the chief obstacles to treatment in each of these diseases is difficulty in unbending effectually the twisting. It is a somewhat singular fact that a rotatory movement is observed in buildings which are loosened upon their foundations.

Now, so long as a patient is in motion, the centre of gravity falls within its proper base, and when recumbent, the action of it in an improper line is abolished. Hence, if the principles inculcated are true, it follows that the patient should be either constantly recumbent or in motion; but here we encounter the established habits and motions of society. It will be argued that if the patient be confined to the horizontal position, the health will certainly suffer; and this is perfectly true, unless

counteracted by the other alternative, freedom of exercise; and we must not forget the reasoning of Meyer, that the recumbent posture, unduly maintained, has a tendency to diminish the normal thoracic curve of the spine, more especially when it is still over-flexible. Hence we must be particularly careful that the recumbency be not too rigidly enforced or prolonged; but this can scarcely be the case if a patient be allowed to lie on her side, or choose any position consistent with her comfort, so long as she is recumbent.

My own practice, therefore, in the treatment of these cases is based upon the foregoing principles. Patients must be recumbent or in motion; when in motion they may walk, run, jump, dance, &c., but there must be no standing, lounging, nor even sitting, and the education must be conducted in the recumbent position, and unless there is manifest disposition on the part of the patient, and a moral co-operation of the part of her friends, no good will result, or, at the best, the distortion fixes in a moderate degree. The patient, moreover, should sleep on a firm mattress, with a low pillow and endeavour to change the side upon which she sleeps. The spine should be sponged and well rubbed night and morning.

Now comes the question of exercise. I concur with Mr. Skey in thinking that it should follow, not precede, other treatment. I am equally sure that, whatever exercise be adopted, it should tax the entire muscular system, and not exempt one part or the other; neither should it, under any circumstances, approach exhaustion of the physical strength. And here it may be mentioned that a certain amount of exercise is quite compatible with rest in the horizontal position.

I have occasionally practised where the torsion is fully marked, and I have thought with benefit, such as the following. Let us suppose an ordinary case, in which there is slight curvature above on the right and below on the left side:—

I place the patient standing with her back towards me. I then cause her to stiffen her neck and left shoulder, while offering support with one hand to the patient's right arm, and applying the other to her left hip. I cause a movement of the upper part of the body tending to carry it to the left side and slightly backwards, preventing, at the same time, all attempts to lower the shoulder or bend the trunk on the right hip. This movement, when properly performed, must cause rotation of the dorsal vertebrae to the left, and, consequently, a corresponding motion of equal extent of the lumbar vertebrae. During the movement the thumb of the left hand lying over the first lumbar vertebra informs me of degree of torsion of the spine, and whether the muscular action has been properly accomplished. These movements may be continued for twenty minutes, with an interval of rest, four or five times a week, once daily, sufficient care being taken that fatigue is not induced and, I may say that when they are properly performed in moderation they induce neither pain nor fatigue.

In the incipient stage of the disease I entertain an insuperable objection to the application of the so-called mechanical supports, varieties of which bear the name of their several inventors. They, one and all, consist of a steel pelvic band, from which arise central or lateral crutches with a superadded mechanism of rotation plates acted upon by cog-wheels or springs. A belief is entertained that the active part of such machinery can powerfully influence a curved or twisted spine. Nothing can be more delusive. In the first place the human body is mechanically in a state of unstable equilibrium, and therefore the attempt to get a fulcrum fails, and consequently the instrument will rotate in spite of every device to obviate it; secondly, if great force be exerted the crutches will press unduly upon the axilla and cause excoriation of the skin, and I regret to say I but too often see sad proof in such misdirected agency in the shape of absorption of the pectorales, the result of long-continued injurious pressure; and thirdly, they interfere with the employment of the various means of calling into action the muscles generally, and the improvement in tonicity and power of those which constitute the true and only support of the spine itself—viz, the dorso-spinal muscles.

It is much to be regretted that so such ignorance is yet displayed of first principles of physiology in the construction and application of these instruments. Hence we cannot wonder that the treatment of this affection has of late years been divided between the quack and the instrument maker, and the singular anomaly its scientific and empirical aspect presents.—*Dublin Medical Press and Circular.*

SCARLATINAL EAR DISEASE.

This subject is one of such constant interest that we quote from the *Edinburgh Medical Journal* the following remarks upon it, by Dr. J. P. Cassells, M.R.C.S. :—

Scarlatinal ear disease, the most destructive of all the ear diseases, and the one most frequently met with in general practice, arises out of the nasopharyngeal affection, which is so marked a complication of this exanthem. The propagation of this congestion along the Eustachian canal, into the cavity of the tympanum, and thence to the mastoid cells, must have been frequently witnessed, even by practitioners not specially interested in the practice of this department of our art. When this, the initial step in the causation of the ear disease, has taken place, its progress and development proceed with extraordinary rapidity. The Eustachian canal, as a result of this tumefaction of its tissues, becomes concentrically closed; in consequence, there is a rapid increase in the congestion of the tympanic lining membrane, owing to the disturbance which a closed Eustachian tube causes in the balance of the tympanic air-pressure. Inspection of the membrana tympani, at this stage, shows it to be, in general, unaffected by the congestion of the tym-

panic lining membrane. The temperature of the patient, at this period, is considerably increased toward evening, without a corresponding fall in it in the morning; there is much restlessness, rolling of the head, and more or less delirium, generally out of proportion to the violence of the general febrile attack. If now the interior of the ear is examined, the membrana tympani being still unaffected, except in a very slight degree, by the general congestion, it is generally possible to recognize through it the deeply purple-colored tympanic lining membrane. As yet, there is no effusion into the cavity of the middle ear, although its flow is imminent. Up to this point in the progress of the malady it is possible, by the timely use of the knife, to bring about resolution of the diseased action; failing in this favorable and more desirable termination, the certainty nevertheless remains, that by this means the disease is deprived of its power to commit damage. This stage in the treatment of the disease I call that of resolution and prevention.

The next step in the onward progress of the affection is more characteristic, is surrounded with more risk, and is of shorter duration than the preceding one; and because the resolution of the disease is no longer attainable, nor all the dangers to which it gives rise preventable as they were in the earlier stage, I have named it the stage of preservation or cure. It is now that, owing to a marked increase in the hyperæmia of the tissues, and a diminution of the support usually afforded to the engorged vessels, there takes place an exomosis of serous-looking fluid, which speedily fills the tympanum and mastoid cells. The pressure from this accumulation, constantly increasing as the fluid becomes greater in quantity, causes, at last, ulcerative absorption of one or several points in the parietes of the tympanic cavity, or mastoid cells; a process, I may remark, that goes on with astonishing rapidity, and, as may readily be supposed, leads to serious consequences. Indeed, the future of the case is determined, in a great measure, by this process, and the nature of the tissue in which it is set up; if it is the membrana tympani alone that suffers from the destructive process, less danger, both present and prospective, is likely to follow, than where the bony wall is broken down or perforated. The general symptoms from which the patient suffers, in this stage of the disease, are much graver than in the former one; there is, usually, agonizing pain complained of in the intervals of freedom from this symptom; there is often wild delirium, and not seldom a state of coma, due to the pressure of the effusion upon the labyrinth. Pain, as a symptom; however, is not, by any means, a constant one; when it is present, it usually indicates periosteal or meningeal hyperæmia. If the membrana tympani is now inspected, it will be found no longer possible to see the purple-colored lining membrane of the tympanum, by reason of the changes which have taken place in the membrana tympani itself. It is now of a bottle-green color, with more or less bulging outward; or it may

assume a yellowish color, if the contents of the tympanum have degenerated into pus.

It is in this stage of the disease that aural surgery, as a preservative, displays its advantages over the *laissez-faire* method of treatment. A free incision through the bulging membrane gives exit to the fluid, and arrests the destructive processes that may have been set up in some vital part of the organ. On the other hand, when the nature of the case is unrecognized, nature relieves herself by discharging the pus (happily for the patient if it be through the *membrana tympani*), with no other damage to the organ, even though a life-long otorrhea is the consequence.

THE RAPID RELIEF OF NEURALGIC PAIN.

Dr. Spencer Thomson considers that instead of the employment, as of old, of external applications to palliate suffering in neuralgic affections, employed with the hope that the disease might be conquered, after a longer or shorter interval, with quinine, carbonate of iron, arsenic, and other anti-periodics, which were not always certain, we may now congratulate ourselves that a large number of cases of so-called neuralgia may be quickly, either permanently cured by the relieving remedy, such as phosphorus, or relieved, until such time as specially curative agents, or curative general treatment, have removed the tendency to the recurrence of the pain.

As one of the newest of the remedies, he first alludes to one which is much too slowly making its way into the domain of practical therapeutics—the recently introduced “tincture of gelseminum sempervirens,” or yellow jasmine. In his presidential address delivered before the South-Western Branch of the British Medical Association in 1874, he alluded to this remedy as having proved very successful in his hands, and in a paper he read this year, at the Plymouth meeting, he was able to state how fully it had fulfilled his expectations during the twelve months that had elapsed since his former notice of it. Directly or indirectly it had been used by him, or by his authority, in at least forty cases to which it was applicable, and with almost constant success. In using the word “applicable,” he does so in accordance with his own experience that the remedial power of the gelseminum seems confined to those branches of the trifacial nerve supplying the upper and lower jaw, more particularly the latter, and more especially when, in either jaw, the pain is most directly referred to the teeth or alveoli; indeed, he can scarcely recall an instance of the above in which relief was not speedily and thoroughly given. The usual expression of the patient has been, “It acted like a charm.”

In illustration he gives one case: On Sunday afternoon, June 20th, the housemaid of a friend, a retired medical man, came to him with a note from her master, stating that she had been suffering from agonizing pain, of what was thought to be tooth-

ache, for six-and-thirty hours. Nothing gave relief, and no dentist could be found to remove the only suspicious tooth. He sent her home with a bottle of gelseminum tincture, which he kept for home use, desiring that she should have twenty minims at once, and twenty more within two hours, if not relieved. Her master sent him a note, in which he stated that the patient had experienced immediate relief.

In the notices he had met with on the use of the gelseminum, the doses quoted seem all too small. Dr. Thomson now almost invariably prescribes, for an adult, twenty minims of the tincture as a first dose, to be repeated any time after an hour and a half if relief is not given. He has rarely had to order a third dose, and he has never found any inconvenience result from the larger doses. In one instance a gentleman who, unadvisedly, took thirty minims at once, and immediately afterwards went out driving, told him he experienced, for an hour or two, some uncertainty of vision when guiding his horse. A severe attack of neuralgia of the jaw was, however, cured by the one dose, and did not return.

After referring to the solution of Calabar bean, to the tincture of *actæa racemosa*, and the nitrite of amyl, Dr. Thomson concludes by saying that, with morphia, and occasionally—but only occasionally—atropia, to use hypodermically,—with phosphorus in solution, with gelseminum, aided at times by the ordinary external appliances, such as heat, or freezing if need be, aconite, and chloroform, one ought to feel fully prepared to meet and subdue at the time most cases of neuralgic pain, generally.—*London Lancet*, December, 1875.

THE ETIOLOGY OF TYPHOID FEVER.

BY THE EDITOR OF THE MEDICAL PRESS AND CIRCULAR.

Notwithstanding the many excellent monographs we possess upon the subject of typhoid fever, it must be said that much remains to be done before the medical world shall become unanimous upon all points in the history of that very important disease. A discussion has recently taken place in the *Société de Médecine Pratique* of Paris which throws some light on the etiology, a point always very obscure. Dr. Flamarion mentioned that he had observed seventy-eight cases of this affection at the end of 1873 and the commencement of 1874 in two villages in Haute-Marne, twenty seven of them being in Louvières and fifty-one in Donnemarie. Only two of these patients died, one of them during the disease, and the other in the period of convalescence, in consequence of imprudence.

The author, without going into any generalities about the etiology of typhoid fever, limited himself to seek out what was the origin of the two epidemics he had witnessed. He insisted particularly upon the evil influence which the water seemed to maintain, considered either as causing exhalations, or as an article of consumption. It seems that at Louvières

twenty-one patients out of twenty-seven lodged in houses the doors and windows of which looked out upon a watercourse, which was pretty clear, but along which, for some years past, each house had established a sort of washing establishment, which became the receptacle of the kitchen refuse, and sometimes of filth.

Dr. Flamarion with Pettenkofer, makes the level of the underground water play an important part in the production of typhoid fever. The lowering of this level after a long drought, must, he thinks, contribute to provoke a putrid fermentation in the bed of such underground streams. For some years past the inhabitants of Louvières, it seems, had given up getting their supplies of water from springs which arose above the ravine, and had drawn them from a new spring in the middle of a little hill. Now, it was impossible not to be struck with a regular succession, after the dryness, of the appearance of new cases of typhoid fever in July and September, 1873, in this village.

At Donnemarie there was no watercourse, except a little river, which ran at the foot of a hill, at the top of which the village was situated. When rain falls, the streets are furrowed in all directions by currents of water which may sometimes change into little torrents. These unite in a double stream, which merges into one in the middle of the hill, where the public fountain is situated. These streams, thus contaminated, become infiltrated by the waters which wash the dunghills and carry with them the straw, so that, when it rains, there issues from the pipe of the public fountain a dirty, muddy water which the cattle sometimes refuse to drink. A remarkable fact is that the epidemic in this village commenced at the beginning of December, after abundant rains, and that the recrudescence of the disease has always coincided with an elevation of the layer of water in the pluviometer. The chemical analysis of the fountain water, in December, showed a great quantity of organic matter in it.

With regard to the treatment of typhoid fever, the author mentions some of the so called special treatments of the disease; and he more particularly insists on the treatment of Brand, which he could not try in the country on account of the prejudice of the country people.

He does not see that this method, which at first promised so much success, now gives results more favourable than those obtained by Valleix, Bouillaud, Andral, and Louis. The best statistics vary from 6.6 to 9.7 per cent.

Dr. Flamarion, for his part, said that he had employed a treatment apparently very complicated, but which was based on the general principle of watching indications, which he divided into general indications, directed to the whole of the symptoms and to the form of the disease, and special, which were directed to each separate symptom. Thanks to this treatment, the author had lost only 1.33 per cent. of his patients, for he eliminated the case of death due to imprudence at a time during convalescence, when cure might be considered as certain.

Dr. Flamarion then passes in review the different methods of treatment which have been suggested to him by the general indications, in the forms of ambulatory, mucous, and etaxodynamic fever. He then refers to the methods of treatment suggested by the special symptoms of each case, such as headache, delirium, pain in the spine, fever and heat, fuliginosities, diarrhoea, vomiting, constipation, meteorism, piles, bronchitis, hypostatic congestion, pneumonia, and gangrene.

It will be seen by this *résumé* of Dr. Flamarion's paper, that in France, as in this country, it is now beginning to be almost universally admitted that the prominent cause of typhoid fever is the impurity of drinking-water. Instances have of late years been so multiplied of the evil effects of the communication of sewage with drinking-water that there are probably but few physicians who now refuse to admit that this is the chief cause of the occurrence of epidemics of typhoid fever. Dr. Flamarion says but little about the contagious nature of the disease.

With respect to the treatment of Brand by cold water affusions, one very great difficulty in carrying this out has been mentioned; and that consists in the great prejudices against such a treatment, which exist even in London and in the best conducted hospitals in this country. It is doubtful, on this account, whether the cold-bath treatment of typhoid fever has ever been fairly tried in this country as yet. Whether Dr. Flamarion's wonderfully excellent statistics could be verified in London is a matter of grave doubt, and we suspect that, under all treatments, the mortality from typhoid fever will occasionally prove very high in such large cities. But there seems to be some prospect of almost entirely getting rid of typhoid fever from our better-drained towns. Meanwhile, the last word has by no means been spoken about typhoid fever and its etiology and treatment.—*Medical Press and Circular*, April 14, 1876, p. 322.

CLINICAL LECTURES. ON PLEURITIC EFFUSION

Delivered at the Liverpool Royal Infirmary by A. T. M. WATERS, M. D., Physician to the Infirmary.

GENTLEMEN: I wish to call your attention today to some cases of pleuritic effusion which have been in my wards, and to make them the subject of some remarks on the affection. I shall confine myself for the most part to those points which I consider of the greatest practical importance, and first I will refer to the subject of diagnosis.

It may perhaps appear to you to be very easy to diagnose the existence of fluid in the pleural cavity—to differentiate between liquid and solid matter within the cavity of the chest; and yet it is in some cases by no means so. I have known physicians of great practical experience mistake a solid lung for pleuritic effusion, and pleuritic effusion for a solid lung, and

I have not been altogether free from such errors. There is, indeed, no single sign which invariably exists by which pleuritic effusion can in all cases be certainly diagnosed, and it is undoubtedly true that the characteristics of its presence on which we mainly rely may and often do lead us into error.

Let me say a few words in reference to the evidence we derive of the existence of effusion from *percussion*. It is obvious that any solid or liquid in the chest will give rise to dulness on percussion; and it can only be by the character of the dulness, or its shifting nature, that we can say that it depends in any case on pleuritic effusion. Undoubtedly there is usually—indeed in the great majority of cases—a profound character about the dulness which can scarcely be mistaken; but there are exceptional cases of extreme dulness without any effusion. You may recollect the case of B—, in No. 10 ward, who came to us with a history of pleurisy, and in whom we found dulness of a very leaden character over the whole of the left side, extending up to the clavicle, and passing to the extreme right of the sternum. The breath-sounds were absent below, and only heard faintly at the upper part of the chest; moreover there was absence of vocal vibration, and heart-sounds were faint and best heard to the right of the sternum. The presumption that pleuritic effusion existed was very strong, and it was thought desirable to ascertain the fact, so that if fluid were present some of it might be drawn off, and thus the urgency of the symptoms be relieved. A fine canula was accordingly introduced, and the aspirator was used, with the result, however, of drawing off only a few drops of blood. Not satisfied with one exploration, I subsequently repunctured the chest at a different spot, but the result was the same. The progress of the case showed its nature, faint crepitation was heard after a time, and death revealed to us the actual condition of the lung. It was more or less solidified throughout, and universally adherent to the chest walls; the pleurae were greatly thickened; and there were strumous deposits in the anterior mediastinum. These deposits had caused the dulness, which extended to the right margin of the sternum, producing thus a sign which, taken with the other signs, I had never previously met with in any lung disease except pleuritic effusion and cancer.

Again in reference to the shifting nature of the dulness, you must not, in diagnosing pleuritic effusion, depend too much on the fact, which I have often demonstrated in the wards, that the line of dulness varies according to the position of the patient. If the lung is perfectly free from adhesions, the fluid in the chest will gravitate to its lowest part, and the upper line of dulness will vary according as the patient is sitting or lying: but some of you will recollect the case of the woman in No. 15 ward in whom

we had marked dulness, with absence of breath-sounds in front, of the left lung reaching to the level of the second rib, with resonance at the back extending even below the angle of the scapula, and from whom we draw off, at the time these signs were present, a large quantity of pus.

Auscultation often affords valuable aid in the diagnosis of pleuritic effusion. Speaking generally, the breath-sounds are usually either absent or faint over the seat of effusion, but they may be also absent over an intensely solidified lung, or over one which is less solidified but adherent by very dense pleurae to the chestwalls, just as was the case in B—, to whom I have referred. Again the breath-sounds may be very loud, simulating those of a solidified lung when there is a large pleuritic effusion. There was a woman under the care of my colleague, Dr. Glyn, some time ago, in whom loud bronchial breathing was heard, both over the front and back of the right lung, where there was marked dulness, and yet, as was subsequently proved, a very large quantity of fluid existed in the pleural cavity. In children, again, the phenomena of bronchial breathing and bronchophony are often present, although the effusion may be great and I have met with other instances besides the one I have alluded to where loud breathing has been heard in adults. Moreover, you must not forget that in old standing cases of effusion the sound lung takes on increased action, the breath-sounds become puerile, and may sometimes be heard on the opposite side of the chest.

But to take another sign to which great importance is very properly attached. In pleuritic effusion it is undoubtedly true that *vocal vibration* is generally absent: that when the hand is placed on the chest whilst the patient speaks no thrill is communicated to it; and yet I have sometimes felt a well marked vibration over a chest from which I have immediately afterwards removed a large quantity of fluid. Some of you may recollect the case of A—, in No. 10 ward, who was the subject of empyema. In that case I pointed out to an assembled class that we had most of the signs of pleuritic effusion well marked—viz., leaden dulness, absence of breath sounds, etc. The man had been previously tapped and a considerable quantity of fluid had been withdrawn. We had watched the gradual reaccumulation of the fluid, and the time had come when I resolved to retap, Over the affected side—over the seat of leaden dulness, and where the breath-sounds could not be heard—there was distinct, well-marked vocal fremitus. An aspirator-tube was introduced, and we drew off ninety ounces of pus.

I removed, some time ago, two pints of serous fluid from the chest of a man in whom vocal vibration was distinctly perceptible, except at the extreme base of the lung—perceptible

where there was marked dulness from the presence of fluid.

Again there was the case of the woman McK—, in No. 15 ward, who was admitted with pleuritic effusion, and was tapped several times. Before the first tapping you may recollect that there was distinct vocal vibration at the lower and back part of the affected side of the chest. I removed twenty-five ounces of fluid. Strange to say, we never had any return of the vibration throughout the progress of the case. The fluid collected and re-collected, and we removed it on three or four occasions.

I think that possibly we may account for the persistence of vocal fremitus in some of these cases of pleuritic effusion by the existence of adhesions of the lung to some parts of the chest-wall.

Whenever pleuritic effusion is great there is *displacement of viscera*. The heart is often found bearing to the right of the sternum when the effusion is on the left side, and this displacement is great where the effusion has been rapid. There are also displacements from the diaphragm being pushed down. But, independently of the fact that displacements may be due to the presence of solid matter in the chest, it frequently happens that although there is a good deal of fluid in the pleura, there is but little visceral displacement. In the first place the heart may be so connected with the chest-walls by adhesion that it cannot be displaced except to a slight extent; and further, in the more chronic cases, the lung yields to the pressure of the fluid, collapses, and thus leaves a large space for the fluid. The displacement of viscera may therefore be much less than you would expect from the quantity of fluid, which after operation, you find has existed.

Again, you must not always expect to meet with any decided increase in *the size of the affected side, or a bulging of the intercostal spaces*. Setting aside that the fact that measurements are not always trustworthy, it is undoubtedly true that in adults effusion may be very great and yet there may be no increase, as shown by the tape, in the size of the affected side, as compared with the opposite one. In the more yielding chests of children it is otherwise, and a notable increase is more frequently met with. Doubtless in most cases, if you watch them from the beginning, having taken the measurement before effusion you will find an increase in the size of the affected side. But what I wish to impress on you is this, that in the more chronic cases the side of the effusion often measures less than the opposite side. As an instance, there is the case which you have seen in No. 10 ward. In this man, who was the subject of extensive empyema of the left side, the measurements before tapping were as follows: Right side, 1 ft. 5 $\frac{3}{4}$ in.; left side, 1 ft. 5 in. We drew off 50 oz. of pus from the pleural cavity.

Now it is very probable that the measurement of the left side, were greater than in health, before the effusion took place; but the left lung being crippled, the right had taken on increased action, and had distended that side of the chest beyond the normal.

Further, although the intercostal spaces are at times altered in their appearance, becoming more or less convex, yet extensive effusion may exist in adults without any such change taking place.

It is scarcely necessary for me to allude to *ægophony* as a sign of pleuritic effusion. I look upon it as a near fancy sign, being generally absent where there is any difficulty of diagnosis.

I have thus endeavoured to deal with some of the difficulties which you meet with in the diagnosis of pleuritic effusion, and whilst I admit that in the majority of cases the diagnosis is easy, I venture to say that in others it is very difficult; indeed, I think in some instances it is impossible to say positively whether fluid is present without making an exploratory puncture, and in all cases of doubt, where the propriety of tapping the chest is in question, no decided opinion should be pronounced until an aspirator-tube has been introduced. But I must say a few words about this preliminary exploration. Simple as it may appear, easily as it is accomplished, and usually attended in hospital practice with but little trouble, it is far less simple amongst private patients. It becomes, in fact, magnified into an "operation," and should no fluid be withdrawn the confidence of the patient is not increased in the Physician. Therefore it is well to weigh carefully every feature of a case before introducing even the finest canula. I believe, however, that no harm is done by the use of these tubes, even if a solid lung, or solid tumour, or even a healthy viscus is punctured. You need not therefore have any apprehension on that score.

But I must tell you that when there is a good deal of fluid in the pleura, one or even two punctures may fail to withdraw any of it. You may possibly punctuate at a spot where there are adhesions; and, again, you may find that even when there is a pure serous effusion, such as you would think ought to flow through a canula, nothing will follow the introduction of the tube unless the exhausting syringe is used. I had under my care a man who, having had empyema of the right side had symptoms of pleurisy on the left. On examination I diagnosed the existence of effusion. I introduced a fine aspirator-canula, and I felt that I had pressed the instrument into a cavity, but no fluid oozed out. I withdrew the canula to see if it was plugged, but it was free. I re-introduced it, but still there was no fluid. The aspirator was applied, and twenty ounces of clear serum withdrawn. Sometimes from

the extreme thickness of the thoracic walls it is necessary to pass the canula very deeply before you feel that you have reached the cavity of the pleura. You may recollect the case of the man N—who was under my care in No. 10 ward. He had been previously, tapped for empyema, and he had the signs of a re-collection of the fluid. I introduced a canula into the back of the chest. I felt the instrument entering a soft substance after having passed some distance through the chest-walls. I moved the canula about, but clearly it was not in the pleural cavity. Had I made a mistake? Had I punctured a solid lung? The canula was already buried nearly two inches in the chest-walls. I pushed it further, and had the satisfaction of finding that it entered a cavity. I drew off forty-five ounces of thick pus. When you puncture the chest, if nothing but blood or bloody matter exude, it is well to examine the contents of the canula under the microscope, for such examination may enable you to differentiate between a cancerous and some other tumour. At the same time, it must be borne in mind that a cancerous lung may be punctured half a dozen times without a cancerous portion being reached, and cancer may exist although only blood is drawn off.

What I have said as to the non-passage of fluid through a canula will teach you not to trust to the mere introduction of a grooved needle as means of diagnosis. Some physicians use the small syringe employed for hypodermic injections.

I now must pass on to say a few words about the treatment of pleuritic effusion, and my remarks will be confined chiefly to those effusions which are more or less chronic. As a matter of fact, acute primary pleurisy is a rare disease. Pleuritic inflammation is usually connected with some constitutional state, some constitutional vice, and is more or less secondary. In reference to the more chronic cases, the treatment I have found most useful for promoting absorption of the fluid is the internal administration of iodide of potassium with tonics, bark, etc. Inside of iron may sometimes be given advantageously, and counter-irritation should be used. I prefer for this the application of iodine rather than blistering, but blistering is often useful, I recommend you however, not to blister severely. I have seen very extensive effusions which had lasted for many weeks—even months—removed by this kind of treatment, and it is well, unless certain urgent symptoms are present, to give constitutional measures a fair trial before resorting to tapping. I must tell you that I have no faith in the power of mercury to produce absorption of these effusions, and I am not in the habit of prescribing it. I think it is important to keep up the strength of patients for there is a far greater probability of the fluid being absorbed

when they are strong, than when they are weak, and therefore good diet should be given with tonics, and even wine, whilst the special remedies are administered.

The last points I wish to refer you to are the propriety of tapping in these affections, and the period when the operation should be resorted to.

There can be no doubt that many cases of extensive pleuritic effusion have been lost from the operation of tapping having been either too long delayed or not performed. When the effusion is great there is danger of fatal syncope or fatal dyspnoea; and one or other of these may occur, although there does not appear to be any serious interference with the breathing, especially if the patient is somewhat advanced in years or debilitated. The danger of delay is well illustrated by many cases recorded by Trousseau and others. Let me refer to one. A patient was under my care some years ago in the Northern Hospital, with pleuritic effusion, I was trying general measures, intending to tap in a day or two if there were no improvement. One morning the man was seized with a sudden attack of syncope and died. A large quantity of fluid was found in the chest.

Now as to the time at which you should tap pleuritic effusion. I think you should tap in all cases, of whatever duration, whether acute or chronic, where the accumulation of fluid compromises aspiration, and especially if there have been any sudden attacks of dyspnoea. Again, wherever an extensive effusion has lasted some weeks, and shows no signs of diminution from general treatment, tapping should be resorted to whether dyspnoea is present or not. It is not necessary to remove the whole of the fluid, indeed it is better not to do so if the effusion is large, for reasons which I will mention presently. The removal of a portion of the fluid usually has the desired effect, and seems to stimulate the process of absorption of the remainder, and to cause the general measures to act with greater success. There is one rule you should always observe. You will find that patients, after a certain amount of fluid has been withdrawn, will often complain of a sensation of constriction across the chest or epigastrium, or of pain. Under either of these circumstances the operation should be at once stopped.

As regards the site for tapping I prefer, under ordinary circumstances, that recommended by Bowditch. The rule is to find the inferior limit of the sound lung behind, and to tap two inches higher than this on the pleuritic side, in a line perpendicular from the inferior angle of the scapula.

With ordinary care, and especially by using the aspirator, no air need enter the chest in the operation.

I have never in my own practice, and I have

new tapped several times without seeing any bad results from the operation, and this is the general experience; but still some instances are recorded where death has followed very soon after tapping, probably either from syncope or from the presence of clots in the pulmonary vessels. One such case occurred in this hospital. A considerable quantity of serous fluid had been drawn off, from a man, and he was left apparently well. In the course of about half an hour, however he was dead. Whilst therefore I consider the operation essentially safe, it is well to bear in mind that it is not always unattended with danger; and in order to avoid as much as possible all risks, I advise you to draw off this fluid, especially when it is serous, by a small canal, and not to take away too much at once; rather, in fact, to repeat the operation, if necessary, than disturb too much the existing relations of the lung.

In the treatment of empyema there are two methods which you may adopt. First, the treatment by constant drainage through a tube introduced into the chest; and secondly, the treatment by repeated tapplings. I have seen both these methods succeed but I must defer the consideration of this subject to another lecture—*Lancet*, Feb. 5 1876.

LOCAL USE OF BROMIDE OF POTASSIUM.

By MARTIN F. COOMES, M. D., Assistant to the Chair of Ophthalmology and Otology in the Hospital College of Medicine.

The bromide of potassium, in substance or saturated solution, applied to living muscular tissue produces paralysis. The same effects are produced when it is applied to a nerve trunk, or injected into an artery; that is, the muscles supplied by the nerve or artery which the drug has acted in or upon, will be paralyzed.

Applied to mucous surfaces it is a local anæsthetic, although this effect is secondary unless used in a weak solution, say ten or fifteen grains to the ounce of water. The action of the bromide when applied to mucous surfaces, in substance or saturated solution, resembles that of caustic. Its effect, upon mucous surfaces are not visible like those of an ordinary caustic. It does not whiten the tissues, nor is its application painless, as is the case with many caustics. When applied to the schneiderian membrane or palpebral conjunctiva the pain is severe and of a burning character. The larynx and fauces are more tolerant to its action than the eye or nose, but the pain is similar in being associated with heat. The duration of the pain is never more than a few seconds. Applied to congested mucous surfaces it discharges the distended vessels and increases the secretive action of the mucous follicles.

In papillary ophthalmia, commonly called "granular lids," the results of its action are similar to those obtained from the use of the muriate of ammonia. It reduces the hypertrophy, increases the amount of secretion, and allays pain. Its anæsthetic properties alone give it an advantage over the ammonia.

In the treatment of nasal catarrh, where there is dry condition of the membrane, the bromide, in powder or saturated solution, is an agent of great value. Where there is hypertrophy of the membrane lining the nasal cavities, with an insufficient amount of the normal secretions, a condition met with in proliferous inflammations of the membrane, insufflations of the powdered bromide or injections of the saturated solution produce excellent results. By its use the secretions of the membrane are increased, congestion lessened, and a marked reduction in the hypertrophied tissues. Its immediate effects in these cases of proliferous inflammation of the nasal cavities is to relieve the patient of that sense of "stuffedness" which is most always complained of.

SALICINE IN OTORRHOEA.

By E. H. JACKSON, M.D., of Lancaster, O.

Every physician is aware that the success attending the treatment of ulceration of the ears, or of chronic otorrhœa, is not the most flattering, varied as the resources may be. With myself anything but a justifiable result in most cases was obtained, until I chanced to adopt salicine and calcined magnesia in combination. To the former of these I attribute a curative power, though the latter is an excellent therapeutical adjuvant.

My experience with these remedies has been considerable, and I have yet to see the first case devoid of benefit. Of course there are some ear cases (as in all other classes of diseases) that cannot be relieved by any remedies so-called, but I am persuaded that by these means they are made to decrease in numbers. My method of treatment is as follows:—Ascertain the difficulty, its extent, nature, and state, either by natural or artificial examination, preferably the latter, *i. e.*, by the otoscope, speculum (Wilde's), mirror, etc. By these means you are better able to begin treatment intelligently. Prior to each examination and application, syringe the ear well with tepid water; this may be soapy or clear; it should be soft water. Exercise care in this, as there is danger in undue pressure of the water upon the ear as it leaves the syringe. Place the syringe so that regurgitation may be unobstructed, and yet so that the water may freely reach the interior. After the ear is thoroughly cleansed and a speculum adjusted, blow into it through a quill.—

R. Salicine, gr.ij
Cal. magnesiae, gr. iv.

and insert a small piece of cotton. Should the discharge be excessively offensive, the cotton can be wet with chlorinated soda which will tend to allay the fetor. This process should be renewed every two or three days, observing well the effect, and varying the proportions of the medicine as demanded. In general, constitutional treatment is unnecessary, unless the otorrhœa depends on some dyscrasia. Much good, in the above procedure, attends use of the water injections, but it is only a modicum compared with the salicine and magnesia.

A CLINICAL LECTURE UPON CHOREA.

Delivered at Long Island Hospital Medical College. By Allan McLane Hamilton, M. D. (Reported by D. James H. Shorter.

Gentlemen :—It will be my pleasure to say a few words to you to-day in regard to a very common nervous affection of childhood. I allude to chorea, which is a disease you will constantly meet when you leave here. I may safely say that two-thirds of the convulsive neurosis of children are designated by this term. You are doubtless familiar with the appearance of the little patients, but to illustrate my remarks more clearly, I have brought before you two boys, and I want you to examine them closely. They are both badly nourished children, delicate and pale. You will notice the dark, straight hair, thin lips and melancholy expression upon their faces; their brows are knitted, and their eyes sunken. These things strongly indicate a condition known as the *nervous diatheses*. It is among patients of this kind that we find nervous disease. I have seen a great many cases of chorea, but do not think that more than a tenth part of the number were of the blond type; but nearly all of them possessed the dirty white complexion, cold hands, and rough skin which is accompanied by a phosphatic condition of the urine. Choreia, as the text-books tell us, is a convulsive affection without loss of consciousness, affecting generally certain groups of muscles, perhaps one half of the body; attended sometimes by paresis, rarely by loss of sensation, and confined nearly always to childhood. It is comparatively rare after the fourteenth or fifteenth year, and is generally curable. In adult life, we find it to assume various unusual forms. The patients may roll over and over on the floor, spin like tops, or there may be paralysis with contractions. It is then usually the continuation of some previous attack, dating from early life. I purpose to-day to speak more particularly of this neurosis among children. We are told by various writers that it is confined to the period between the third and fourteenth years, although certain authors, Watson among them, limit the time by the first and second dentitions. Dr. Millier, of the Children's Hospital, Great Ormond Street, has given a table, which is referred to by Radcliffe in Russell Reynold's System of Medicine. Of 422 cases at the above institution, 104 were between the ages ten and twelve. Girls seem more often affected than boys, for what reason I cannot say, except that it may be the more delicate organization of the former and the preparative changes going on before menstruation.

You will form a better idea of the disease if I relate a case. The patient, a boy of ten years, who attends school, becomes irritable, loses appetite, and does not care to go out and play with his fellows. He becomes pale and thin, and sits by himself. In a little while some movement of the hand or fingers, some twitching of the face, or dragging of one foot, when he walks, attracts the attention of parent or teacher. He may be punished, with the idea that such movements are the result of bad habits or viciousness, but it does no good, but probably increases the

trouble. These jactitations cease at night, when he rests uneasily, and is disturbed by bad dreams. This is the condition you will find the patient in. What is the course of the disease? If you don't treat him properly, or if he is neglected, it will not be long before the convulsive movements become general. The feet may drag along as if he was paralyzed, and so he sometimes is, for the condition is a gradual one. He will be unable to button his clothing, or attend to his little wants. I have a patient under my treatment at present, who presents a condition which is not uncommon, but I have not seen it mentioned in the text-books as it should be. I allude to the involvement of the vocal cords, and the aphonia which may result. There are other defects of articulation, which arise from an incoordination of the lips and tongue. When the case reaches this point, we may consider the condition a troublesome one. Now gentlemen, I wish to allude to the character of the convulsive movements, and I begin by telling you that they are always *clonic*. You know that the two great varieties of convulsions are *clonic* and *tonic*, and I consider these terms simply clinical expressions, for it was a great matter of doubt whether there is such a *physiological* condition as a *tonic* contraction. A muscle in tonic contraction presents the condition shown by the electronic muscle, and though I may be bold in making a rash statement, I consider such a tonic or tetanic state simply a *very* rapid contraction of the muscular fibrillæ, and the rigid contraction of the limb a gross appearance. I think that the experiment with the tuning-fork will substantiate my assertion. We will, however, use the expressions *clonic* and *tonic* in their clinical sense to distinguish the convulsions. These contractions of the muscles in chorea are clonic; that is to say, there are intermissions of rest between the contractions. They are not increased by an effort of the will to stop them, as is the case in sclerosis, where the tremors are exaggerated, by any attempt of the individual to control them. In certain cases, however, there are exceptions to this rule, and I have often been led to suppose that chorea might be divided into varieties, viz.: one, in which the movements are increased with the exercise of the will, the other, when they are most violent in a state of rest.* The movements of the hands are characteristic, I think. There is a prehensile movement of the fingers and a rubbing of the ball of the thumb and ends of the fingers. There is swinging of the arm, and a shrugging of the shoulder, as if the patient had on large, or uncomfortable underclothing.

A little point that may, perhaps, interest you, and I only speak of it because it is unique: I allude to the habit which these little patients have of rubbing the seam of the trousers' leg by the hand which is affected, for these movements often go on most actively when the arm hangs by the side, and when

* In a recent conversation with my friend Dr. S. Weir Mitchell, he remarked that he had often recognized the necessity for such a division.

the attention is not directed to it. In other diseases, just such "little straws" will give you a serviceable hint once in a while. Take for instance, commencing paresis of any kind of the lower limbs, If you look at the tip of the shoe you will find the sole worn down on one side of the body. In locomotor ataxia you will discover a reduction of the heel. When these little patients are worried or embarrassed the movements are greatly increased, and you must bear this in mind in your subsequent management of the case. The urine is generally neutral, or else it contains dense clouds of the phosphates. It is passed in the majority of cases in great quantities.

Now, I wish to say a word about the etiology. It is the general opinion that chorea is nearly always associated with cardiac or rheumatic troubles. Romberg, Huges and West, besides many others, have so decided; and when we consider the pathology of the disease it will appear to us very reasonable. Of 104 cases of chorea at Guy's Hospital, but 15 of the number were free from any indication of cardiac or rheumatic difficulties.

It often follows scarlatina or other zymotic febriculae, or takes its origin from an attack of acute rheumatism. The oldest of these boys first went through scarlet fever with kidney complications, which were unusually severe. The disease may result, and generally does, from some directly exciting cause, such as over-study, bad air, or food, or sudden fright. My recent investigations in regard to the occurrence of the disease among school children revealed the astounding fact, that over 20 per cent of young school children of the public school of New York were affected with choretic affections of greater or less gravity. West expresses it as his opinion, that over-study is a common cause, and my investigations more than prove this. I will allude, *en passant*, to a cause which is often overlooked. I mean want of exercise, and eating between meals. The confectioner is one of the worst enemies of the practitioner who treats nervous disease.

In regard to the pathology, I can only say, that a great number of observers believe the disease to be a functional, one, and few take the view which I believe to be the right one, viz, that the disease is organic. Hughlings Jackson, an able investigator, considers the lesion to be located in the corpus striatum, when small thrombi plug up the minute vessels. The microscope has proved this. Some writers have raised the question in regard to the existence of the hemi-chorea on the same side of the body as that of the brain where the lesion is found, and contend that there must be crossed action. Broadbent opposes Hughlings Jackson to some extent. Now it is easy to see how these plugs may come from the heart. A condition of this organ has been witnessed by some observers, where fibrinous matter was adherent to the chordæ tendiæ and chordæ columnæ. These little shreds may be detached and carried up in the circulation. They are really small emboli. As to the inconsistency of the hemi-chorea occurring on the same side as the lesion, I do not think it is at all impossible. Dupuy and Brown Séquard have made

experiments which prove that such a condition of affairs may exist—and I have myself done the same thing. Since my experiments, I have heard of a case, related by Dr. Walter Hay, of Chicago, in which post-mortem examination revealed a cerebral hemorrhage on the side of the hemiplegia. I have before said, that clonic convulsions are those of the disease under consideration. Now, I wish to tell you, that this variety of convulsion, like tremor, is due to an interruption of nervous discharges, and a point of irritation at the seat of origin of motor impulses. It is very probable that there is trouble also in the nerve trunks, Ellischer has confirmed this in describing the degeneration of certain nerve-fibres in a case of chorea that recently died from some intercurrent disease. Schmidt calls attention to an explanation he gives. The origin of the neurosis, he says, springs from anæmia in the first place, and, secondarily, spinal irritation, which he suggests is symptomatized by the painful points which are found in the spinal column. It is undoubtedly a sensorimotor disturbance, due to insufficient nourishment of nerve-tissue; and that is enough for us to know.

Fatal cases of chorea are rare. Hughes and Bastin have both collected cases, most of which presented extensive changes in the nervous substance. Lately, Ellischer has given us an account of a most interesting observation. The vascular changes in the brain were marked, the walls of the vessels being clogged, and the surface covered by hard granules. In certain places the calibre of the vessels was narrowed, and there was some accumulation of blood-corpuscles, and consequent effusion of the watery parts of the blood. Some of the vessels contained coagula. The connective tissue about these vessels was thickened and increased in size, and contained yellow pigment and granulated ulcers. The large ganglionic cells in the brain were filled with pigment, and the cell contents much changed. Sections of motor nerves exhibited red patches, and destruction of nerve-fibres. These changes show then great vascular alteration, and degeneration of normal nerve-tissue.

The PROGNOSIS is generally good. A case of acute chorea—and I consider it to be one that has not progressed more than a month or two—should get well with proper treatment in about the same length of time; but you will generally meet with the chronic type of the disease, and will then have your hands full—and will be lucky if a cure is wrought in five or six months.

These cases rarely die from the disease itself, but either outgrow it, or end their days by some other disease.

In the matter of diagnosis I have very little to say. I do not think chorea can be confounded with any other neurosis. You will have to make the differential diagnosis sometimes between it and tremors of various kinds—but there will be no trouble—the movements are characteristic. What I have already said about sclerosis you must remember. You must also know that certain irregular movements may be

simply bad habits, also that certain limited convulsive twichings are found in connection with ascariæ.

It is important and difficult sometimes to make a diagnosis when chorea follows hemiplegia; or is associated with other organic neurosis. A condition called *athoetosis* by some writers I believe to be a choretic state, and various neurosis of the convulsive kind, now designated by different titles, I am sure are nothing but varieties of chorea.

A peculiar form of hemiparesis must be differently situated from the hemiplegia, cerebral hemorrhage or other brain lesions; but these are uncommon affections, and slow to disappear, while the hemiparesis of chorea is amendable to treatment and follows the choretic movements, and passes away in a comparatively short time. I wish to tell you of an interesting case, with a peculiar complication, which might mislead one in diagnosis. The patient, a boy of ten years, was brought to me by his father for treatment, after having been seen by many practitioners, who did not agree in regard to his condition. I saw that his movements were choretic. Questioning revealed the fact, that he had never been a strong child, but had always been disposed to nervous troubles; even the exanthematous fevers, which, like other children, he had had, were generally connected with stupor, and other evidence of susceptibility of the nervous substance to blood poison. Never had any rheumatic nor cardiac affections, and I could hear nothing to indicate valvular trouble. The heart sounds were sharp and quick however. Four years ago he began to decline became weak and anæmic, was irritable, moody, and bad tempered. His appetite was capricious, and he preferred candy and sweets to more solid food. In the summer of 1872 the movements of the hands and arms began, and soon became general. His rest was uncomfortable, and he started up in his sleep and cried out. When I saw him four months ago he was a pitiable object. His movements were general. He was unable to hold anything, and was powerless to perform any voluntary action, except those of a general kind. He could not unbutton his clothing nor put on his cap. His mother even had difficulty in making him walk.

Variety of Movement.—Head was violently agitated, there being contractions of the sterno-cleido-mastoideus. He "sucked his cheeks," and pursed up his mouth; and smacked his lips. Other facial contortions were violent. He winked spasmodically and there was constant motion of the eyeballs.

The arms were in constant motion, but the right was not affected so much as the left. The right arm and hand were slightly paretic, and he was able to force the column of fluid in the fluid dynamometer* up to 16°. which is equal to 15 lbs. pressure to the square inch. The left forced it up to 18°.

The legs.—The right leg was also slightly paretic,

The toe of the shoe was worn down to some degree, although his walk was not noticeably affected.

There was an uneasy rolling of the pelvis when he sat down, and the legs were not entirely under the control of the patient. There was pain in the wrists and ankles. Under proper management of his diet, he gradually improved, at the last visit he was nearly well. I noticed then for the first time the following peculiar state of affairs; When sitting in front of me I told him to rise his hands, one after the other. The right hand he raised promptly, but the left he could not, unless he took hold of the wrist with the other hand, and lifted it up. This condition struck me as remarkable, particularly as he had to repeat the process of aiding with the right hand. Several neurosis might explain the condition, however, and proceeded to eliminate them in the diagnosis.

1st. *Paralysis.*—The left hand and forearm might be paretic. There was no loss of electro-muscular contractility, however, but, if anything, it was increased. The muscular power, tested by the dynamometer, was found to be even better than in the other hand. There was no atrophy. With these facts in view, it seemed improbable that this should be the cause.

It was found that when the other hand was held down, the boy was then able to lift his left hand unassisted, and even to raise a dumb-bell weighing 10 lbs., but so soon as the other hand was released he was unable to repeat it.

2d. *Habit.*—To determine whether this was the result of any bad habit, I ascertained from the father that his son had never used one hand to lift the other till a few week ago.

3d. *Central changes.*—I have been forced to accept the Theory that there is some central trouble, or else some change in the nerve itself affecting its conductivity, although the absence of sensory or motor disturbance (the limb being either hyperæsthetic or anæsthetic, and there being no loss of motor power, but, on the contrary, greater muscular excitability) would contradict this. As we know, one of the first signs of certain central trouble is this very marked electro-muscular contractility. The only hope for diagnosis rests with the advance of time when, if central disease exists, it will manifest itself by other symptoms. If this is not the cause of the disease it is very probable that it may be hysterical.

We will now speak of *treatment*, and this, perhaps is of more importance than anything else of which I have spoken, and in giving a list of drugs I will exclude a great many remedies that have been used with indifferent success, and only allude to a few, in the order I believe them to stand in point of efficacy

Internal remedies,	{	Strychnia.
		Arsenic.
		Iron in its various forms (bromide, carbonate, etc.).
		Phosphorus.

* Described in Psychological and Me'ico-Legal Journal April, 1875.

External remedies. { Cold to spine. { Ice-
 { Ether spray.
 { Cold douche.
 { Russian or Turkish baths.
 { Salt baths

Rest, diet, fresh air

Some of these may be combined with good effect. The plan of treatment, generally employ is the following; Should the child be "run down," as is generally the case, I begin with some preparation of iron, and administer at the same time cod liver oil, As regards special treatment, I find strychnine serviceable carried up to a point where, stiffness of the muscles is arrived at. Next to this I consider arsenic to stand. It must be in large doses. You will occasionally find that digestive troubles are produced very quickly by this drug, and then strychnia may be substituted. Cold to the spine cannot be over-estimated as a plan of treatment. You may either use the ether spray, which was first suggested by Subetski, of Warsaw, in 1866, or apply ice bags every day allowing them to stay on about ten minutes. Perrond, who has used the ether spray, makes application from four to eight minutes in duration every day. Of thirty-five cases I have treated in this way, (I mean with the ether spray) from fifteen to twenty applications produced permanent benefit, and here I would say that the spray should be directed to the upper part of the cord, over the upper cervical vertebrae. Eserine has been lately recommended and Bouchut has given the results of 438 cases, 205 who took it in pilular form, and 232 hypodermically. Eserine is the alkaloid of Calabar bean. The average dose was from two to five milligrammes. He obtained temporary benefit, which seemed to wear off; but when the drug was repeatedly administered he accomplished many cures. He reports twenty-three cures, by an average of seven injections. It is a dangerous remedy, however, and produces severe gastric symptoms.

The salts of zinc have occasionally proved valuable in cases of this disease, but I prefer the remedies I have mentioned. Conium is occasionally efficacious, but its effects are temporary. I must say, before going further, that I have found phosphorus, with cod-liver oil, to be a most valuable curative agent and in cases where everything else failed, it has succeeded. This seems reasonable, when we consider how much impaired must be the nutrition of the nervous matter. Now, gentlemen, you will find instances where nothing does good; Put them in a dark room, and keep them perfectly quiet. You will be often astonished at the result. Wier Mitchell has written of the value of this treatment, and I refer you to his lecture. There are little things that must be watched. The diet, above all things should be regulated with judgment. Plenty of fresh air and sleep come next, and absolute mental rest must be enforced. The school books and the school room are to be parted from, and agreeable diversions planned. An excellent auxiliary to your medication is the salt bath. A handful of rock salt in the water and energetic use of the rough towel, will infuse a

tone and vigor that will soon become apparent. In conclusion, I must tell you that decided medication is useless in these patients when their personal habits are not looked after; but if you will start them upon the right track, and afterwards give them the medicines I have named, you will have the satisfaction of generally curing your case, and covering yourself with glory, for the cure of chorea is considered by the friends of the patient to be a great triumph.

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THE CANADA MEDICAL RECORD

A Monthly Journal of Medicine and Surgery

EDITOR:

FRANCIS W. CAMPBELL, M.A., M.D. L.R.C.P., LOND

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MONTREAL, JUNE, 1876.

PRO-PHOTOGRAPHS IN HISTOLOGY, NORMAL AND PATHOLOGICAL.

Messrs. J. H. Coates and Co., of 822 Chesnut street, Philadelphia, announce the commencement of a publication, with the above name, under the direction of Carl Seiler, M.D., assisted by J. Gibbons Hunt, M.D., and Joseph G. Richardson, M.D.

This publication is intended to replace the microscope, as far as is possible, for those physicians who have neither opportunity nor leisure to make observations with the instrument for themselves; and also to furnish microscopists, for comparison, correct representations of typical specimens in the domain of normal and pathological histology.

As the pictures are obtained directly from the microscopic objects by means of photography, and printed from the negative by a reliable mechanical process, they have the great advantage of being faithful copies of the pictures formed by the lens, and there is nothing produced that is not actually visible in the instrument, thus avoiding the diagrammatic character and the subjective coloring which is so frequently found in drawings made by means of the camera lucida. In fact, the illustrations used in the lecture-room and found in books, are idealized so much as rarely to give an exact impression of the specimen as it really exists.

The photographs are to be carefully prepared, and will be accompanied by a few pages of text, fully describing each plate, indicating the particular points of interest, and showing the connection and analogy of the different specimens. The text, prepared under the supervision of Drs. Richardson and Hunt, will be strictly descriptive and explanatory, dealing only in facts, and setting forth no unacknowledged theories.

It is purposed to give in each monthly issue pictures of at least one pathological and three normal specimens, to illustrate the differences between healthy and diseased structures.

The work will be issued in monthly numbers, each containing at least four plates, with descriptive letter-press; twelve numbers to form a volume. The contents of the first three numbers will be as follows:

No. 1 (April).—Plate I, Section of human skin transversely through the hair-bulbs. Plate II, Epithelioma of lower lip (pathological). Plate III, pavement epithelium, from a triton. Plate IV, Endothelium, from diaphragm of guinea pig.

No. 2 (May).—Plate V, Elastic connective tissue. Plate VI, Scirrhus of mammary gland. (pathological). Plate VII, Non-elastic tissue from omentum of a cat. Plate VIII, Connective tissue corpuscles, from cornea of frog.

No. 3 (June).—Plate IX, Section of foetal bone. Plate X, Enchondroma (pathological). Plate XI, Hayaline cartilage. Plate XII, Transverse section of bone, injected.

The high scientific standing of the medical gentlemen connected with the publication, is sufficient guarantee of its value to the profession at large. It is the only publication of its kind.

The plates and letter-press printed on fine toned paper. Size of the page, 9 x 11 inches. Each number in a neat cover. The price is, of separate numbers, 60 cents. Sent postpaid by the publishers at \$6.00 per annum.

A PHARMACEUTICAL FEAST.

The Glasgow druggists had a festival recently, and a local journal, the *Bailie*, gives the following amusing burlesque of the proceedings:—

“The members were not exactly in court dress, but in the fashion prevalent in the days of our grannies. Their heads were liberally powdered with magnesia, and their faces adorned with tiny

bits of court plaster. The night was wet and boisterous, and on entering the spacious hall each guest was considerably presented with a warm cup of salts and senna. Some, however, preferred sulphur and treacle, while others took to Indian pink and cream of tartar. All the seats were tastefully decorated with Allcock's porous plasters, which had the effect of keeping the occupants cool and comfortable throughout the evening. Instead of the ordinary table napkin, a piece of sticking-plaster was neatly substituted, and so folded as not to destroy its adhesive properties, with a view to its being made useful afterwards, either as a gift to the Convalescent Home or being sold to the Infirmary at cost price. The soups were served up in mortars, and dished with pestles; spatulas did duty for fish knives, scoops for spoons, and marble slabs for plates. Teetotalers had as many seidlitz powders as they could consume. Those of a more convivial nature, and they predominated, were freely supplied with steel and quinine wines of the rarest vintages. Jalap sauce and cantharides mustard added piquancy to the viands, and altogether the *menu* did ample credit to the established fame of the purveyor. A bust of Galen, with the time-honored symbol of the serpent twining round his temples, surmounted the president's chair. The walls were profusely ornamented with chest protectors, sponges, syringes, trusses, and other appropriate paraphernalia.

“Previous to sitting down to table, the company joined in singing ‘Few are thy days, and full of woe.’ After each course the countenance of every one looked so unspeakably wretched that the waiters—the oldest and most grave-looking saulies in town—were obliged to turn their backs to hide their gruesome smiles.

“When the cloth was removed, the chairman in a few well-chosen words alluded to the prosperity of the trade (A voice: ‘Profession’) and particularly to the foresight displayed a year or two ago, when coals were dear, in doubling their charges for prescriptions and medicines generally, a movement in the right direction, which had raised their profits from 100 to 300 and 400 per cent. ‘And why not?’ he triumphantly asked. ‘Were they not benefactors? The public could not live without; they could not even die without them.’

“Songs and recitations followed, the celebrated gravediggers' dialogue in ‘Hamlet,’ ‘Death and Dr. Hornbrook,’ ‘We're wearin' awa, Jean,’ and other lively pieces being feelingly rendered by members of the company.

"An assembly wound up the entertainment, the chairman leading off with St. Vitus's Dance. After fortifying themselves with cork soles, chest protectors, warm plasters, respirators and jugs of hot gruel, each took his way and hurried home.

OBITUARY.

MR. SOUTHAM, F.R.C.S.

We regret to hear of the death of the well-known surgeon, Mr. George Southam, which occurred yesterday forenoon at his residence, at Pendleton. Mr. Southam had suffered a long time from disease of the heart, which prevented him, since May last from attending to professional engagements. Mr. Southam was born in Manchester, December 3rd, 1815, and received his medical Education in this city. He also studied at University College, London, and Paris. He was elected a member of the Royal College of Surgeons, England, in 1838, Fellow in 1853, and member of the Council in 1873. He was President of the Council of the British Medical Association from 1872 to 1875; and, until the time of his death, was one of the vice-presidents. Until his retirement recently, owing to ill health, he was senior surgeon to the Royal Infirmary, and also professor of surgery at Owens College. He was a Fellow of the Royal Medico-Chirurgical Society of London. Mr. Southam was the writer of able papers—including some on "Cancer and its Treatment"—in medical journals. His contributions were also included in the transactions of medical societies. In those of the Medico-Chirurgical Society are to be found his papers on "Elephantiasis," "Arterio-venous Aneurism of the Scalp," "Treatment of Aneurism by Pressure," and other surgical subjects. The life-long connection of Mr. Southam with this city and its medical institutions gave him a well-won place in public estimation, and the sense of his loss will be proportionately great.—*Manchester paper.*

We regret to have to announce the death of Dr. George Grenier, Editor of *L'Union Medicale du Canada*, published at Montreal, which took place on the 5th of June.

Sir William Wilde, the celebrated Irish oculist and aurist, died at Dublin, on the 19th of April, from an attack of bronchitis. He was an enthusiast in the particular portion of Surgical Science to which he devoted his life; he was also a noted antiquarian. His origin was an humble one, and he rose to the position he occupied from absolute merit.

Dr. John Erskine, formerly of Dunham, Q., but more lately of Ottawa, died in the latter city on the 28th of May, from phthisis. Dr. Erskine gave up active practice some few years ago owing to his failing health, but within the past year he again resumed it. Dr. Erskine was a graduate of McGill College, in fact was a member of the same graduating class (1860) as ourselves. He was a man of genial disposition, and was much esteemed.

SIR ASTLEY COOPER'S FEES.

The *Medical Press and Circular* gives the following extract from the diary of the late Mr. Mewburn:—"The following statement from the fee-book of Sir Astley Cooper is curious: "My receipt for the first year was £5 5s.; for the second, £26; the third, £64; the fourth, £96; the fifth, £100; the sixth, £200; the seventh, £400; the eighth, £610; the ninth, £1,100. In 1815 Sir Astley made £21,000!! A Mr. Hyatt, an ancient merchant gave him £1,000 on recovery under his care; and Mr. Coles of Mincing Lane, for a long course of time, gave him £600 every Christmas."

PERSONAL.

We regret to learn that Dr. Cline, the assistant Surgeon of the Montreal General Hospital, is ill with Typhoid Fever. So far we are glad to learn, the indications are, that the attack will prove a light one.

Dr. McMillan (M.D., McGill College, 1860), formerly of Rigaud, Que., has removed to Montreal, and commenced practice.

Dr. Fredrick J. Austin, of Sherbrooke, was at the May meeting of the Governors of the College of Physicians and Surgeons of Lower Canada elected to fill the vacancy in the Governors from the district of St. Francis, caused by the death of the late Dr. Andrew W. Hamilton.

Dr. Majeau (M.D. Victoria) has commenced practice at Manchester, New Hampshire. U.S.

Dr. G. W. Campbell, Dean of McGill University Medical Faculty, arrived from Europe, by the Allan S. S. "Sarmatian," on the 22nd of May.

Dr. George Burnham, of Peterboro, Ont., and Dr. Donald Fraser of Shakspeare, Ont., received the membership of the Royal College of Surgeons of England, on the 13th and 19th April last, respectively.

Mr. Casey A. Wood, of Ottawa, passed his primary examination at Bishop's College the past Spring, went before the Ontario College of Physicians and Surgeons at its last meeting, and passed the primary examination. Mr. Wood is the first student from Bishop's College, to appear before the Ontario Board.

Drs. Trenholme and Wilkins having resigned their positions as attending physicians to the Montreal Dispensary, Drs. Wolfred Nelson and J. B. McConnell, have been elected to replace them.

Dr. Buller, M.R.C.S., Eng., has been appointed oculist to the Montreal General Hospital.

Mr. H. C. Fuller, student of medicine, has been appointed Curator of the Museum of the Medical Faculty, Bishop's College.

Dr. Marston, (M.D., McGill College, 1871,) has commenced practice in Montreal.

Dr. Botsford, of St. John, N. B., who has been seriously ill for several months, is, we are glad to know, so far recovered as to be able to get about.

MEDICAL ITEMS.

The Board of Trinity College, Dublin, have given their sanction to the establishment of a new degree in Midwifery which will carry the Letters M. A. O. (magister in arte obstetrica) with it —Dr Joseph Fayer, who has had long service with the army in India, and who accompanied the Prince of Wales on his Indian tour, has been created a Knight of the Star of India, —Sixty one thousand, one hundred and seventy three persons were arrested in Scotland for drunkenness, for the year ending 30th June 1875 —so says a parliamentary return—Dr. W. B. Carpenter has been made a Companion of the Civil division of the Order of the Bath.—Dr. Warburton Begbie of Edinburgh, Scotland, died Feb. 25, age 50 years. He was the most deservedly popular Physician in Edinburgh and had an enormous consulting practice, to which he had entirely devoted himself the last few years of his life. He was also well known to the profession by his many able contributions to the current literature of the day.—Subjects were so scarce last session in Edinburgh that twenty dissectors were allotted to each body, instead of ten, as formerly.—A new school of medicine has been formed in Glasgow, Scotland in connection with the Royal Infirmary. Up to the last tow years

the students both from the University and from Andersonian school attended the Royal Infirmary, but the removal of the University of Glasgow to the west end of the city, and the opening of the splendid new Western Hospital, which the University students attend, has deprived the old Hospital of its large class of students. Its directors have therefore established this new school, and its tickets will be accepted by the University as qualifying for graduation.—The new Western Hospital in Montreal is progressing rapidly, the ground floor has already been reached, and the masonry is being pushed forward. The wet weather hindered its progress much in May.—The Toronto Eye and Ear Infirmary makes a good report for the past year. We hope soon to hear it has commenced a building for its occupancy.

THE PHILADELPHIA CENTENNIAL.

The Surgical Society of Ireland have appointed Mr. Tufnell, Dr. Rawdon MacNamara, Mr. Wm. Stokes, and Dr. Mapother, to represent it at the Centennial Congress in Philadelphia, in September.

CANADIAN MEDICAL ASSOCIATION.

The Annual meeting of the Canadian Medical Association will be held in Toronto on the 1st Wednesday in August. The *Canada Lancet* says arrangements will be made to give the members a proper reception by the Toronto Profession.

THE HOTEL DIEU HOSPITAL.

We hear that in all probability the staff of attending Physicians to the Hotel Dieu Hospital will shortly be increased by the addition of four more English speaking Physicians. Dr. Hingston and Angus MacDonnel are already on the staff, representing the Anglo-Saxon element of the Catholic population.

BIRTHS.

In Toronto on the 17th May the wife of Dr. W. T. Aikins of a daughter.

In Toronto on the 25th May, the wife of Dr Temple, of a son.

In Toronto on the 24th May the wife of Dr. Fulton, of a daughter.

DIED.

In Montreal on the 29th May, Catherine Joseph, aged 66 years and three months, wife of Dr. A. H. David, Dean of the Medical Faculty of Bishops College.