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ON THE MANAGEMENT OF HIP DISEASE.

BY V. P. GIBNEY, M.D., OF NEW YORK.

(Remarks before the Canadian Medical Association, at Banff, N.W.T., Aug. 13, 1889.)

MR. PRESIDENT AND GENTLEMEN:—It was my intention to present at this meeting a paper on the above subject, but, for many reasons, I have decided to detain you only a short while with some remarks, which, I think, will at least open a discussion that may prove profitable. On my way across the continent I learned that Dr. Cameron of Toronto would read a paper on Bone Tuberculosis. I thought, therefore, that mine would be superfluous, and I contented myself simply with a desire to participate in the discussion which Dr. Cameron, I knew, was so competent to open. Furthermore, from the impressions I have gathered, it seems that long papers would be out of place on the present occasion.

So much, then, for an apology. Into the spirit of the views expressed this morning I naturally fall. At once, therefore, I array myself on the side of the tubercular origin of what is commonly known as hip-joint disease. I have long since abandoned the traumatic theory. I believe that all cases occurring in children, with very few exceptions, are tuberculous. The researches of pathology during the last decade have, to my mind, abundantly established this theory. Clinical experience furnishes irresistible proof that the lesion here encountered is almost identical with the lesion encountered in pulmonary tuberculosis. Mr.

Savory of London, a few years ago, drew a very happy analogy between pulmonary and epiphysial tuberculosis. The cancellous structure of bone, apart from its hardness, is in structure almost identical with the parenchyma of lung. When the bacillus is lodged in lung tissue there radiates from this focus an inflammatory areola. If the focus is near the pleura the areola extends to this tissue, and may light up an ephemeral pleuritis. This pathological process is usually known by the symptoms produced. When the bacillus lodges on one or the other side of the epiphysial line, there radiates from this focus an areola just as we find in the lung. The signs produced are lameness, stiffness of the hip, possibly a rise of temperature, pain at the knee, reflex spasm, etc., in proportion to the degree of the inflammatory process. After a little while this process—exacerbation, we call it—undergoes resolution, for it is often ephemeral, and only a small spot of bone around the bacillus remains involved. This tissue, through which the inflammatory excursion, so to speak, has traversed, becomes more vulnerable. Recurring exacerbations destroy a larger area of tissue, and ultimately this central abscess cavity breaks through into the environment. In the disease under consideration it breaks, usually, into the capsule of the joint near the digital fossa, and we have suppurative synovitis, just as we have an empyema or a pyopneumothorax. A large clinical experience gives one a pretty intimate knowledge of the course, and the explanation of the various pathological processes becomes very easy. I can fully sympathize with fellow-practitioners who have members of their family thus afflicted, and can readily see how they cling to the traumatic theory. Few of us like to admit that any tuberculous process has invaded a member of our family. If the treatment of the traumatic hip disease differed from that of the constitutional disease, a differential diagnosis might be desirable. I am familiar with a great number of so-called traumatic cases. The families insist on this, the family physician likewise, and yet the course of the disease is identical with that occurring in a notoriously tuberculous subject.

There is another good reason, too, for belief in the tuberculous

theory; it forewarns us, and, of necessity, forearms us. The ravages of tuberculosis throughout the world have impressed all physicians alike. Even the laity looks with dread upon this decimating disease. If we, therefore, at once recognize the tuberculous lesion in the bones that enter into the formation of the joint, and if we recognize the disease sufficiently early, the responsibility will become very great. We will feel that we have a dread disease to combat; we will adopt prompt measures of relief; we will insist on these measures being protracted; we will know that the disease does not run a short course; we will not be eluded by remissions; false hopes will not tempt us to omit protection of the joint; our duty to ourselves and to the patient, above all, will be emphasized. This much, then, on the etiology and the pathology.

I recall the title announced, and shall proceed to tell you how I would manage a given case. Let me first, however, dwell just a little on early diagnosis. When a case comes to you for examination, take advantage of all the means that nature has given you. Remember that you have a hip with which you can compare the hip suspected. Have the clothing removed. Test the functions of the sound joint fully and carefully. By so doing you will gain the confidence of the child, and remember that the confidence is the *sine qua non* in a physical examination. Spend the time that you have in making observations. Don't waste valuable time with irrelevant talk. Observe whether there be any difference in the size of the limbs. If so, record this difference. Note any inequality in the functions of the two limbs—that is, try flexion, extension, hyper-extension, rotation inward and outward, abduction, adduction. There is no occasion for any violence. Striking the foot or the knee with the palm of the hand to test the tenderness of the joint is not only valueless, but actually harmful. In the first place, it destroys the child's confidence; in the second place, the muscular rigidity, which is at once excited, shuts out all information. Again, if it were possible to bring the joint surfaces suddenly into contact, an abscess in the bone might be ruptured, and a destructive joint lesion follow. So that such a procedure is, as I have just

remarked, not only valueless, but hazardous. Many physicians take a limb carelessly and move it up and down and from side to side, and if they find a pretty fair range on motion, they say the child has no hip disease. Many a case, both in large cities and in provincial towns, is thus hastily passed over, and an opinion given that there is no disease. The doctor waits for the mother to make the diagnosis. It is she who observes the persistent lameness, expression of pain, the tenderness on moving the limb, especially in putting on the stockings or the shoes. It is she who hears the shriek at night. All these facts can be brought out by a careful examination, and every patient threatened with hip disease is certainly entitled to this careful examination. Let men get into a routine method of examining. Pass nothing over hastily. The issues are too great. The public expects this of us. We claim to belong to an enlightened profession. In making the examination, therefore, look for atrophy and reflex spasm—that is, an involuntary spasm which occurs in certain groups of muscles when they are passively put on the stretch. Look for a persistent lameness,—once lame, always lame. Regard suspiciously any statement of the mother that the child has been perfectly free of lameness for a certain period. Cross-examine, and find whether it is a fact or not. We attach very little importance now-a-days to the ilio femoral crease or to the shape of the nates. So much, then, for diagnosis.

While I employ the long splint known as the Davis-Taylor splint, and while I find this very satisfactory, I am convinced that it is not so satisfactory outside of large cities, or, at least, away from the instrument-maker. The difficulty in securing a fit, a knowledge of the details, putting on adhesive plaster, for instance, adjusting the peroneal straps, getting the pelvic band at the proper angle with the stem, getting the stem sufficiently long,—all these points require a little practice, and he who seldom sees cases does not get this practice. I am in the habit, therefore, of advising, for country practice, a plaster-of-Paris bandage, applied from the calf up over the hip in the shape of a spika, extending up to the free ribs. Then put the patient on a high shoe for the sound foot, and a pair of axillary crutches.

This secures protection to the joint, maintains the limb in good position, and approximates, as nearly as we can approximate, that great desideratum—absolute and unqualified rest to the joint. The old opinion prevails, I find, throughout the country, that immobilization produces ankylosis. This is a fallacy. Ankylosis is produced not by immobilization, but by imperfect immobilization. The slight amount of motion that is allowed in all splints is just enough to induce adhesions about a joint, and these adhesions are what produce the ankylosis. I have long since demonstrated that the best protection against ankylosis is immobilization while the disease is present. If the case be taken early, before deformity has arisen, there is no occasion for any deformity occurring. Plaster and felt, or anything that maintains the limb in a normal position and maintains it for a long time, will be a powerful factor in resolution. If deformity is present, then secure the limb in the plaster at the angle found. After a week or two the plaster can be removed, and the deformity, with a little manual force and without pain, be reduced to a certain extent. Secure this by plaster, and later on gain more motion and a better position. I am aware that there are plaster bandages, and plaster bandages. I am aware that very few men know how to put on a plaster-of-Paris bandage, but still this does not prevent me from urging them to learn how to apply a bandage. A skin-fitting bandage can be applied just as well as one with a lot of cotton intervening. The main thing is to have good plaster, that sets well, and is fine in quality. The best plaster is known as the dental plaster. The Dental Manufacturing Company supplies this in six or twelve quart cans, hermetically sealed. It needs to be kept dry, and then salt and alum are unnecessary. Next in importance is a good crinoline bandage. The salient points may be protected by cotton batting, but this should not be thick. The bandage should be rubbed plentifully and be rubbed glossy, and then all inequalities will have been rubbed out. I have treated a number of cases of double hip disease by this method, and the results have been gratifying in the extreme. Time and again I have reduced a deformity by immobilizing the joint in plaster for a

few weeks. I do not expect to cure a case in a short time. The case must be managed. If abscesses form and become alarming, then get rid of the abscesses by incision and evacuation. If the abscesses give rise to no constitutional disturbance, or pain, or inconvenience, especially, do not take fright and make a grave prognosis, but let the abscess take care of itself. Many cases open spontaneously and good results are obtained. Bad results take place because the joint is not protected; not because the abscesses are present, but because the bone and joint are not attended to. The question of excision of the joint or gouging I shall not discuss, because I see many surgeons about me who are more competent to discuss this matter, and shall close my remarks by urging upon you the importance of early diagnosis—the diagnosis made before any deformity has arisen,—the importance of regarding the lesion as tuberculous, and the importance of protecting the joint first, last and all the time.

In conclusion, I trust none of my hearers will accuse me of belittling the so-called American mode of traction with motion. I simply say that traction with motion is not only bad practice, but it is difficult to obtain. My observation is that those who employ this method do it only in name, not in practice. The joints of the splint are usually rusty, and the patients are not taught to keep them in order. Good results are obtained by the traction. The traction produces fixation. With fixation and traction to the joint, therefore, we have the best attainable treatment. I employ traction in all of my well-to-do cases. In my charity cases I frequently omit this element because of the expense, and I must confess that these do about as well as my well-to-do cases, sometimes better. I seldom find it necessary to confine the patient to bed. I do not use a splint by day and a weight and pulley by night. The splint is used night and day. I aim to keep the protection continuous. The peroneal straps that pass from the pelvic band of the splint serve as peroneal crutches. The constitutional treatment employed is cod liver oil, hypophosphites, and iron in its various preparations, according to the needs of the patient. The digestive functions must be good; when these fail, remedies to correct. In other words,

I aim to keep my patient's health above par, and great importance is attached to climatic influence. It is just as important to have a patient with hip disease in a climate where bacilli are in high dilution as it is to have a phthisical patient in this altitude. With such advantages, then, the prognosis ought to be good. We can control a tuberculous epiphysis better than we can a tuberculous lung. By means of axillary and peroneal crutches the patients can live in the open air.

I thank the gentlemen of the Association for the attention they have given me, and I trust that I have made myself well understood.

THE CLIMATE OF SOUTHERN ALBERTA AND ITS RELATION TO HEALTH AND DISEASE.

By G. A. Kennedy, M.D., Fort McLeod, Alberta.

(Paper read before the Canadian Medical Association, at Banff, N.W.T., August, 1889.)

It appears to me that no apology is necessary in introducing the subject of this paper. It is only a few years since the opening of our great national highway brought the North-West Territories into touch with the rest of the world. And only a few years further back since these vast plains and mountains which are now so quickly becoming the home of civilized man were regarded as an inhospitable desert, fit only for the buffalo which roamed their solitudes and the Indians subsisting on the chase. The past five years have been epoch-making, so far as our great west is concerned. Coincident with and following on the building of the Canadian Pacific, a flood of light began to illumine the eastern intelligence, and, as a consequence, settlement has steadily and in a gradually increasing stream poured into the territories, and cities, towns and villages, surrounded by cultivated farms, now occupy the places once sacred to the Indian tepee or the half-breed camp.

As a matter of course, this progress has been marked by a corresponding increase of knowledge with regard to our climate. We are no longer supposed merely to exist Esquimault-like for the greater part of the year. It is conceded that our winters are bearable, even, in some enlightened minds, that they may

possess a charm of their own, but beyond this, serene and unbounded ignorance is the rule. Furthermore, so far as I have been able to ascertain, no observations have yet been published as to the effects of the climate of the North-West on the human system. It is in my mind a subject of almost national importance, and I have an earnest hope that my temerity in venturing to introduce it in this discussion will inspire others better fitted than I to follow it up.

It will be readily understood that a country almost equal in area to Russia must have many diversities of climate. As I cannot undertake to speak for the whole of the North-West, I have limited my remarks to that part with which I am best acquainted—viz., that strip of country lying along the eastern base of the mountains, and more particularly the southern part of this, bounded, say, on the north, by the Caanadian Pacific Railway. I make the eastern limit a line drawn north and south through Lethbridge, although, for all practical purposes, this line can be extended as far east as Medicine Hat; on the south is the international boundary line, and to the west the summit line of the Rockies and British Columbia. This Southern Alberta comprises an area of 150 miles square of mountain, foothill and prairie. It is intersected every few miles by mountain streams, where clear and sparkling waters rippling over their gravelly beds are as yet unpolluted by the filth and garbage of more thickly settled communities. Its general character is treeless, save along the valleys of these streams, which are fringed by the willow and cottonwood, and on the sides and bases of the mountains, whose rocky framework is clothed by the grateful germ of the spruce and fir.

To the outside world, this is known as Canada's grazing country, whence England will draw a large part of its future beef supply. As a sort of corollary to this, it has also been known, in a general way, that it was reputed to have a milder climate than the rest of the North-West Territories. To most of you, the following description will be not only interesting but necessary to a proper understanding of what follows. It is taken from an admirable paper by Mr. C. C. McCaul of Leth-

bridge, published in the August number of the *American Meteorological Review*. After noticing that winter really sets in about the middle of December, he goes on to say—

"It is characterized by a maximum of bright, still, cloudless days, a scanty snow-fall, and frequent and prolonged breaks of warm weather, heralded by the chinook wind, of which more hereafter. Occasionally a bad snow-storm will cover the prairie to a depth of eighteen or twenty inches; this, however, is very exceptional. The winter generally breaks up in February by a grand blow from the west, followed by a period of from one to three weeks of warm, bright weather, which may fairly be called the beginning of spring.

"Spring, here as elsewhere, is the most variable and capricious season of the year. On the whole, it may, perhaps, be described as cold and damp, with frequent rain-falls, varied by bursts of the most gloriously bright, warm weather, lasting sometimes a fortnight or three weeks.

"May is generally fine, warm and bright; June and the earlier part of July, rainy; the remainder of July, August, September, October and November, warm and very dry.

"The summer, July to September, is characterized by hot days and cool nights, with very little rain, but the warm, hazy days of autumn often lasting well into December, are the glory of the year.

"The grand characteristic of the climate as a whole, that on which all weather hinges, is the chinook wind. It blows from west to south-west, in varying degrees of strength, from the gentle breeze, that just lowers the heads of the daisies, to the howling gale, that carries off contributions of chimneys, barrels, shingles, hats and miscellaneous rubbish to our neighbors in Assiniboia. In winter the wind is distinctly warm; in summer, not so distinctly cool. Its approach is heralded by the massing of dark, cumulus clouds above the mountain tops, and a distant wailing and rumbling from the passes and gorges. Its effect in winter is little short of miraculous. When the real chinook blows, the thermometer often rises in a few hours from 20° below to 40° above zero; the snow, which in the morning may

have been a foot deep, disappears, and before night everything is dripping. But before another night falls, all the water is lapped up by the thirsty wind, and the prairie is so dry that a horse's hoof hardly makes an impression, as you take your first welcome canter, after a prolonged and tedious spell of 'settin' round the stove.'"

It may be added to this that the elevation above sea level of the plains here varies from 2,700 feet at Lethbridge to 4,500 feet at the entrance to the Crow's Nest Pass, which may be taken as the base of the mountains proper.

Now, as to practical details, I might say that winter and early spring are characterized by the coughs and colds incident to their seasons in almost any country. Summer is very healthy, and in autumn there are occasional cases of malarial fever of a remittent type, of which more hereafter. Rheumatism is remarkably rare, when we consider the sudden changes of temperature that often occur and the fact that most of the male population have led lives of the greatest exposure. When it does occur it is almost always in the subacute and chronic forms. Affections of the lungs are also very infrequent. During eleven years' practice I never had a case of pneumonia until last winter, when four cropped up, two each of croupous and catarrhal. Summer disorders are almost unknown—a fact which must be attributed partly to the sparseness of population, but which is largely due, in my opinion, to the cool nights, which allow exhausted nature to recuperate even after the hottest days. About nervous affections I am hardly in a position to speak, but I judge that the rarified air and the sometimes high winds would not be beneficial. During the past four years I have had three cases of paralysis—hemiplegia—occurring in patients otherwise perfectly healthy, cowboys in the prime and vigor of manhood, who have had no specific disease, who were quite temperate, and whose family history the most careful inquiry found irreproachable. These cases were and are a puzzle to me, and I can imagine no cause but excessive riding. A cowboy's life, as you know, means often ten, twelve and fourteen hours in the saddle, day after day, week after week, and month after month, and it

has seemed to me possible that this might in time produce the above effects.

I have alluded to the existence of an endemic malarial fever occurring principally in the fall. This is general throughout the Territories, and has given rise to much comment and some difference of opinion among medical men. Its character is variously modified by the season, climate, soil and immediate surroundings of the locality in which it is present. It has been called remittent, intermittent, malarial, typho-malarial and typhoid, according as a certain set of symptoms predominated, and is known throughout all the West by laymen as "mountain fever." During the past ten years, and while acting as surgeon in the Mounted Police, I have been stationed in different parts of the Territories, and have had occasion to observe this fever in all its different forms. I have seen it at its lightest, characterized only by a chill and the symptoms of a heavy cold, and broken up at once by free diaphoresis and a dose of quinine. On the other hand, I have attended cases in which all treatment was of no avail, cases badly affected by environment, that would go on from bad to worse until finally they would sink into the typhoid state—too often only the beginning of the end. Between these extremes all grades of severity are met with, their most general characteristic being, however, their atypical character. Routine treatment is therefore impossible, except, perhaps, at the beginning, when I made it a rule to relieve the bowels by a calomel purge, promote free diaphoresis by pulv. ipecac. co. or antipyrin, sometimes a combination of the two, and give two or three large doses of quinine,—subsequent treatment on general principles.

I have alluded to the different names by which this fever has been called and the consequent confusion. The cause of this is, I believe, the tendency to regard it as a distinct typical disease, which it is *not*. The cause may be the same (no one, I believe, has ever questioned its malarial nature), but the variations in the course, symptoms and severity are important enough to entitle them to be called almost distinct types. These variations are due to locality, to the season, to differing conditions of soil, climate, atmospheric moisture, etc., and to the individual. An-

other cause of the confusion has been the occasional occurrence of typhoid fever and the incautious use of the unfortunate term "typho-malarial." I say unfortunate, because I believe that from the time of its coinage in 1861-2 it has never ceased to be a cloak for uncertainty, an unknown quantity in statistics, and an added difficulty to the struggling and inexperienced practitioner. It would be a good thing, in my opinion, if it were expunged from the nomenclature of diseases; for, notwithstanding the care that was exercised in its definition by the U. S. Commission, wherein it was distinctly pointed out that it was "*not* a specific or distinct type of disease, but a term conveniently applied to the compound forms of fever which result from the combined influences of the causes of the malarious fevers and of typhoid fever," there *has been* a tendency to elevate it into a distinct type of disease. In the North-West, while I have often seen severe cases of malarial-remittent falling into the typhoid state, and cases of typhoid marked at first by malaria, while, I confess, I have been sometimes at a loss at first to classify my case, I can hardly recall an instance in which waiting a few days did not clear up the diagnosis. A case in point is the following:

A man came into Macleod from a ranche twenty miles distant, last fall, suffering from all the symptoms of quotidian intermittent. He had, some years before, lived in a malarious district of Michigan, and been subject to ague. He had been sick for three or four days, the chills, fever and sweating well marked and definite, but there was more depression than is the case in an ordinary intermittent. I treated him for three or four days, and broke up the periodicity. The fever became remittent then, and four days after there appeared the rose-colored spots and other symptoms of typhoid, which ran its course to recovery. I may say in passing, that a case like this illustrates the difficulty in understanding how typhoid fever never occurs *de novo*, but always from the presence of a pre-existent specific germ. The ranche from which this man came is isolated, and had only been established some two or three years. The water supply was from a spring. There had never been a case there before, and the place has been free from it since.

In 1886 I made an attempt to have collected detailed reports of all cases of fevers occurring throughout the North-West, so that the special features of each district might become better known. This attempt was frustrated through ignorance or misapprehension of my motive. It is a matter of regret to me that my suggestions were not adopted, for I am not one of those who believe that we have reached the sum possible of attainable knowlege with regard to malaria. We owe much to the researches of Thommasi, Crudeli and Klebs, Laveran, Osler and Carter, in tracing out the life history in the blood of the malarial plasmodium. But I believe the future has still something to unfold to us of its nature, mode of action outside of, and entrance into the human system. And I believe we have yet much to learn of the relations between the paludal and typhoid poisons. I find it difficult to believe the story of the statistics which tells us that typhoid fever, pure and simple, is three, four and five times more fatal than the same fever complicated with malaria. And I believe that more care in the diagnosis, which is now rendered somewhat easier by the application of Ehrlich's test, more thoroughness in the recording of cases, and more attention to etiology, will help us to clear up these doubtful points which few will question are stumbling-blocks in our path.

I trust that I have not been misunderstood—that while remarking on the fever at greater length, perhaps, than its importance warrants, I have not led you to the belief that it is a constant menace to life and health in South Alberta. I should be sorry to have made this impression, which would be an entirely false one. Some years the country is entirely free from fever, and generally it is mild and readily amenable to treatment. And severe cases will no doubt become rarer when greater care is exercised in personal and domestic sanitation. I believe that I have now said the worst that *can* be said of the climate of Southern Alberta, and I consider that in doing so I have earned the right to dwell briefly on what appears to me its distinguishing characteristic. I allude to its freedom from diseases of the lungs and its value as a resort or place of living for phthisical patients. I have already spoken of the

rarity of pneumonia and other lung affections. I know of two cases of phthisis commencing in the country—one of acute tuberculosis, strongly hereditary, and which proved fatal, and another of fibroid, the cause of which I believe to be the fine dust of the corral acting in the same manner as stone-mason's and knife-grinder's phthisis. This latter steadily improved on ceasing work, and is now nearly well. On the other hand, I have known of a great many cases of incipient consumption that have come to Alberta, and in some the disease has been arrested, and in others the sufferer restored to perfect health. These facts will not appear strange when the conditions are considered, for, according to the latest consensus of opinion among climatologists, the climate treatment of phthisis requires—

1. A dry aseptic atmosphere.
2. A dry soil.
3. The greatest possible number of clear, sunshiny days during which the invalid can exercise in the open air.
4. A certain amount or degree of elevation above sea level. Equability of temperature within certain limits is not considered necessary.

I believe I may assert, without danger of contradiction, that Southern Alberta possesses all these requisites in a most eminent degree. The dryness of the atmosphere is insured by the character of the country. A great, grassy, undulating, treeless plain, elevated from two to five thousand feet above sea level, and distant some hundreds of miles from any considerable body of water. Accurate meteorological data are wanting, but it is sufficient to say that Alberta is not different from the whole strip of country lying along the eastern base of the continental watershed, and which the absence of a sufficient rainfall has caused to be devoted principally to the raising of stock. This dryness of the air, combined with its elevation, almost necessarily renders it aseptic in a wonderful degree.

Elevation is not now considered by some an essential feature in the climatic treatment of phthisis. The altitude theory, which Miguel did so much to bring into favor, and which was so great an advance in the indiscriminate employment of places like

Madeira and Havana—places where warmth and equality of temperature and a certain degree of moisture were prevailing features—is now slowly going out of fashion. But it is doubtful if even the immense power of fashion—which, it is to be deplored, is almost as great in medicine as in millinery—will ever be able to seriously affect, in the medical mind, the value of elevation. The reason it is not so much considered new is that it was found that the curative properties were the dryness and purity of the air, not necessarily elevation. But it is difficult, almost impossible, to find a dry aseptic atmosphere* without the elevation, or near sea level, and for this reason, if for no other, patients in search of a climate will still throng to the elevated regions. Besides the other physiological effects of elevation, the increased respiratory activity and expansion of the lungs and chest walls, the consequent increased nutrition, the cool nights, almost compelling sound and refreshing sleep, are all factors of no little value in the altitude treatment.

As before mentioned, the elevation in Southern Alberta varies from two to five thousand feet, and the patient can therefore choose the locality which seems to suit best his particular case. Laennec, Bowditch, Buchanan and others having made it very clear that soil moisture is one of the chief causes of phthisis, a dry soil must be considered a necessity for any place putting forward claims to be regarded as a resort or place of living for consumptives.

While I am not able to give the geological formation of South Alberta, I *can* assert, without fear of contradiction, that its soil must be regarded as pre-eminently a dry one. While water is easily obtainable in and near the mountains, and in certain places elsewhere throughout the greater part of the district, and particularly from where the foothills merge into the plains, it is difficult to get it near the surface, and it is not unusual to hear of wells having to be bored to the depth of one, two and three hundred feet.

Perhaps a more important point than any of the foregoing—certainly a most necessary one—is the number of days during which patients can take exercise in the open air.

* Excepting Aiken, Ga.

Here the want of meteorological observations is again surely felt, but from a private record kept during the five years, ending December, 1888, I am able to state the following.

The number of days which are recorded as overcast, raining and storming, is respectively, 51, 49, 56, 53, and 44, being an average of a fraction over fifty, all the rest being noted as fine. Over fifty per cent. of these (fifty) are simply overcast, so it is fairly presumable that in the large majority, confinement to the house would be unnecessary.

These observations were taken, moreover, very close to the mountains, where local storms are more prevalent than on the plains.

As to the class of cases for which Southern Alberta is suitable, I am content to take Dr. Knight's selection, which is, I believe, approved by the great balance of authority on the subject. It comprises :

I. Those presenting the earliest physical signs of tuberculosis of the apex, who have as yet shown little if any general disturbance from the disease, and who complain only of morning cough and expectoration.

As Dr. Knight very truly remarks, the prognosis in this class has been changed from very bad to very good by the improved ideas of treatment.

II. Hemorrhage cases without marked febrile reaction or much physical evidence of disease.

III. Certain cases of fibroid or interstitial pneumonia.

IV. Patients recovering from acute pleurisy or pneumonia in whom the erruption of the tubercle is dreaded.

For these classes of cases Southern Alberta offers inducements hardly excelled by any place on the continent. I trust I have already satisfied you that the necessary climatic conditions are present, the dry aseptic atmosphere, the dry soil, the clear sunshiny days, and the necessary elevation. I have not dwelt on other points, but I should exceed the limits of an article of this kind, but there are one or two which I feel compelled to mention. One is that seekers after health are not obliged to remain for a few months, at the approach of winter or summer,

only, and then go away again. They can live here with equal benefit all the year round. Another is that, being a stock-raising country, it is easily possible to spend almost all one's time in the saddle. It was Sydenham who said that "unlimited horseback exercise is almost as good a cure for phthisis as quinine for ague." Another is that Alberta is in Canada, so why should Canadian physicians send their patients to Colorado, when they have a climate equally as good within the confines of their own Dominion?

The general conditions of life are those of any new and growing country. Many of the pleasures of the east have to be dispensed with. Our embryo cities do not yet possess the theatres, opera houses and pleasure resorts of their more pretentious eastern sisters. But to most people the bright sunny skies, the pure, bracing, intoxicating air, the exhilarating freedom of outdoor life, and the unrivalled scenery of Alberta will amply compensate for the artificial pleasures they are obliged to forego.

Retrospect Department.

QUARTERLY RETROSPECT OF OBSTETRICS.

Prepared by J. Chalmers Cameron, M.D.,
rofessor of Obstetrics, McGill University; Physician-Accoucheur to the Montreal Maternity, &c.

A Variety of Post-Partum Shock.—The notes of the following three cases were read before the Edinburgh Obstetrical Society by Dr. Ferguson in May last (*Edin. Med. Journal*).

1.—Patient æt. 28, IV-para, had a neurotic family history and was herself of a highly nervous temperament. Previous labors were normal; present labor was rapid and easy, terminating four hours after the onset of pains. In the absence of the medical attendant, the nurse conducted the case, grasping the uterus firmly after the delivery of the child, and keeping it compressed till a physician arrived. The patient complained that the kneading of the uterus caused her much pain, and soon after the expulsion of the placenta she suddenly lost consciousness. For three hours she lay in that state, with face pinched and pulse imperceptible, then gradually the pulse began to flutter, and shortly afterward she swallowed some stimulant and regained consciousness. Thenceforth convalescence was normal.

2.—Patient æt. 27, I-para, healthy, had a normal labor, except that rigidity of the outlet necessitated the low forceps operation. The placenta not coming away, an anæsthetic was sparingly administered, and Credé's method tried. After repeated fruitless attempts, the placenta had finally to be removed manually. The patient complained of great pain while pressure was being made upon the uterus. Immediately after the placenta was delivered, she suddenly became pulseless, cold, pale and gasping. Ether was injected hypodermically, and she rallied for a time but soon again collapsed. Throughout the whole night rectal injections and hypodermics of ether had to be administered, and she did not rally permanently till the following morning. Convalescence was uninterrupted.

3.—Patient æt. 27, healthy and well developed, but of nervous temperament, had a tedious labor, requiring chloroform

and forceps. After anæsthesia had passed off, she complained loudly of pain when the uterus was grasped, and felt sick and faint. Just as the placenta emerged from the vulva, she became unconscious, pulse and respiration scarcely perceptible and she seemed moribund. She remained in that state for three hours and then slowly recovered consciousness. The uterus was well contracted and there was no hemorrhage.

These three patients were all young, healthy, and of nervous temperament, their labors were not specially difficult, there was no hemorrhage, cardiac disease and eclampsia could be excluded, and yet they all suddenly developed symptoms of syncope and shock. They became unconscious, with rapid, feeble and irregular pulse, dilated pupils, shallow, irregular breathing and cold clammy perspiration. The face was at first anxious, then vacant and torpid, and sensibility to pain became entirely obliterated. This alarming condition lasted about three hours, and it was with great difficulty that the patients were restored to consciousness in eight to twelve hours by means of hypodermics, rectal injections, stimulants, frictions and hot applications. No ill effects were felt afterwards, nor did the women have any recollection of what they had passed through. They felt exhausted and complained of tenderness in the lower abdomen. In two cases the convalescence was quite normal, in the third there was persistent sleeplessness, with occasional incoherence developing into mild melancholia, from which recovery eventually took place. The shock occurred either during or immediately after the expulsion of the placenta while the uterus was being grasped and manipulated through the abdominal wall. In all probability squeezing or bruising of one ovary (or perhaps both) took place during the manipulations. Analogous symptoms have been described during operations for removal of the appendages when it was found difficult to bring the ovaries near the abdominal wound, and when they were pretty roughly handled. Credé's method should always be used gently; rough handling of the uterus and too vigorous friction can do no good and may cause serious harm. The post-partum uterus should be grasped as nearly as possible *antero-posteriorly*, always

remembering the usual rotation of the uterus upon its own axis to the right. A *lateral* grasp is apt to include the ovaries and subject them to injurious pressure. Lateral grasp is only required during intra-uterine injections post-partum, in order to compress the fallopian tubes and prevent the entrance of fluid into the abdominal cavity.

Can the Typhoid Fever Germ be transmitted from the Mother to the foetus in utero?—The whole question as to the passage of infective germs from mother to child is still under discussion. While the possibility of such an occurrence must be admitted, it by no means follows that germs have the power of penetrating and traversing the *healthy* placenta. It is more than probable that some lesion must exist in the placental structure before such an interchange can become possible.

Eberth has recently published an important case bearing upon this point. (*Die Fortschritte der Medicin*, 1889, No. 5.) A woman, æt. 30, five months pregnant, contracted Typhoid fever and aborted three weeks afterwards. Eleven hours after birth the fœtus and placenta were sent to Eberth for examination. Samples of blood from the heart, lungs and spleen were examined microscopically and gelatine cultures prepared from them. A large number of typhoid bacilli (Gaffky) were found in the villosities of the placenta, as well as in the gelatine cultures. Did they pass from the mother to the fœtus, and, if so, how?

Causes of Placental Retention after Full-time Delivery.—In the Strassburg Policlinic, Freund has observed retention of the placenta 7 times in 780 cases (*Zeits. f. Geb. und Gyn.*, Bd. XVI. Hft. 1), and in all the seven cases he found great contraction of the internal os. In three there was congenital anteflexion of the uterus, and in one an acquired anteflexion. He considers marked narrowing of the os to be one of the characteristic symptoms of anteflexion. In such cases he considers that flexion, narrowing of the os and an unyielding condition of the walls may be early recognized. He considers that this theory has a practical bearing, and insists that in all cases where anteflexion has been made out before or shortly after the begin-

ning of gestation, the attendant should be very careful in the management of labor; in the third stage especially he should avoid everything which would tend to promote constriction of the contraction-ring, to which a predisposition already exists. The bladder and rectum should be emptied before and during labor; ergot and all irritating drinks or medicines should be avoided; the treatment of the third stage should be strictly expectant. All manipulation, friction and compression of the uterus, pulling upon the cord, and untimely or violent efforts to express the placenta should be avoided.

Ahlfeld says (*Zeits. f. Geb. und Gyn.*, Bd. XVI., Hft. 2) that when the placenta is allowed to separate and come away naturally without making any attempt to excite uterine contraction by friction or other manipulation, retention will not occur more frequently than 5–8 times in 1000 cases. He states that in 1500 births in the Marburg Clinic, from 1883 to 1889, the whole placenta had to be removed 11 times (7 per cent.), and small pieces of placenta twice, making 13 cases in all (8 per cent.) When any artificial method is employed (such as Credé's), and the placenta is subsequently retained, it becomes a question whether we have to do with a primary retention or with an incarceration due to the manipulation. Retention may be due to (1) spasmodic constriction of the uterus below the already separated placenta, (2) adhesion to the uterine wall, (3) both causes combined. The site of the constriction may be anywhere between the contraction-ring and the external os. In order that a constriction may keep back a wholly-separated placenta, it must occur soon after the passage of the breech from the uterus, and there must have been some irritation of the contracting part either before or after delivery. Such irritation may be caused by the use of the forceps, especially in case of eclampsia, or by forcibly dragging the fœtus through a partially dilated os, or by the use of very hot or very cold vaginal douches before the placenta has left the lower uterine segment. Touching, rubbing or irritating the puerperal cervix will sometimes cause such a degree of constriction that even fluids are retained in the uterine cavity for a time. He says that in the

Marburg Clinic the most frequent cause of retention has been manipulation of the cervix and lower uterine segment (instead of the fundus and upper portion of the body), while Credé's method was being practised by unskilled persons. He agrees with Credé that, in the majority of cases of so-called *adherent placenta*, there is simply incarceration without adhesion; but he thinks that cases of true adhesion are not as infrequent as Credé and others affirm. Morbid adhesion of the placenta is most apt to occur when the attachment is low, especially in placenta praevia. The morbid adhesion between the maternal decidua and the fœtal portion of the placenta is the result of inflammatory action, either in the placenta itself or decidua. He believes inflammatory action to be set up by cell-elements migrating from the cervix into the uterine cavity and making their way beneath the placenta. The prognosis of adherent placenta is worse than that of simple incarceration. When the hand has to be passed into the uterus and the placenta peeled off, more or less elevation of temperature usually follows, no matter what antiseptic precautions are adopted. Out of 13 such cases, only four made a normal convalescence, free from fever—*i. e.* 30.8 per cent., against 70 per cent., the average in uncomplicated cases. With regard to treatment, he says that if incarceration only is suspected, he tries to draw down the placenta by means of its presenting part and avoids passing his hand into the uterine cavity if possible. He agrees with Freund in recommending the expectant treatment in the third stage, but does not agree with him as to the ætiology of incarceration. He considers Freund's anteflexion of the puerperal uterus to be a normal condition, and attributes the retention to other causes.

The Treatment of Retained Membranes.—Eberhardt, of Halle (*Zeits. f. Geb. und Gyn.*, Bd. XVI., Hft. 2), finds a wide divergence of opinion among authorities as to the ætiology, significance and treatment of retained membranes. *Ahlfeld* thinks that self-infection may follow the retention of even a very small portion of decidua, and attributes retention to the use of Credé's method. *Lazarewitsch* considers the

retention of chorion and decidua more dangerous than of ammion, because they offer less resistance to decay. *Olshausen* believes the retention of even the whole chorion to be free from danger, and advises passing the hand into the uterus only when there is reason to believe that a placenta succenturiata exists. *Credé* says that retention of membranes is not dangerous. *Kaltenbach* reconciles these differences of opinion by maintaining that the danger does not consist in the retention of membranes or blood-clots *per se*, but in bacteria gaining access to them within the uterine cavity. Clinically he has not been able to find bacteria inside the healthy uterine cavity *post partum*, and his clinical observations have been subsequently confirmed by the bacteriological investigations of Döderlein and Winter. From his examinations of uteri removed by the total extirpation operation or the supravaginal amputation, Winter concludes, "the genital canal of the healthy woman contains micro-organisms in the vagina and cervix, while the uterus and tubes are free; the boundary line between the bacteria-holding and the bacteria-free portions is about the margin of the internal os uteri." Döderlein's observations prove that, under normal conditions, bacteria do not exist in the lochial flux as it comes from the uterus, but that bacteria enter it in the vagina. Applying these observations to the question of retained membranes, Kaltenbach concludes that as long as the membranes are enclosed in the uterine cavity, and not brought in contact with infectious germs without, they will remain free from putrefactive changes; but they will begin to putrefy as soon as bacteria enter the uterine cavity and reach them. If the membranes protrude partially into the cervix or vagina, the entrance of bacteria is facilitated and the danger of infection increased; he therefore removes manually only those portions which protrude through the cervix into the vagina. He lays great stress upon the prophylactic disinfection of the vagina before and during labor. While carrying out this strict prophylaxis for four years in Giessen, and one year and a half in Halle, he has had no parametritis, no severe endometritis, no endocolpitis, no peritonitis, although the sanitary condition of the Giessen hospi-

tal was bad. In Halle the treatment of the third stage is expectant; if the placenta does not come away in 1½–2 hours, Credé's method is employed. Retention of membranes is very rare; but when it does occur, two or three fingers are passed into the vagina (never into the uterus) and those portions which protrude from the cervix are removed. The prophylactic treatment consists in washing the external genitals thoroughly with soap and water and irrigating the vagina before the first vaginal examination is made, and at intervals till the conclusion of labor. If the membranes are retained, the vagina is irrigated twice daily with a sublimate solution (1×3000) and ergotine administered till they come away. Intra-uterine injections are avoided for fear of introducing bacteria into the uterine cavity. The essential points in Kaltenbach's treatment are (1) removal of only those portions of the membranes which protrude into the vagina, (2) keeping the vagina aseptic during the puerperium by repeated irrigations, (3) the administration of ergotine to hasten the separation of the adherent membranes.

The Micro-organisms of the Umbilical Cord and Stump.—Cholmorgoroff, of Moscow, has recently published the results of his elaborate investigations upon this subject (*Zeits. f. Geb. und Gyn.*, Bd. XVI., Hft. 1). In ordinary practice the cord is washed, dried and wrapped up in a fold or two of singed or dry linen, and changed once or twice daily till the cord falls off. Under this method the cord separates slowly, and if it happens to be very thick there may be considerable odor for three or four days; it may not come away for 8 to 10 or even 12 to 14 days; a large open surface is then frequently left which is often difficult to heal, and through which there is liability to septic infection. Pus from the child's eyes, foul compresses, sponges or bath water, septic matters from the mother, may be the medium of infection. Von Holst has proved that the puerperal virus may enter the child's body through the unhealed navel-stump, as well as through wounds of the skin or mucous membranes. It is, therefore, better for the nurse to make a daily practice of washing and dressing the child before she attends to the mother. It must be borne in mind, however,

that the matter from a foul suppurating cord may prove injurious to the mother, so that the nurse should always wash and disinfect her hands after dressing such a cord before she attends to the mother. The cord separates either by dry mummification or by moist gangrene; mummification is favored by high temperature, and dryness of the air and dressings which come in contact with the cord; gangrene is favored by moisture and exclusion of air. The infection of the child through the umbilical stump is best prevented by aiding the dry mummification of the cord; dry dressings seem most suitable for this purpose. Some use absorbent cotton or gauze, plain or medicated; others use powdered starch, or powdered salicylic acid and starch (1×5), or fine plaster of Paris. Cholmogoroff made a series of observations upon the cord at the time of birth to ascertain whether micro-organisms are normally present; and as mummification does not proceed with equal rapidity in all cases or under all dressings, he investigated the development of bacteria under different methods of treating the cord. His conclusions may be summarized as follows :—

1.—The navel-cord of the new-born child is absolutely free from bacteria; if subsequently present, they must have been introduced from without.

2.—In the stump the organisms which are found are—

Non-pathological: Sarcina lutea and bacillus subtilis.

Pathological: Staphylococcous albus, aureus and citreus and streptococcus pyogenes.

3.—The stump undergoes mummification or mortification according to its surroundings.

4.—An increased development of both the pathological and non-pathological bacteria is favored by fœtid mortification.

5.—During dry mummification, the greater portion of the cord (the hard dry external portion) develops only non-pathological organisms, while a very small segment (next the navel) develops a few pathological as well as the non-pathological organisms.

6.—Under the plaster dressing, mummification takes place

more completely than under other dressings, and fewer pathological bacteria are observed.

7.—The pathological bacteria of the navel-cord are identical with those of puerperal fever.

8.—The appearance of pathological bacteria in the navel-cord is independent of puerperal fever in the mother and ophthalmia in the child.

Precocious Marriages and Their Consequences (Annales de Gyn. et d' Obstet).—Prof. Rouvier, of Beyrouth (Syria), during a prolonged residence in the East, has had abundant opportunities of studying the effect of precocious marriage upon the general health of the mother and child. Out of 1400 married women who applied for treatment at his clinic, he found 79 under the age of 15 years. He divides these into four groups:—

1.—*Nulliparæ*, comprising 11 women, 5 of whom had married before having menstruated (two at 11 years, one at 12 and one at 15). In these five women the menses first appeared on the average 24 months after the consummation of marriage.

2.—Women who had accouchements at full term only—29 women, 8 of whom had married before the establishment of menstruation.

3.—Women who had both accouchements at full term and abortions—32 women, of whom 9 had not menstruated before marriage.

4.—Women who had had abortions only—7 women, of whom one had married six months before menstruating.

These 79 women, all married before their sixteenth year, during seventeen years of married life had 316 pregnancies, of which 76 were abortions (24 per cent). Inflammatory affections (metritis and endometritis) occurred 40 times; displacements and flexions, 33 times, retroversion being the most frequent; dysmenorrhœa, amenorrhœa, metrorrhagia, fibromata, cancer, polypi, &c., 20 times.

His conclusions respecting the effects of early marriage are—

1.—The absolute fecundity is diminished.

2.—The proportion of abortions is increased.

3.—Sexual intercourse and labor at too early an age favor

the development of inflammations and displacements of the uterus, and alterations in its shape.

Prof. Rouvier says that it is erroneous to suppose, as is commonly done, that the very early marriages in the east are the logical result of precocious puberty. Marriage is contracted regardless of puberty.

Shoulder Presentation Thirteen Times in the Same Woman.—Dr. G. Eustache, of Lille, reports a remarkable case (*Nouv. Arch. d' Obst. et de Gyn*). Shoulder presentations are relatively rare, but it is rarer still to find this abnormality recurring a number of times successively in the same patient. Only a few such cases are on record.

Gery reports one case where the shoulder presented in *nine* successive pregnancies.

Walter reports one of shoulder presentation in *five* successive pregnancies, the fourth being a case of twins, each fœtus presenting by the shoulder.

Léchryse reports one of *three* successive shoulder presentations.

Danyan reports several cases, one of *five* and another of *nine* consecutive shoulder presentations.

Joulin confined a woman *four* times with shoulder presentation; in two subsequent pregnancies the vertex presented and labor terminated spontaneously.

Nœgelé had one case of *five* shoulder presentations in six pregnancies.

Meissner, the elder, relates a case where the first pregnancy was a vertex and the *eleven* subsequent ones were shoulder.

Eustache's case is even still more remarkable. The patient was married at the age of nineteen, and two years subsequently bore her first child (1870). The vertex presented, labor was tedious and difficult, but terminated spontaneously. The perineum was completely torn through and the cervix lacerated on the left side up to the vaginal junction; both healed badly. In 1871 she became again pregnant, shoulder presenting, version. The same again in 1873, 1875 and 1876. In 1877, a seven months' child, still-born, shoulder presenting. In 1878, abor-

tion at the third month. In 1879, a seven-months' child, still-born, shoulder presenting. In 1880, 1882 and 1883, living children at full term, shoulder presentations, version. In her next three pregnancies she miscarried, twice at seven months and once at eight months and a half, the children all presenting by the shoulder, and delivered by version still-born. Her fifteenth pregnancy, also a shoulder presentation at full term, was terminated by version (April, 1889). A careful examination was made of the uterus by external and internal manipulations without finding any evidence of malformation, such as the *uterus septus*. Here was a woman who in her first pregnancy had a normal vertex presentation and was delivered spontaneously; then thirteen times consecutively the shoulder presented and version had to be performed. In such a case one can hardly suppose that the abnormality was always accidental or by chance; it is more rational to infer that the shoulder presentation was the regular and normal one, "*franche*," as Pinard would call it. The explanation, however, is not easy. In accidental cases the abnormality is usually explained by the absence or derangement of some of the factors of accommodation, such as small size of the fœtus, dropsy of the amnion, twins, deformity of pelvis, abnormal insertion of placenta, abnormal laxness of the uterine or abdominal wall, frequent child-bearing, &c. It is hard to admit the action of such purely contingent causes when the malpresentation recurs so repeatedly. It has been suggested by Wigand, Hergott and others that a special primitive malformation of the uterus may exist, by virtue of which the long diameter of the uterine ovoid is transverse instead of vertical. This might be the case in a cordiform or partially bilobed uterus. Eustache attributes the recurrence of the malpresentation in his case to the relaxation of the uterine walls and fibromuscular structures at the pelvic brim, caused by the enormous cervical laceration of the first confinement. He intends performing trachelorrhaphy, and, if the operation succeeds, it will be interesting to note whether the malpresentation recurs in future pregnancies. If the author's theory is correct, we will have still another argument in favor of Emmet's operation.

The Diagnosis of Placenta Prævia by Abdominal Palpation.—Dr. Herbert Spencer, of University College Hospital, read a paper before the London Obstetrical Society recently (*Brit. Med. Journal*) which provoked considerable discussion. After shewing the possibility of making out the placental site by abdominal palpation when situated in the upper segment of the uterus, he described seven cases of placenta prævia in which he had diagnosed the presence or absence of the placenta from the anterior wall of the lower segment, the diagnosis being subsequently verified by vaginal and intra-uterine examination. The seven patients were all multiparæ, the vertex presented, and the examination was made without anæsthesia before the rupture of membranes and onset of pains. In four cases it was made out that the placenta was not attached in front; in the remaining three its exact site was determined, in two cases before it could be felt per vaginam. As the result of this experience Dr. Spencer concludes that the following information can be derived from abdominal palpation, the patient being in the dorsal position with rectum and bladder empty:—

1.—In ordinary vertex presentations, the placenta being in the upper segment under favorable circumstances, the occiput, forehead (at a higher level) and the side of the head can be distinctly felt in the lower segment.

2.—In *placenta-prævia*, with vertex presenting, the head cannot be felt where the placenta is situated, but may be distinctly felt where the placenta is absent. If the placenta is in front, the examining fingers are kept from the head by an elastic mass of the consistence of a wetted bath-sponge. If its edge can be felt, it has the shape of the segment of a circle; within the circle everything is obscure to touch, but outside the head may be plainly felt. Impulses to the head are not clearly felt through the placenta; impulses to the head through the placenta are distinctly felt wherever the placenta is absent.

In the discussion which followed, opinions varied greatly. Braxton Hicks and Barnes agreed with the speaker. Barnes said that when the placenta is situated in the upper zone in front, the uterine wall is thickened and raised at the area of

placental attachment, forming a sort of hillock, rising above the smooth uterine surface. Matthews Duncan believes the diagnosis of the healthy placenta during pregnancy, by palpation, to be impossible. In order to know what to expect to feel, the mind must be divested of the appearance and feel of the born placenta; one must learn the feel of an attached living healthy placenta in utero. The born placenta is a thrombosed cake, while the living placenta is ill-defined, soft, with fretted vesicular surface not easy to recognize by touch. Champneys and others pointed out that the placental site can not be diagnosed by anscultation. In reply, Dr. Spencer admitted that the placenta (in p. prævia) is more easily made out when the head presents; but, judging from actual measurements of specimens, he did not think that the prævial placenta is usually thin and spread out. In one of his cases at the eighth month the part felt through the abdominal wall was one inch and a half thick near the edge.

QUARTERLY RETROSPECT OF GYNÆCOLOGY.

PREPARED BY T. JOHNSON-ALLOWAY, M.D.,

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Discussion on Treatment of Pedicle in Myoma.—A most interesting discussion took place recently at one of the meetings of the British Gynæcological Society relating to the best method of securing the pedicle of a myoma uteri:

Dr. BANTOCK said there could be no doubt that the question of the treatment of the pedicle was all-important in fibroids of the uterus. He agreed that certain cases of pedunculated fibroid might be treated by ligature of the pedicle, but if Dr. Fenton thought that the matter could be settled in the easy way suggested by him, he was very much mistaken. Some pedicles would be insecure and dangerous, no matter however carefully they were tied. An allegation of carelessness was not a sufficient explanation. He had tried both plans, and it was his want of success with the ligature that had led him to have recourse almost invariably to the extra-peritoneal treatment. He had used the most powerful forceps. He had compressed the pedicle to an eighth of its

original volume. He had applied the double ligature, transfixing it in addition to a circular ligature, and even stitched the peritoneal edges together; yet before the operation had been completed oozing had often begun. He insisted on the fact that patients did not usually die from the hemorrhage as such, but from septicæmia, due to the decomposition of the ooze. That was why the use of a drainage tube was advised. It must be that they feared the oozing from the stump of the pedicle, for there was nowhere else it could come from. He would be very glad if a method could be devised to overcome the difficulties and drawbacks, as the recovery took much less time. Hitherto, however, he had heard of no such method which would give them such assurance against hemorrhage as they could obtain from the extra-abdominal method.

Mr. TAIT said he heartily endorsed the remarks made by Dr. Bantock, but he thought it was necessary to refute somewhat more categorically the allegation that patients died in consequence of carelessness in trying the ligature. He said that if Dr. Fenton visited his armamentarium and saw the numberless contrivances and devices for the purpose of tying the cord more tightly than it could be tied by the human hand, he would relieve them from such a charge. He said that even the most tempting-looking pedicles could not be relied on, because uterine tissue was so laden with serum that even if tied ever so tightly it would begin to bleed in twenty-four hours. He had tied some five or six thousand pedicles, and while he had never had hemorrhage from ovarian pedicles, except in one or two cases, it was quite another thing with the pedicles of fibroids. He regretted nothing so much as having been induced to try the intra-peritoneal treatment of the pedicle. Even hydraulic pressure would not render them secure, and he had employed pressure up to two or three tons. At present, all that his nurses had to do was to give a turn to the next nut whenever oozing set in. They were not secure until the lapse of eighty or ninety hours. It was true that certain cases might be safely treated by ligature, but as it was impossible to distinguish them prior to operation, that knowledge was not of much service. To illustrate the peculiarity of uterine tissue, he mentioned that it was his habit in applying the *serre nœud* to tighten the wire

all he could; indeed, all that the wire would bear without cutting through the tissues. Then, in the course of trimming the stump he tightened once more, and again when he had got the tumor completely away. When he closed the stitches he tightened again, and so on several times. Yet they were not secure against oozing. They showed how the tissues shrank, and how utterly impossible it was to control these extraordinary tissues.

Case of Delayed Operation in Extra-Uterine Gestation: Death. —Dr. Edis related the following circumstance in connection with a fatal case of extra-uterine gestation:

Mrs. W., aged thirty-two, married five and-a-half years; sterile. Last normal menstruation December 2nd, 1888. Generally very regular every twenty-eight days, but she missed the period due at the end of December and saw nothing for forty-five days, *i.e.*, January 15th, 1889. During this time she felt perfectly well. On January 14th she experienced a sudden attack of excruciating pain in the right iliac fossa; she was almost collapsed, but after lying down on the bed for two hours, although she felt weak, she was able to get up, but could not fasten her dress without discomfort. On the following day, 15th, a sanguineous discharge from the vagina occurred, and continued uninterruptedly until February 5th, the day before she was first seen by Dr. Edis. She remained in bed on the 16th, and on the 17th passed two clots *per vaginam*. These were examined, but consisted merely of coagulated blood. On the 20th she hurried to church, and when there became so ill that she could not move, even to come out, but remained until the service was over. On the 21st she experienced another severe attack of pain at 5 p.m., accompanied by a rigor. At this time there was pain on micturition and defecation. On examination, *per vaginam*, the uterus was found to be bulky—anteflected—pushed over to the left side by a tense cystic mass in the right. On careful conjoined manipulation some slight tenderness was experienced in the right iliac fossa. The cervix was somewhat softer and more fleshy than normal. The uterus was mobile, as also the cyst, which was about as large as a hen's egg. The mamæ were only slightly developed, but more so lately than usual, according to both the patient's

and her husband's account. As the patient was in no present discomfort, and according to my calculation was at the furthest ten weeks advanced in pregnancy, it was decided to keep her quietly in bed for a few days and watch her symptoms; the operation being fixed for Monday, the 11th. On the 9th there was some local pain in the right lower abdomen, which was relieved by a poultice, the sanguineous discharge continuing. At 11.45 a.m. she had an acute attack of pain together with vomiting, the pain not being so distinctly localized as hitherto, but extending up to the navel. At 5.45 p.m. another attack of pain occurred, which was sharp and severe, the patient becoming blanched and cold; pulse 90, temp. 97.3°F.

Operation.—On opening the abdomen there was a rush of thin, dark, venous blood, which evidently had nearly filled up the abdominal cavity. Some sixty ounces of this were collected, but there was probably much more all told. The right broad ligament was at once transfixed and tied securely in two portions. The peritoneal cavity was then washed out thoroughly with hot water at 110°F., and the cyst and tube removed. All superfluous fluid was sponged out, a drainage tube inserted, and the abdominal wound closed with silver sutures. The patient never thoroughly rallied, the heart's action being very feeble, and she ultimately sank at 6.45 a.m., ten hours subsequent to the operation. On examining the specimen it was seen to consist of an ovarian cyst, the size of a hen's egg. Above this the right Fallopian tube was enlarged to the size of a walnut by an extra-uterine gestation cyst, which had ruptured at the other end. The orifice of the Fallopian tube itself was patulous and blood exuded from it.

Mr. TAIT said the case was very instructive. Dr. Edis had emphasized everything he had said in reference to extra-uterine pregnancy except in one respect, as to which he had misrepresented him. He had never said that extra-uterine gestation had never been recognized prior to the period of rupture. What he did say was that he himself had never recognized them. There was a very good reason for that, for with one exception he had not seen them until rupture had taken place, and in that one case he had mistaken it for something else.

Dr. RUTHERFORD said the case was another which brought into relief the uselessness of electricity. If electro-puncture had been employed the needle would have gone through the ovarian cyst and left the extra-uterine gestation untouched. Another point worthy of remark was the practical value of Mr. Tait's direction to go straight for the broad ligament and so put a stop to the hemorrhage. Although the tube looked healthy, on making a microscopical section, he found that the columnar ciliated epitheliam was gone and the mucous membrane swollen and full of inflammatory leucocytes.

Extra-uterine Gestation of five months duration: Rupture between layers of Broad Ligament: Complication of an Intra-uterine Fœtation: Operation: Death.—Dr. EDIS related the following case of much interest and rarity.

He said he was called upon to operate upon a case of four or five months extra-uterine pregnancy, which illustrated the differences between rupture into the peritoneal cavity, when there was a considerable amount of hæmorrhage, and rupture between the layers of the broad ligament, that is, extra-peritoneal. Mr. Lawson Tait, who was an authority upon the subject, had laid it down as a law, that in cases of rupture into the peritoneal cavity one was called upon to operate *instanter;* but in cases of extra-peritoneal rupture he discountenanced the primary operation, except the life of the mother was menaced. He preferred to leave the case to go on to full term. It was one of those peculiar cases in which an extra uterine gestation starting in September was followed by an intra-uterine gestation early in October. It was situated upon the left side; and the child's head was low down in the pelvis and pressed upon the rectum; causing almost total obstruction together with extreme intolerance of urine. The patient was exceedingly emaciated, suffered from persistent vomiting, and her life seemed to be in danger. He made an incision in the median line from the umbilicus nearly to the symphisis, and there he found the uterus distended to about the fourth month of pregnancy, and running off from this on the left side was the extra-uteriue fœtation, the fœtus from which he produced. Carefully avoiding the intra-uterine tumour, he made an incision through the cyst and extracted the fœtus,

which seemed to be about five months old. He left the placenta intact and stitched the walls of the cyst to the abdominal wound, so as to be able to irrigate and drain. The operation was performed February 12th, the pressure on the rectum was immediately relieved. The only complication so far was the formation of a fæcal fistula. There were symptoms of threatened abortion during the first few hours following the operation, but they had passed off and the case promised to do well.

Treatment of Fibroid Tumours and Twisted Pedicles.—In a discussion on fibroids and their treatment, the question had been raised as to the class of cases most suited for removal of the appendages, and those best dealt with by hysterectomy. Dr. BANTOCK said the case in hand belonged to the class of soft fibroids which sometimes attained such enormous dimensions and demanded removal. They were very rapid in growth. In the case in question, the existence of the tumour had only been noticed a few months before. It was situated in the right broad ligament and was adherent to the right side of the uterus. It was shelled out of the broad ligament with the greatest readiness, until he got down to the pedicle, when he had to apply a ligature. The patient recovered without a bad symptom. She was a single woman forty years of age. The tumour weighed three pounds three ounces. The second specimen illustrated another subject of recent discussion. It was a case of twisted pedicle of a dermoid cyst. The patient had been brought to him about three weeks ago in a very distressed condition. She had been seized a week before with sickness, accompanied with severe abdominal pain and some shock. He discovered a tumor in the lower part of the abdomen, and at once ventured on the diagnosis that the symptoms were due to the twistiug of the pedicle of an ovarian tumour. It was only on that day that he had been enabled to operate on her. He recalled that, when the matter was under discussion, he had expressed the opinion that it was not advisable to operate upon the patient while she was suffering from the immediate symptems of twisting of the pedicle, and particularly to the accident that usually accompanied twisting of the pedicle, viz: hæmorrhage into the sac, which appeared to

have more to do with the production of the shock than the twisting itself. In this patient the pedicle was twisted about one and a-half turns. It was not absolutely strungulated; but it was pretty nearly so, and there had been hæmorrhage into the cavity at the time of the accident. He thought that it was unwise to operate during the continuance of the shock and acute symptoms. He thought that it was best to allow such patients to remain quiet for some time, in order that the acute symptoms might subside. A tumor, if completely strangulated, would contract adhesions to surrounding structures, and its death would thus be prevented. This conclusion had been the result of his invariable experience. He had never seen a patient die from a twisted pedicle, or from hæmorrhage into the interior of the sac, nor had he ever heard of such a case.

Mr. LAWSON TAIT said he could give a melancholy example of the results of leaving uterine fibroids alone. A lady, sixty years of age, was sent to him from Nottingham with an enormous soft œdematous myoma. The tumor and symptoms dated twelve years back. The patient went on bleeding continuously, her menstruation being practically continuous. The tumour increased in size, and when she came to him on the 10th of December last, it was of an enormous size. He advised immediate operation, warning, however, the patient that in her exhausted condition recovery was materially interfered with. She nevertheless eagerly requested the operation, as did her husband; he therefore operated, shelling it out as easily as possible, but the shock was so great that the patient never rallied from the operation, she died about thirty-six hours after. He asserted that if the patient had been operated upon ten years earlier, when she was fifty, instead of sixty, and with ten years less of suffering and hæmorrhage, her chances of recovery would have been materially increased. As to the other points, he and Dr. Bantock were not so much agreed; he had seen thirty or forty cases of twisted pedicles of parovarian tumours, and he was strongly of opinion that it was the twisting that caused the shock. He had seen the severest shock without a drop of hæmorrhage. In a case he had to operate upon a few days ago after rupture, he had seen serious

hæmorrhage with shock, but the balance of evidence was in favour of twisting as the cause of the shock. His rule was to operate as soon as he could get to the patient.

Cysto-Fibro-Myoma of the Uterus, (Dr. HENRY T. BYFORD: Chicago).—A fibro-cystic tumour of the uterus weighing thirty pounds. It was surrounded by forty-five pints of ascitic fluid, so that the patient was relieved of seventy-five pounds of weight at the operation. What was left of her weighed about ninety pounds. On the right side is a plain fibroid growth; on the left side it has undergone myxomatous degeneration. A peculiarity is that the uterine cavity is completely obliterated half an in inch below the normal sized fundus by the tumour, and begins again lower down. The patient was about forty-four years old and menstruated scantily. The tumour, which is known to have been growing over fifteen years, started below the fundus in the posterior uterine wall. The broad ligaments were ligated separately, and the uterine stump treated extra-peritoneally. Formerly, when I was an adherent of the intra-peritoneal method of treating the stump, I stood in great awe of abdominal hysterectomy for fibroads, but since adopting the extra-peritoneal method I find that the mortality is but little greater than after ovariotomy.

A case of Epileptoid Seizure in which Erotic Symptoms were manifested to a marked degree.—In the August number (1889) of the *British Gynæcological Journal*, Dr. Routh gives the history of a very remarkable case of an epileptic, exhibiting unpleasantly amorous manifestations towards him after the application of a galvanic current within the uterus. The interest in such cases bear towards us in a medico-legal light, and it is well known that many an innocent physician has been made the victim of hallucinations of an epileptic woman, under similar circumstances as those described by Dr. Routh. She is now forty-five: the catamenia having been unusually copious, and very irregular. The uterus is very large, fibroid tumor reaching above the pubes and heavy, progression is difficult, always accompanied with backache. There were head symptoms, confusion, headache, &c., and violence of temper with something more doubtful displayed in her actions. I therefore determined to pass a negative

electrical continuous current through the womb, the positive pad being placed on the belly. She bore it well up to about 90 milliampères, when, to my annoyance, I noticed that sexual orgasm occurred. I, of course, pretended not to perceive it, but as soon as completed she began to wander, imagining some terrible accident had occurred to her husband. I removed the electrical apparatus and stopped the current as soon as I could, but before I could place her on a chair she went off into a regular epileptoid attack, foaming at the mouth and convulsed. The attack was soon over, and she became somewhat comatose, but not to any very marked degree. I removed her to an adjoining room, and left her in charge of a young lady and relative, while I attended to my other patients. She became excessively amorous towards this young lady, frequently asking to be kissed, throwing her arms round her neck, probably not altogether conscious of how she was acting. In about an hour she came completely to herself, and was ready to return home in cab.

Remarks.—The case I was anxious to record as one in which epilepsy was preceded and succeeded by marked sexual excitement. We are all acquainted with those cases in which epilepsy precedes a catamenal period, and many women will tell you that the sexual orgasm is also strongest before or after a period. As a period did follow in this case, it might be ascribed to this cause, but the fact that an ordinary conjugal relation had frequently before induced a fit without a period following, points rather to the sexual orgasm as the cause of the epilepsy, *plus* some peculiar condition not otherwise discovered, especially although epilepsy often followed conjugal relations, it was by no means a universal occurrence. Did the electrical current induce it? In one other I think I saw it imperfectly developed. But I have seen far more marked symptoms under the delirium of chloroform, or even ordinary examinations. The one important feature, however, is the erotic symptoms which not only proceeded, but continued after the epileptiform seizures. Two cases of a similar kind in which charges were brought against medical men not very long ago followed the same course. Perhaps, had I not been an old friend, and judged by herself incapable of abusing her confidence, my patient might have supposed or believed that

I had taken undue liberties with her person. She seemed even with the lady friend subsequently to have no control over her amorous inclinations, and retained but a shadowy remembrance of the occurrence. So far, this case is one of a class of which I think it would be well if our judges knew more than they do, where patients firmly believe and detail with "much minuteness events which deviate so little from what is possible that on several occasions trials have been instituted upon such accusations, and in a few instances convictions have followed" (Ziemsen vol. 14, 584)—one of the most cruel that can occur to a medical man.

Mr. Tait referred to the well-known case of Dr. Bradley, who was accused by an epileptic woman of having assaulted her. He pointed out that the woman was a confirmed epileptic, and was not of irreproachable morality, and there was every reason to believe that there was some peculiar sexual excitement in connection with her attacks. The assault was alleged to have taken place in a branch surgery, the floor and ceiling of which were so thin that it was impossible that the persons above and below would not have heard the noise of anything like a struggle. The woman had an attack in the presence of the accused, and doubtless firmly believed, in virtue of the sexual excitement which accompanied her attacks, that she had been assaulted. Dr. Bradley, strong in his innocence, had neglected to bring forward any medical witnesses to deal with this feature of the case, and he was found guilty by the jury and sentenced to two years' imprisonment. Ultimately, however, some new facts in the case were brought under notice of the Lord Chief Justice and he was released. Mr. Tait said that it was important to notice the association of a certain form of epilepsy with an erotic condition, an association which was as certain as possible. He mentioned also that some patients, in passing through the stages of anæsthesia, were subject to the same excitement. He had seen that happen over and over again, and in one case the patient had mentioned the matter to him afterwards, probably because she had some misty recollection of having done something which called for an explanation. These things ought to be widely known. They ought to be in the text books, and men should not be sent to prison on

charges made by women who were very likely subject to sexual disturbances of this kind. He added that another curious point was the charges brought by children under the new law. He had been engaged by the Birmingham police to investigate these cases, and in only one out of twenty or thirty was there reason to believe that such an offence had been committed.

Dr. BARNES said it was important that this case should be put on record. He mentioned that some years ago he had gone down into the country to give evidence at the assize on behalf of a highly-respectable practitioner, who was accused of having committed an assault on a female patient in a room in his own house, which was so surrounded by doors on every side that if anything of the kind had taken place it would certainly have been overheard by those in the adjoining rooms. The complainant was apparently a respectable woman, and in support of that statement it was given in evidence that she had formerly been in the employ of a lady of position. He gave evidence strongly in his favour, and the accused was acquitted.

Chlorosis and Menstruation: An analysis of 232 cases.—Dr. W. STEPHENSON, University of Aberdeen, the author of this paper, observed that, in the rapid progress of uterine specialism, chlorosis, in its relation to menstruation, has been too much neglected. This constitutional disease has been investigated by the physician and the pathologist, but not by the gynæcologist. The paper is based on an analysis of 232 cases carefully noted by the author. The cases were divided into two groups: the first, where the illness was primary and occurred before the twenty-third year, comprising 183 cases; and the second, where the attacks were of the nature of relapses after a period of good health: these number forty-nine cases. Chlorosis is regarded as due to a constitutional state; but it is shown that the diathesis is not necessarily associated with an impairment of the development of the body, and is not, to any marked degree, connected with defective health previous to the onset of the disease. First is considered the influence of the chlorotic constitution on menstruation before chlorosis sets in. Tables are given which show that the tendency of the chlorotic diathesis is to acceler-

ate the age at which menstruation first appears, and that chlorosis by itself is not the cause of retarded appearance of the catamenia. At the same time, in one-half of the cases the functional activity is defective, and is chiefly characterized by lengthening and irregularity of the intervals and scantiness in the amount of the flow. The author's statistics are against the opinion that there is a menorrhagic form of chlorosis. In 96.6 per cent. the effect was to diminish the activity of the function; the remaining fraction were complicated with ovarian irritation. In 58.7 per cent. menstruation became scanty and irregular, and in many cases painful, while in 38.8 per cent there was amenorrhœa for various periods.

Chlorosis and Age.—A table is given which shows that there are two marked chlorotic periods: the one of primary attacks, from 14 to 21; the other, of secondary attacks, from 24 to 31. The number of cases of the disease presents a regular curve, beginning at 14 and rising steadily to a maximum between 18 and 28, then rapidly falling, to disappear altogether at 22. The tendency to secondary attacks manifests itself first at 24, rises to a maximum between 26 and 28, to again disappear at 32. That there may be a third period is probable, as two cases are recorded at 39 and 41. This law applies to attacks of the disease with distinct intervals of good health between, as distinguished from the simple relapses, after periods of imperfect convalescence, frequently met with after a primary attack. The curve of menstrual age, compared with the curve of the onset of chlorosis, does not bear out the opinion that "foremost in etiological importance is the period of the first appearance of the catamenia." The fact of a periodicity in the attacks is also against it. The cause of this periodicity is considered; and the general conclusion arrived at is that imperfect evolution of menstruation, as evidenced by scantiness of the flow and irregularity of the periods, is as regular a feature of chlorosis as the imperfect evolution of the red corpuscles of the blood; that these contestants are not related to each other as cause and effect, but are independent one of the other, at the same time there is a close relationship between them whereby the reproduction and development of the red corpuscles of the blood are governed by, or form part of, the menstrual cycle.

Syphillitic Disease of the Cervix Uteri.—Dr. E. RODE, in *Brit. Med. Jour.*, has observed three cases of ulcerating gummata of the vaginal portion of the cervix. They appeared from ten to twelve years after infection. In all these cases there was extensive œdema of the pelvic connective tissue. Diagnosis was based upon the distinct history of syphilis, which was readily obtained from the patient. There were, moreover, no symptoms of cancer, tuberculosis, or simple erosion. The patients all recoved rapidly after the administration of iodide of potassinm. No local treatment beyond simple cleanliness was thought desirable. Dr. Rode's experience are of considerable interest. A good monograph on the ulcers of the uterus, written by a recognized authority, would prove of great utility to practitioners and specialists. The "ulcer" is hardly even an erosion; it is rather the replacement of the natural squamous epithelium of the outer part of the cervix by a layer of the columnar epithelium proper to the cervical canal. The severe symptoms once attributed to "ulcerated womb" are due totally different causes. Nevertheless, there are such things as ulcers of the cervix, due to cancer frequently, to syphilis occasionally, to tubercle rarely.

Sterility: (Dr. OUTERBRIDGE, in *Medical Era*).—For the cure of sterility I have devised a cervical dilator made of steel wire, and silver or gold plated. This is introduced five or six days before the menstrual period, and removed at a like interval after it. The instrument is self-retaining, dilates the cervical canal, and gives the spermatozoa ready access to the uterine cavity.

The reviewer, after a trial of this instrument, would say that it is worthless, unsatisfactory and cannot be recommended.

Cholocystorrhaphy.—Dr. HOWARD A. KELLY reports a case of cholocystorrhaphy followed by cholocystotomy and evacuation of one hundred and eighty-eight gall-stones, and recovery. Frau B., a wizened, brown-skinned, little German woman, fifty years old, is the mother of a nun ber of children, and aside from a single attack of jaundice when thirty years of age, enjoyed good health up to twelve years ago, when she lay many weeks abed with a severe febrile attack diagnosed as typhoid fever. She noticed at the same time the appearance

of a well-defined tumor in the right hypochondrium. Since this time she has always been a sufferer with abdominal pains, indigestion, and constipation. The pains, although not located in any particular spot, were very definitely referred as arising from the right side. She suffered from menorrhagia two years ago, for which I was called in consultation by Dr. A. K. Minich, a year ago. After dilatation and curetting and a course of arsenic prescriptions by Dr. Minich, this disappeared, and she improved very markedly in every way. Last January (1889) I was again called in consultation by Dr. Wintter to consider the nature of her abdominal complaint. The lobes of a distinctly enlarged liver, also displaced downwards, 10 cm. below normal, with a gall-bladder greatly distended, elastic and projecting far beyond its fissure, were easily detected, and the diagnosis of obstructed gall-bladder made. I operated on the 28th January, in the presence of Dr. Wintter, assisted by Dr. Hunter Robb. As the liver was freely movable, and the gall-bladder lay 3 cm. to the right and 4 cm. above the navel, an incision 4 cm. long was made in the linea alba. It was found to be a large, tense cyst about 13 cm. in length. Upon palpating the rest of the abdominal viscera through the opening, I found extensive mesenteric, small intestinal, and colonic adhesions, made up partly of the union of broad surfaces and partly of sharp bands from 4 or 5 to 10 cm. in length. These were all carefully separated and broken up by the fingers used as a wedge between the broad adhesions, and bringing the sharp bands into view when they were cut. The oozing which followed this separation was but slight. The next step was to suture the gall-bladder to the abdominal wall, so as to expose a part of its surface for subsequent incision. This was done by means of a series of fine interrupted silk sutures about an eighth of an inch apart, introduced so as to catch up the serous and subserous coats of the bladder and the visceral peritoneum.

The completion of the operation left a small wound, at the floor of which lay exposed a part of the gall-bladder, 3 by 1½ cm. The whole operation lasted to completion ten minutes. Iodoform gauze was placed in the wound, and absorbent cotton and bandage over the whole. On the third day the dressing was removed and the exposed bladder opened in its length by

Paquelin's cautery knife. About 300 gr. of clear, sticky fluid like synovia escaped. On the fifth day I removed one hundred and six gall-stones of varying size by means of a pair of small stone forceps. Three days after forty more were removed, and on the eleventh day forty-two stones more appeared. A stillicidium of fluid commenced with the opening of the bladder, and lasted eighteen days, when the wound closed. The length of the gall-bladder measured by a sound was 11½ cm. On the twelfth day she sat up, and on the twenty-sixth day she went home. The relief following the operation was perfect. She had no more pain, recovered her appetite, and became bright and cheerful in disposition.

Rapid Curative Treatment of Cystitis. (THOMAS MORE MADDEN, M.D.)—Within the past year twenty-eight cases of cystitis have come under observation in the gynæcological wards of my hospital; and in nearly every one of these cases the patient was discharged free from the disease, which in some of them had resisted years of other treatment. In women cystitis is, not only from the special causes incidental to the sex, more frequent than in men, but is also more urgent in its symptoms and more liable to lead to grave pathological consequences.

General Treatment of Cystitis.—I may say a few words with regard to the general principles which should guide our management of these cases, as well as on the ordinary plans of treatment and palliative measures generally recommended in cases of cystitis in women. It is obvious that in this, as in every other disease, our primary business is to ascertain and to remove, if it be removable, whatever may be the exciting cause of the morbid condition of the bladder. Thus, if the disease be dependent on extension of vulvar or vaginal inflammation, either gonorrhœal or non-specific, this must be at once allayed by appropriate treatment. If due to the mechanical pressure of a displaced uterus, this should be rectified by a suitable pessary. In the same way, the weight of a uterine fibroid pressing on the bladder, if it cannot be otherwise got rid of, must be at least lifted well above the pelvic brim, and there maintained. If vesical calculus be present, or if, as ascertained by careful examination of the urine, renal disease exists, and has extended from the kidneys along the uterus, it will be useless to attempt the topical treatment of the conse-

quent cystitis until in either instance its cause has been removed. Presuming the case to be one of uncomplicated cystitis, we have then an abundant choice of suggested remedial measures which (save that advocated by Dr. Emmet, to which I shall subsequently refer) are all equally useless, as far as probability in concerned, of thus curing any extreme case of cystitis. Nevertheless, some of these measures are unquestionably of value as palliative expediments, and may possibly even prove curative in exceptionally mild cases of the disease. The most generally useful in this way are long continued warm baths, washing out the bladder through a double catheter with plain warm water, thin flax-seed tea, or a solution of boroglyceride; conjointly in all instances with absolute rest in bed, the free use of diluents, together with the administration of the old-fashioned Dover's powder in small, frequently repeated doses, as the best opiate in these cases; and lastly, above all, by the use of boracic acid in 10 or 15-grain doses three or four times a day, by which the generally fœtid ammoniacal urine is deprived of its fœtor and rendered less irritating to the endovesical mucous membrane.

Curative Treatment of Cystitis.—These measures may relieve, but will not cure well-established cystitis, nor am I aware of any method by which this result can be obtained except by primarily giving the diseased lining membrane of the bladder and its sub-mucous muscular walls absolute physiological rest. This may be secured in either of two ways,—namely, first, by that advocated by Dr. Emmet, which consists in the formation of an artificial vesico-vaginal fistula through which the urine may drain away as fast as secreted, and by the consequent removal of the immediate source of irritation to the unhealthy and hyperæsthetic endovesical mucous membrane thus affords the patient a fair chance of escape from ultimate extension of the disease to the kidneys. The objections to this plan of treatment are, however, so grave as to render any rational alternative that may be suggested for attaining the same object by less heroic means deserving of fair consideration and full trial. These objections are, first, the general difficulty of keeping the fistulous opening patulous for a sufficient time to allow the diseased bladder to regain its normal condition; secondly, the irritation often occasioned by the button com-

monly employed for this purpose; and thirdly, the more serious trouble, which we meet with in some exceptional instances, of closing the fistulous opening when the desired object has been attained, and the consequent misery resulting from this mischance, by which the patient's last condition may thus possibly be rendered worse than her former state. I have abandoned this operation, and believe that we may obtain all its advantages more easily and more safely, simply by so thoroughly dilating the urethral canal as to enable us to pass the index into the bladder, and thereby paralyze the contractility of the sphincter or of the canal for a time, which may be indefinitely extended by repeating expansion in the same way as often as may be necessary. It may, moreover, be advisable in some instances to remove the proliferating vesicle mucous membrane by the cautious employment of a dull wire curette, which I have used with advantage in cases of this kind. And, lastly, whether the curette be required or not, the method of dilation should, in all cases, be conjoined with the topical application of carbolic acid to the mucous surface. The latter is best employed in the form of glycerine of carbolic acid of the Pharmacopœia, which is quite strong enough for the purpose, and introduced by the ordinary stilette, armed with a piece of absorbent cotton saturated in the application, and passed through my dilator so as to avoid any of the acid being brushed off in the canal until it reaches the fundus vesicæ, where it should be retained for a couple of minutes until every part of the vesical wall contracts firmly upon it. The urethral canal is then to be similarly brushed out by another application of the carbolized glycerine. The pain caused by this procedure may be prevented by previously introducing in the same way a 10 per cent. solution of cocaine. The plan of treatment recommended seldom requires to be repeated more than two or three times, at intervals of a week, to effect a cure of even the most aggravated cases.

Cysts and Abscesses of Bartholini's Glands. (Dr. BONNET, of Paris, in *Gaz. des Hôpitaux.*)—The diseases of the vulvo-vaginal or the glands of Bartholini are abscesses and cysts. Cysts arise from an occlusion, obstruction or adhesion of the duct of the gland, produced by catarrh, cicatrices, cancerous neoplasms, etc. The affection generally attacks only one, and

that the left side. The contents of the cyst is a viscid fluid, sometimes clear, other times of a blackish green or a bloody color. The pathological anatomy is yet but little known. The phenomena which the cysts give rise to during their growth are usually but slight. They are painless, and trouble the patient but little when walking. The seat of the tumor is, if its duct be affected, a superficial one; but if the gland itself be implicated, the swelling is deeper. It may undergo a change into an abscess, if, for example, a gonorrhœic vulvitis be complicated with it, or various manipulations to induce its healing, may also induce this change. All methods of treatment, as catheterization, puncture, incision, or excision of a portion of its wall, as well as drainage, are not sufficient, and it reoccurs as a rule. Bonnet proposes, as the only remedy for its cure, which will be followed by lasting success—extirpation of the gland. This is to be done under chloroform, or by the use of cocaine locally. The abscesses may, as already mentioned, originate in the cysts or in traumatism, but in the most cases they are dependent upon an acute or chronic vulvitis. Its symptomatology is well known, as well as the bad results obtained by simple excision, with or without cauterization. Here also the writer is in favor of a radical treatment, *i.e.*, an antiseptic extirpation of the gland.

Uterine Cough. (DR. MULLER of Paris, in *Gaz. Méd.*)—The uterine cough is physiological at the time of menstruation, pregnancy, and the menopause. It becomes pathological in diseases of the uterus of every kind. It is not to be mistaken for the hysteric cough, as it appears in women who show no trace of hysteria. The prognosis of uterine cough is very favorable, if one finds and cures the affection of the uterus upon which it depends.

Strangulation of the Clitoris. (DR. BOKAI, in *Central-Blatt fur Gynækol*)—A girl ten years of age, who for quite a long time had practiced masturbation, had for the same purpose ligated the clitoris so tightly with a thin thread that that organ swelled up to the size of an Italian hazelnut. The thread was removed by Bokai fourteen days later, whereupon the sensitiveness and œdema gradually disappeared. The ulcerated line of strangulation healed after proper treatment. Yet the clitoris remained even after the removal of the thread still

the size of a hazelnut, so that this hypertrophy, which was regarded as a result of the masturbation, had to be removed by means of thermocautony.

Abdominal Pregnancy. (*Lancet.*)—It has always been a cardinal rule of operation in abdominal pregnancy that the placenta should not be disturbed but should be allowed to disintegrate and come away piecemeal, the cyst cavity being carefully and thoroughly drained until suppuration ceased. The reason for this rule was the obvious danger of hemorrhage from the placental site if forcible removal should be made, there being nothing corresponding to the contractions of the uterus after the third stage of labor, to check the hemorrhage. But Lawson Tait has successfully hazarded the immediate removal of the placenta after operating upon a case of abdominal pregnancy, checking the hemorrhage from the placental site by the application of the perchloride of iron. Tait does not advise this method in both cases, but has simply shown that it is not as dangerous as was feared. It has obvious advantages, and if its safety be established will be a great improvement on the old method.

Operative Methods for Retroversion of the Uterus. (H. T. B.)—After having exhausted our medical knowledge and mechanical skill in unsuccessful attempts at the cure of retroversion, it occasionally becomes necessary to resort to surgical operations. These may be divided into three kinds: (1) Those intended to restore the uterus to a normal condition; (2) to restore the uterine supports to normal function; (3) to fix, by unnatural means, the fundus in front, or the cervix back, of the axis of the superior strait—operations of expedience. The second class interests us because there is a question of choice of methods for the patient before us. The normal action of the uterine ligaments is to draw the fundus in front, and the cervix back, of the axis of the superior strait. The round ligaments are the main ones that accomplish the former, and the sacro-uterine ligaments the latter. Hence operations directed to the restoration of the natural action of these ligaments may be considered rational and justifiable.

Alexander's operation for shortening the round ligaments has now been performed several hundred times, and is established as a safe and effective procedure. The position of the

uterus obtained is one of moderate or normal anteversion. Relief of symptoms is not always immediate, since the traction of the shortened round ligaments upon the tender or contracted tissues about the broad ligaments, or, contrariwise, the dragging of the rigid resisting tissues and uterus upon the newly healed round ligaments, may give rise to discomforts for some weeks or months. Adjustment of the parts takes place after a time, however, and all symptoms due to uterine displacement, together with many others, eventually subside. Much unmeaning argument has been trumpeted throughout the scientific world about the inadequacy of the round ligaments to support the uterus against abdominal pressure, and about the part other structures beside the round ligaments play in causing retroversion. It is not pretended that the round ligaments support the womb in its natural position—they merely draw the fundus in position so that its weight and abdominal pressure will act to antevert the uterus. The effect of their action upon the uterus may be likened to the effect of the action of the rudder upon the boat—directing merely, not antagonizing the displacing or propelling powers. This brings us to the methods by which the fundus has been fixed in front of the axis of the superior strait. Koeberle was the first to stitch the uterus to the abdominal wall by suturing the stump, after abdominal oöphorectomy, in the wound. Olshausen recommended suturing the broad ligaments to the abdominal walls by a laparotomy performed expressly for this purpose. Since then Kelly and Saenger have prominently associated their names with this operation. By it the uterus is dislocated toward the front of the pelvis and swings on a somewhat rigid fundal attachment near the reflection of the peritoneum over the bladder. The position of the uterus is not at all comparable to that after Alexander's operation, since there is a dislocation forward and a fixation of the fundus. The Germans call it ventro-fixatio-uteri, or ventral fixation of the uterus, while Kelly has named it hysterorrhaphy. Laparo-hysterorrhaphy, or anterior fixation of the uterus, as it might more properly be called, must be reserved for those cases in which Alexander's operation may not be available or practicable, or for those in which it may become necessary to perform laparotomy for breaking up of adhesions or other purposes.

The Early Diagnosis of Cancer of the Cervix. (Dr. H. C. Coe, in *Med. News.*)—The majority of the cases of cancer of the cervix uteri do not come under the observation of the surgeon before the disease has progressed so far that it is impossible to perform a successful radical operation. The attending physician is too often responsible for this delay, although he is not entirely inexcusable for misinterpreting the initial symptoms. The symptoms of incipient malignant disease of the cervix are seldom characteristic, but they are such as to awaken suspicion and to justify an examination. Slight, irregular hemorrhages, especially after coitus, are always significant, above all in women who have passed the menopause. Pain is seldom characteristic. There is no offensive discharge in the early stage. Hypertrophy and general induration of the cervix, accompanying an erosion which bleeds easily to the touch, should lead the physician to confirm the diagnosis by excising a fragment of the suspected tissue and submitting it to microscopical examination. A positive opinion regarding the presence of malignant disease is justified only by the finding of processes of atypical epithelium which invade the subjacent muscular tissue. Excision of the cervix should be performed in every case of extensive erosion with general induration, whether cancer has actually developed or not. This is often sufficient to ensure a cure, and thus to render a radical operation unnecessary. If the disease recurs, the uterus may be extirpated subsequently.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

CONDENSED REPORTS OF CASES IN DR. MACDONNELL'S WARDS.

CHRONIC LEAD POISONING.

Lead Poisoning a very common condition. A case in which the poison inhaled in a factory was followed by Colic, Wrist-drop, Gradual Impairment of Mental Functions, Chronic Interstitial Nephritis, with Hypertrophy of the Heart, High Tension Pulse, Transient Hemiplegia and Uræmic Manifestations.

Cases of chronic lead poisoning are very commonly met with in the practice of the Montreal General Hospital, indeed we are scarcely ever without two or more cases in the medical wards. Six cases have been admitted into ward 11 since May 1st, and not very long ago five cases were reported in the *Canada Medical and Surgical Journal* by Dr. Molson, in all of which the nervous system was attacked. I feel convinced that if lead poisoning were made the subject of investigation that it would be found to be of very common occurrence amongst those engaged in the various manufactures in which lead is used. So far lead poisoning has never in this country received at the hands of the health authorities the attention it deserves. For every case severe enough for admission to the hospital wards, there must be a large number of cases in which the poison has been less active, and in which the patient is still able to earn some kind of a living without being obliged to seek help at a hospital. Indeed, when a case of lead poisoning comes to my wards I always make a point of enquiring whether there are other people in the same employment suffering in the same way. In several instances the answer has been that many of the employees have had to leave, owing to attacks of colic, wrist drop, or other saturnine manifestations. At the moment there are three cases of lead poisoning in ward 11.

W. S., aged 58, a steel plate printer, had been employed in a lithographic establishment in this city for many years. He

had enjoyed good health until 1876, when he suffered from a mild attack of colic with constipation, followed in three days by a very severe attack. At the same time there was great oppression about the chest. During the last twelve years he has had four distinct attacks of colic. In 1882 the arms first became involved. At that time there was distinct wrist drop, and he was five weeks in hospital and had to abandon his occupation altogether and go to live in the country. Having regained the use of his arms he returned to Montreal, and worked more or less steadily at his trade, without any return of the symptoms, until six weeks ago, when he again suffered from colic and weakness of the arms. On 19th March, 1888, he was admitted to the Montreal General Hospital. The symptoms present were constipation, colicky pains in the abdomen, great emaciation, feebleness in both arms, but no marked wrist-drop. At that time the urine was in a healthy condition. He remained 49 days in hospital, and was discharged considerably improved. On the 11th May of the present year he was again admitted, but now the symptoms were mainly mental, and there was evidence of advanced renal disease. The patient is thin, anæmic and of sallow complexion. No distinct lead line is visible, but the gums are soft and have receded from the teeth. He is very dull and listless, and has an air of dense stupidity and lack of expression. There is great difficulty in walking, unaided he feels dizzy and staggers. The memory is greatly impaired, he cannot remember faces. The speech is thick; voice husky and weak, there is stammering; somewhat deaf; cannot write, partly from actual weakness, partly from inability to control the pen. There is general impairement of muscular power, which is especially evident in the extensors of the forearm; the superficial reflexes are slow; deep reflexes over active; no ankle clonus; co-ordination of muscular movements is impaired; cannot walk unassisted across the ward; in the finer movements co-ordination is also very defective. He has a great deal of difficulty in feeding himself. Pain and soreness in the head and neck is complained of and there is a feeling of pins and needles in the hands. Sight is greatly impaired and the

pupils are dilated. He cannot distinguish more than the outline of a person's form. The ophthalmoscope shows the presence of the characteristic changes of albuminuric retinitis. Hearing is very dull. Taste and smell appear to be normal. There is a considerable degree of paralysis of the seventh nerve; he cannot whistle, cannot wrinkle the forehead, and the facial muscles of the left side appear to be somewhat weaker than those on the right. There is stiffness and pain on moving the muscles; all the joints are said to move stiffly, but there is no distinct swelling or pain. The action of the sphincters has not been interfered with.

The apex beat is displaced downwards and outwards. Pulse, 64: regular, forcible, visible at the wrist, showing a condition of high tension in the arteries, which is confirmed by the tracing of the sphygmograph; the curve is suggestive of general arterio sclerosis plus a moderate degree of hypertrophy of the heart. The physical signs of the lungs are negative.

The urine is of a pale amber color; specific gravity, 1017; small trace of albumen; no sugar. The proportion of urea nearly normal. The total quantity passed per day varies, but it is usually not much above or below the normal quantity. Hyaline casts are present.

So far the case presents evidence of the poison having permeated every part of the nervous system, and exerted its influence over brain, cord and cranial nerve alike. The general condition seems hopeless. There is no doubt that the kidneys and the arterial system are beginning to suffer. There were no morbid changes in the urine when he was last in hospital, and no note was made to the effect that the heart was enlarged or the pulse of high tension.

August 20th.—Up to date several interesting changes have taken place. On the 18th May there was transient right hemiplegia, with very marked aphasia; great mental distress and a sense of impending death. This sensation occurred several times during the day and then passed off gradually. There has been great variation in the rate of the pulse, which at times has been counted at 60 and 70, and at other times at 100 and 120.

August 31*st*.—Condition slightly improved; left the hospital yesterday.

CHEYNE-STOKES RESPIRATION.

N. C., an old French-Canadian, aged 70, was admitted June 22nd, 1889, under Dr. Stewart, and came under my care on the 27th July. On admission the patient complained of very great dyspnœa, of choking sensations, and a sense of weight in the chest. His health was excellent up to about three weeks ago, when, while engaged in cutting grass, he suddenly felt a sharp pain in the chest, and began at once to experience a choking sensation, symptoms from which he has suffered more or less ever since. He is a shrivelled up, little, old man. Expression very anxious and indicative of great suffering. The eyes are watery, and there is unusual redness of the conjunctiva. The pupils are contracted and react to light and accommodation. The skin is universally dry and scaly. The nails are curved, the finger-ends clubbed and rather blue.

The remarkable feature of the case is the rhythm of the respiratory acts, which is distinctly of the Cheyne-Stokes character. For thirty seconds all movements cease, then they become gradually deeper and more frequent, the head is thrown back, and the respiratory muscles are brought into play. Then by degrees the respirations become less deep, until they finally cease, to begin again. The interval from one pause to another is about one and a half minutes. The area of the heart's dulness is normal in extent, the impulse feeble, and apex beat not perceptible. No murmurs. The sounds are feeble. Pulse 78; irregular in volume and rhythm, every fourth or fifth beat being omitted. The arteries are tortuous and hard. Urine is of a pale color, acid reaction; specific gravity 1022; albumen present in small quantity, no sugar; passes 7½ grains of urea to the ounce; granular and hyaline casts are present; total quantity of urine daily, 28 ounces.

Shortly after admission the albumen and casts disappeared and the specific gravity became reduced to 1012. Five days after admission it was noticed that the Cheyne-Stokes breathing was no longer present. It was again noticed on one or two

occasions, but in a less marked degree; it lasted but a few minutes at a time. Over both lungs sibilant and sonorous râles are heard, but much more readily in front. Improvement in the symptoms and general condition took place, so that at the end of a month he was discharged comparatively free from dyspnœa and any of the unpleasant sensations in his chest for which he had entered the hospital. The pulse became regular and the tracings assumed, to a certain degree, the characters of irregularity of the heart's action.

He was readmitted August 25th, 1889, complaining of pain, dyspnœa, weakness, cough, swelling of the legs and feet. A week ago began to suffer from constipation and dyspnœa, and in a few days relapsed into his former condition. The skin seems to be more shrivelled. The legs are slightly œdematous, skin dry and scaly, extremities blue and cold. Pulse weak and irregular in volume and rhthym. The respirations are 32 to 22 to the half minute, and the rhthym is of the Cheyne-Stokes character. In the period of dyspnœa the breathing is very rapid and the distress very great. At the climax there is generally a violent fit of coughing followed by scanty expectoration. The period of dyspnœa lasts ½ minute, that of apnœa ½ minute also. The chest sounds are similar to those previously observed. The cardiac impulse is weak; orthopnœa, sleeplessness. Urine is pale and clear, specific gravity 1015, acid; trace of albumen, but none of sugar; 6 grains urea to the ounce; hyaline casts were found in four specimens.

The chief interest of the case centres itself in the Cheyne-Stokes phenomenon. To what condition is it due? To the heart or to the kidneys? Probably the latter. The sphygmographic tracings are likely to be delusive, owing to the atheromatous condition of the arteries. The general characters of the tracings show (1) a short line of ascent; (2) the presence in a marked degree of the dicrotic wave; (3) the obliteration of the predicrotic wave. A comparison of the tracings, taken during the stages of apnœa and dyspnœa, show that during the interval of apnœa the tracings are comparatively regular and of the character above-mentioned. As the period of dyspnœa begins the

tracing becomes disordered, the line of ascent becomes lengthened in some beats, shortened in others, and two beats at times run into one. The dicrotic wave is well marked in each tracing. As the dyspnœa reaches its height, the irregularity becomes greater, and, at the beginning of the period of rest or apnœa, the tracing suddenly becomes regular. As to whether there was any difference in tension between the periods of dyspnœa and apnœa it is not easy to say, but, judging from the various tracings obtained, it seems that during the interval the tension was less than during the dyspnœa. We failed to make out any difference in the frequency of heart's beat.

Cheyne-Stokes breathing is not a commonly observed phenomenon. It is curious that we should have two cases in a small ward of 15 beds.

The second case is that of a stout French-Canadian farmer, 60 years of age, and is well marked. A dilated heart is the probable cause. Sphygmographic observations were not easily made, owing to the fatness of the forearm and the restlessness of the patient. Changes in the pupil during apnœa and dyspnœa were observed. When the breathing was full and laboured the pupils dilated to a slight extent. In the first case this was not observed. In neither case was any contraction of the limbs noticed during dyspnœa,* as was recently described by Robertson, of Glasgow.

GYNÆCOLOGICAL CASES UNDER CARE OF DR. ALLOWAY.

(*Continued from page* 213—Reported by *Dr. Low*).

CASE VIII.—*Emmet's Trachelorrhaphy and Alexander's Round Ligament Operation.*

Admitted into hospital April 2, 1889; age 33; married ten years; four pregnancies, two went to full term, one to 7th month, and one to 2nd month. Last full term labor took place five years ago. Menstruation for some years past has been irregular and scanty, accompanied with severe pain, violent headache and vomiting. She at present complains of severe pelvic pain; painful and frequent micturition; recurring

* On Rhythmic Contraction of the Pupils and Muscles of the Limbs with Cheyne-Stokes Respiration, by Alex. Robertson. *Lancet*, Nov. 27th, 1886.

paroxysms of violent headache, followed by distressing vomiting. On examination there was found a bilateral laceration of the cervix; extensive glandular hypertrophy, ectropion, endomitritis and retroversion of the uterus. The uterus could easily be replaced, but would return again when supporting pessary was removed.

Dr. Alloway performed Emmet's trachelorrhaphy upon the cervix, and Alexander's operation of shortening the round ligaments, at the one sitting. This patient did very well, with the exception of a few localised points of suppuration in each inguinal wound, which appeared on the fifth day after the operation This circumstance necessitated the removal of sutures, but notwithstanding, the ligaments had united firmly in the wound, the uterus was well anteverted, and symptoms relieved when the patient left the hospital one month afterwards. In connection with the suppuration accident in this case, it may be mentioned that all other cases operated upon on that day had also exhibited evidence of wound infection, and, on enquiry, it was found that a foul-smelling empyaema had been opened in the theatre the previous afternoon. As an incident, however, in Dr. Alloway's case, it proved of value in showing that fairly firm union of the ligaments can take place in so short a time without the further aid of the sutures.

CASE IX.—*Trachelorrhaphy and Perineorrhaphy.*

Age 21; unmarried; admitted into hospital June 21st, 1889. Had one full-term child six years ago, and has not been well since; complains of profuse and over-frequent menstruation, accompanied with severe pain. Leucorrhœal discharge also profuse.

Examination.—Perineum and lower part of vaginal wall extensively cicatricial and adherent, although the outer integument of perineum was intact; cervix elongated and extensively eroded; inflammatory remnant in left broad ligament, exhibiting much tenderness on pressure. This patient was kept in bed on preparatory treatment for four weeks. At the end of this time the uterus was thoroughly curetted with the sharp instrument, the cervix amputated and the cicatricial perineum and posterior

vaginal wall were operated upon after Tait's method. Patient left hospital eighteen days afterwards in excellent health.

CASE X.—*Trachelorrhaphy and Perineorrhaphy.*

Age 25; married 6 years; 2 pregnancies; admitted into hospital June 25th. Ever since marriage has complained of severe pain over hypogastrium and left side; painful defecation; dysmenorrhœa; leucorrhœa very profuse; general debility and ill-health.

Examination.—Uterus low down and retroverted; bilateral laceration of cervix with eversion; pelvic floor somewhat fixed and very tender. This patient was kept in bed for several weeks on preparatory treatment. The pelvic floor became movable, free from tenderness, and the uterus regained its normal position.

July 28th.—Dr. Alloway performed Schrœder's trachelorrhaphy and Tait's permeorrhaphy.

August 20th.—Patient discharged well.

CASE XI.—*Curetting and Trachelorrhaphy.*

Aged 28; married 6 years; 2 miscarriages, no full term children; admitted July 9th, complaining of severe headache, pain in side and hypogastric region; menstruation every two weeks, accompanied with severe pain; leucorrhœa very profuse, and external parts irritated by discharge. This patient had been under the usual medical treatment for the past two years, consisting of hot medicated vaginal injections, rest in bed, etc., without benefit.

Examination.—Cervix lacerated bilaterally to the vault of vagina, everted and enormously hypertrophied. There was chronic metritis and endometritis; pelvic floor fixed and very tender; uterus anteverted.

After a few days rest in bed and the usual preparatory treatment, Dr. Alloway dilated the cervical canal with steel dilators, sharp curetted the diseased endometrium, and performed Schrœder's trachelorrhaphy. Three weeks afterwards left hospital perfectly well.

[This case clinically demonstrates the eteology of many such

cases of pelvic inflammation. The condition is kept smouldering by irritation and septic infection afforded by a diseased endomentrium, associated with a virulent muco-purulent leucorrhœa. The only treatment at all satisfactory consists in thoroughly removing every vestige of diseased endometrium with Martin's sharp curette, and exsecing the cervix by Schrœder's method. The cervix in such a case only serves as a channel for infection, and can never be of any other use.—T. J. A.]

CASE XII.—*Emmet's Trachelorrhaphy and Alexander's Round Ligament Operation.*

Age 21; married four years; 2 pregnancies, last child born 2 years ago; menstruation regular, but profuse and very painful. Admitted July 1st, complaining of severe pain in back, constant bearing-down pain, painful and frequent micturition, painful defecation, and general debilitated condition of health.

Examination.—Bilateral laceration of cervix, eversion of cervical segments, and retroversion of uterus. The displacement was easily corrected, showing no adhesions present.

July 18th.—Dr. Alloway performed Emmet's trachelorrhaphy and Alexander's operation of shortening the round ligaments, at the same sitting.

This patient had an uninterrupted convalescence, and left hospital three weeks after operation had been performed. The inguinal wounds healed by primary union, the uterus was found anteverted when examined in the standing position, and the patient was in excellent health when discharged.

CASE XIII.—*Emmet's Trachelorrhaphy and Alexander's Shortening of the Round Ligaments.*

Age 21; married four years; 2 pregnancies, one miscarriage two years ago. She complains of severe pains in lumbar region, of bearing-down character; leucorrhœa profuse; dysmenorrhœa and dyspareunia; micturition painful and frequent.

Examination.—Bilateral laceration of cervix, with extensive glandular hypertrophy and ectropion, uterus enlarged, hard, tender and retroverted to third degree. The uterus could easily

be replaced, but through relaxation of uterosacral and round ligaments, would not remain so.

July 18*th.*—Dr. Alloway performed Emmet's trachelorrhaphy and Alexander's operation of shortening the round ligament at same sitting.

July 30*th.*—Sutures removed from inguinal wound and cervix to-day; union perfect, and uterus anteverted and firmly held in that position.

August 6*th.*—Discharged in excellent health.

Reviews and Notices of Books.

A Text Book of Animal Physiology. With Introductory Chapters on General Biology and a full Treatment of Reproduction. For Students of Human and Comparative (Veterinary) Medicine and of General Biology. By Wesley Mills, M.A., M.D., L.R.C.P.L., Professor of Physiology in McGill University and the Veterinary College, Montreal. With over 500 Illustrations. New York: D. Appleton & Co. 1889. Montreal, E. M. Renouf.

It was with no ordinary degree of interest that we opened the pages of this work. From the author's distinguished position and well-known reputation, much is expected of him, and we have the fullest confidence that the verdict of the profession in his own country and elsewhere will be that he has produced a work of great merit. In many ways the work differs from the ordinary text books on this subject. The first and most important point of difference that we will notice is that, although mainly intended for students during their college course, it is peculiarly adapted for the needs of the practitioner. Of how few text books on physiology can this be said.

The older and rustier a practitioner becomes, the deeper he sinks into grooves. For such, and very few are otherwise, we would recommend a perusal of this treatise. Few could arise from the perusal of the chapters on metabolism, physiological research, the laws of habit and periodicity, &c., &c., without being awakened to the thought that physiology is the very ground work of true practice, and without catching some of

that spirit of enthusiasm and abiding love of work, which so markedly characterize the author.

Prof. Mills' work differs from other works on physiology in being essentially founded on the comparative method and in the introduction of the principles of evolution and the teachings of embryology for the full elucidation of the subject. It is an "attempt to do, in some degree at least, for physiology what has been so well done for morphology." The field of biological science is made to contribute to this end. We find frequent references throughout the text to the differences in function for different groups of animals. Through this means the student will be better able to appreciate and understand the ever varying pictures of disease that come up before him in the wards of the hospital. He will be compelled to pause and think.

In turning to the chapter on the circulation we find a very full and thorough representation of the most recent knowledge on this subject. Dr. Mills, through his experimental investigations on the hearts of tortoises and turtles, has done much to bring this knowledge about. It is, however, very apparent that a great deal yet remains to be cleared up, especially on the relation between the nervous system and the heart. There is abundant evidence to prove that there is a marked difference between the hearts of different groups of animals, and that we know less about the intricate relations of the nervous system to the heart of man than any other. It is so difficult to interpret the nature of functional cardiac affections in man, that we are deprived in a great measure of the value accruing from clinical investigation. The physiology of the circulation is greatly in advance of our clinical and pharmacological knowledge. Physicians may appear to be slow in making practical application of much of what is known. The time, however, will no doubt soon arrive when the recent advances in the physiology of the circulation will bear fruit even in every day practice.

The nervous system is considered with that thoroughness which its great importance demands. The following quotation expresses the author's view on the important subject of cerebral localization :—"There is in the cerebral cortex a

localization of function, variable for each group of animals, and to some extent for each individual; that it is not of a character to be mapped out by mathematical lines; that in case of disease or injury one part may, to a certain extent, take up the functions of another; that the functions of any part, however limited, are only to be understood when taken in connection with all other parts of the cortex of the brain, and in fact of the entire body. These views we believe to be borne out by the facts of physiological experiment, clinical medicine, operative surgery, pathology, sleep, dreaming, hypnotism, the nature of the cerebral circulation, and the general truths of biology." To the firm believer in strict localization, the above statement may appear to be short of our acquired knowledge on this subject. It is certainly cautious.

There appears to be no doubt whatever that the earlier experimenters in the field of cerebral localization took too narrow a view of the subject, in mapping out very distinct territories as the seat of certain functions. In the light of the recent investigations, it is plainly evident that there are no sharp lines of functional distinction in the motor cortex. The variability of motor and other functions in different groups of animals is shown, at least in the dog, from Goltz's very recent communication to the Society of German Physicians and Naturalists, at their late meeting in Heidelberg. He succeeded in keeping a dog alive for many months after the entire removal of the cerebrum. After recovery from the effects of the operation, and up to its death, this animal did not present any trace of motor defect.

How are these results to be explained? Can they be brought into conformity with the dominant ideas of cerebral localization? There appears to us to be great force and truth in the remarks made by the author that the comparative method has been as yet too little studied, and that conclusions from experiments on one class of animals should not be applied to another class. There is abundant evidence to show that the cortex of the monkey's brain cannot be destroyed or removed without the production of paralysis.

As a text book for students this work will undoubtedly take a high place, not altogether because it is a succinct and clear record of the latest knowledge in animal physiology, but also on

account of its being founded on the true principles of teaching. Especial care is taken to point out what is really known; to separate the known from the unknown; to show what directions our investigations must take in order that our knowledge may increase. The work is well printed and profusely illustrated, and reflects great credit on the publishers.

Natural Inheritance. By FRANCIS GALTON, F.R.S. London: MacMillan & Co., and New York, 1889.

Mr. Galton has produced so many works bearing on the subject of heredity, which have been well received by the reading public that this last one cannot fail to receive a warm welcome.

This investigator has brought a method of his own to bear upon this important subject, which may be denominated perhaps as the physico-mathematical.

Many readers will be interested in the results who are unable to criticize the methods.

We think ourselves that mathematics must be applied with a good deal of caution to the problems of biology in the present stage of the development of that science. In this age the tendency to seek for accurate, precise and systematic results, and grouping is so great that we are in not a little danger of sometimes cramping the truth in order to adorn a page. However, Mr. Galton deserves all praise for his attempts to bring results within precise statements, even within the bonds of formulæ. Time will test the method and the results. Perhaps no worker has done so much for evolution in relation to man as the author of "Natural Inheritance." And not a little that he has brought to light is great interest to the physician.

His method is one that the physician applies himself in chemical and pathological investigation, though we are afraid not always with the thoroughness and precision of Mr. Galton. The chapter on "Family Faculties," "Eye-colour" "Stature," &c., are all worthy of study both for the facts and the method, as well as the chapters on "Marriage Selection," "Heredity in Disease" and others.

The present work is not bulky but its reading requires close attention. There are a good many tables and appendixes.

Altogether it is perfectly plain that an enormous amount of work must have been done before the material was available for publication in the present neat form.

Those who are willing to look carefully into the subject will find Mr. Galton's latest work an interesting study. To the thoughtful it cannot but prove highly suggestive. W. M.

The Physician Himself. By D. W. Cathell. Philadelphia: F. A. Davis. 1889.

That Dr. Cathell's book has made a happy hit, is proved by the fact that it has now reached its ninth edition. It gives much valuable information in a pleasant chatty way, and the hints respecting business and ethical relations will be found particularly useful by the young practitioner. In the present edition the entire work has been revised and some new matter introduced. The publisher's part is well done; the paper is good and the print large; altogether it is a very readable and enjoyable book.

Lectures on Obstetric Nursing. By Theophilus Parvin, M.D. Philadelphia: P. Blakiston, Son & Co., 1889.

The two lectures delivered recently by Professor Parvin at the Philadelphia Hospital Training School for nurses were so highly appreciated that an urgent demand was made for their publication. The author has added an appendix, in which he treats several important matters not included in the original lectures. Much valuable information is given in small compass; the teaching is sound and quite in accord with modern antiseptic practice.

Exploration of the Chest in Health and Disease. By Stephen Smith Burt, M.D. New York: D. Appleton & Co. 1889.

It seems to be a necessity that every teacher of physical diagnosis should produce a little text-book, just as it is indispensable that every gynæcologist should be godfather to a pessary and

every obstetrician should be the inventor of a special modification of the forceps. All these manuals have a strong family likeness the one to the other, and the family is a large one. The work before us, like many of its brethren, is the result of a request for publication coming from the writer's own pupils; so was the last one we noticed, and so was the one before that.

Dr. Burt has succeeded in condensing into small space nearly all that is really essential to a practical knowledge of the examination of the chest. The introductory chapter, which undertakes to give an account of the landmarks of the thoracic viscera, is meagre, the information given is scanty and insufficient, and a student who has to depend solely upon this chapter for his knowledge of the relations of the viscera to the chest wall will, indeed, be badly off for information, but the body of the book shows that much care has been bestowed upon its preparation. There is accuracy and commendable conciseness. The original illustrations are useful and instructive, but would be improved by enlargement.

Naturally, in a work of this character there will not be found much original matter to criticise. The section on adventitious sounds in the lungs is well written and the subject clearly put in a simplified form which will help the student greatly. Dr. Burt does not deal with dry or moist râles, but places all of them under one or other of the following headings: sibilant, sonorous, crepitant, subcrepitant, bubbling, tracheal, gurgling, and clicks (air and fluid in excavation). It is not unworthy of note that Dr. Burt is influenced by the teaching of Leeming, Loomis and Hudson in his acceptance of the theory of the intrapleural origin of the crepitant râle. "The sound (crepitant râle) probably originates in the pleura, for crepitation is not heard until the two surfaces of this membrane move one upon the other; it ceases when movement becomes impossible, and commonly returns with returning pulmonary mobility."

We have no doubt that Dr. Burt's work will be found very useful to senior students. We recommend it to them and wish it every success. When a second edition is called for, it is to be hoped that the author will dispense with the use of that new

and ugly word "calormetation" which pervades the book. The coining of new words must not be encouraged.

A Student's Text-Book of the Practice of Medicine.

By ANGEL MONEY, M.D., Lond. London: H. K. Lewis.

The author states in his preface that he has attempted to produce a very concise book of modern medicine which may, he hopes, prove useful to those who are beginning the practice of medicine, to those who are preparing for examination, and to practitioners who have no time or inclination to peruse treatises. We specially recommend the work to the first class of readers. A student in his third year, who is just beginning his study of the final subjects, will find Dr. Money's book of great value. It is concise, fairly comprehensive, very readable, and, if it be well studied during the first year of hospital attendance, the knowledge thus gained will prove a great assistance to the reading of more extensive treatises. Let the student thoroughly master such a book as this before attempting the larger text-books such as those of Bristowe or Flint. To the candidate for final examinations such a book as this is not sufficient, and we say this because we doubt if examiners would accept as answers some of the statements to be found here. For example, suppose that a candidate were asked the treatment of Graves' disease, he would, armed with the knowledge gained in Dr. Angel Money's book, make answer: "The best treatment is perfect rest and plenty of belladonna." And all other treatment is disposed of in six lines. "Plenty" of belladonna is a somewhat vague quantity. And so, again, in the treatment of gallstones. "A mixture of sulphuric ether (twenty minims) and spirits of turpentine (five minims) in the compound almond mixture, three times a day, is very nasty and not at all efficacious." Students preparing for examinations can surely dispense with the knowledge of formulæ both nasty and ineffective. Why mention it at all? In fact throughout the whole work the sections on treatment are very carelessly written. The few pages on prescription writing will, however, be found very useful.

We cannot help noticing one or two points which show a

certain degree of hurry and want of care in the preparation of the work. Measles, for instance, is omitted from its usual place amongst the eruptive fevers and placed at the very end of the whole book, amongst the skin diseases and the medicinal rashes. And this is the more strange, since the author begins his description by saying that "measles is best compared and contrasted with smallpox." Again, at page 407, in the chapter on Saturnism, the writer seems to think that *painters' colic* and *colica pictonum* mean the same thing. "Plumbers, painters (colica pictonum), type-founders and color-grinders are the usual sufferers from Saturnism." Colica pictonum is the colic from which the Pictones or inhabitants of Poictou suffered, and the term has nothing to do with painters, as the passage above quoted certainly implies. But certain parts of the book are very well written, and those are mainly upon subjects to which he author has given special attention, and in connection with which he is regarded as an authority. The chapter on rheumatism contains, in compressed form, some new and valuable information specially interesting in connection with recently published articles on that subject by Cheadle and others.

In conclusion, we trust that, with a few corrections, the work will pass through many editions and prove very useful to the junior final student.

Diseases of Women: A Manual of Non-Surgical Gynæcology. For use of students and general practitioners. By F. H. DAVENPORT, A.M., M.D., (Boston). Philadelphia: Lea Brothers & Co. 1889.

This little book will certainly fill a place in usefulness, although it would have been better if the author, in his determination to write a book early in his professional career, had written upon "diagnosis of pelvic disease in women," and set his title to that key. Medical gynæcology is a branch of the "Healing Art" not exactly understood by scientists, and is, therefore, not entitled to a place in literature.

Dr. Davenport's work will prove very useful in enabling the student to familiarise himself with the methods of examination of patients, and aid him in the diagnosis of pelvic disease.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, May 31st, 1889.—Continued.

WM. GARDNER, M.D., PRESIDENT, IN THE CHAIR.

Microscopic Changes after Section of the Extra-Cardiac Nerves.—DR. MILLS then read for himself and Dr. Workman a paper on the above subject, which appeared in the June number of this JOURNAL, page 881.

Discussion.—DR. WILKINS said that a paper involving such important changes in accepted theories required careful consideration. The results regarding the action of the trophic fibres of the cardiac nerves seem quite opposed to the conclusions arrived at by Goltz in his experiments on the sciatic nerve. Section of this nerve caused paralysis of the leg, dilatation of the blood-vessels, loss of strength, and wasting of the extremity, but no microscopic changes in the muscles could be found, even the muscular coats of the vessels remaining unchanged.

DR. STEWART asked if Dr. Mills considered the histological changes to be degenerative, or at first inflammatory, followed by degeneration. He could cite several cases of atrophic paralysis where the cause was inflammatory.

DR. GIRDWOOD related a case in which a bullet under the gluteus maximus produced pressure on the sciatic, resulting in coldness with lividity of the limb, followed by wasting and weakness. The bullet, which gravitated to the lower edge of the muscle, was removed, with complete recovery from all the symptoms.

DR. MILLS, in reply, explained that the experiment of Goltz referred to was instituted to settle the question of the nature of the vaso-motor fibres in the sciatic nerve and not the trophic nature of nerves. Sympathetic fibres entered into the composition of the vagus in all animals thus far examined. Besides, the accelerators of the heart were, in all animals, derived from the sympathetic. These fibres emerged from the spinal cord in the upper dorsal region, proceeded upwards, and might be given off to the heart either from the stellate ganglion or the inferior or the middle cervical ganglion. In man, the most important in all probability come from the middle cervical ganglion. The accelerator (sympathetic) fibres were the motor nerves of the heart. In reply to Dr. Stewart's question, Dr. Mills stated that

he thought degenerations following section of nerves were usually not inflammatory, and do not seem to have been such in this case, though on *à priori* grounds he did not see why they might not be of that character, seeing the important part the nervous system plays in inflammations generally.

Stated Meeting, June 14th, 1889.

WM. GARDNER, M.D., PRESIDENT, IN THE CHAIR.

Two Cases of Lead Poisoning.—DR JAS. STEWART presented to the Society two patients from the Montreal General Hospital suffering from lead poisoning. He said they were both typical cases of chronic lead poisoning, and exhibited the usual symptoms—marked anæmia, emaciation and nervous symptoms, paralysis of the extensor muscles of the forearm being marked in each case. The particular interest attached to the cases was due to the modes by which the lead had been introduced into the system. In one case the patient was a workman in a shot tower and had inhaled the oxide of lead from the melted metal. His face, hands and other portions of his body were constantly blackened by the lead while at work. It would appear that in this case the lead was absorbed through the skin and lungs. The patient in the second case is a bar-tender, and habitually drank a number of bottles of cream soda every day. These bottles were stoppered by a metallic button, which, together with the soda-water, was analysed by Dr. Ruttan and found to contain lead.

DR. RUTTAN stated that his attention had been called to this case by Dr. Stewart, and that he obtained a number of bottles of soda-water stoppered by this particular contrivance, and had found the stoppers to be made of a solder, an alloy of tin and lead, and in every bottle of soda-water with these stoppers lead was found in solution. The bottles and stoppers were exhibited. The stopper consists of a metal button attached to a wire loop, which projects beyond the mouth, and so contrived that it does not drop into the bottle further than about half an inch when open. The button is fitted gas tight to the shoulder of the bottle by means of a rubber ring. These bottles, when filled with soda-water, are immediately inverted, so the liquid remains in constant contact with the lead and becomes impregnated. The carbonate of lead at first formed is probably taken up by the excess of carbonic acid and held in solution; but, besides this mode of solution, many samples of soda-water contain alkali as carbonate of soda, which aids the solution. He further said that he considered these stoppers to be very dangerous, and had written to the manufacturer informing him of the fact.

Dr. Geo. Ross related a case of lead poisoning where the patient was a druggist and took a glass of soda-water from a soda fountain early every morning. The fountain was fed from a reservoir by a lead pipe, and the liquid remaining in contact with the lead over night took up sufficient of the metal to cause serious symptoms. He had had a number of cases of plumbism from the shot works of the city. He asked Dr. Ruttan if he could account for the common occurrence of lead poisoning among the men working in the British America Bank-Note Company.

Dr. McGannon said he had a number of cases of painters suffering from plumbism; one case traceable to drinking beer from bottles in which the shot used in cleaning had been left.

Dr. Reed had seen large doses of strychnia recommended for the treatment of the chronic forms.

Dr. Trenholme had seen marked symptoms of lead poisoning follow the use of acetate of lead in vaginal douches.

Dr. Wm. Gardner related a case similar to that given by Dr. Ross. Intense lead colic was caused by drinking from a soda fountain in the morning.

Dr. Mills said that the number and variety of the cases referred to were very instructive, and brought up some interesting questions. He referred to a case of poisoning from shot boiled in milk, where the symptoms were those of lead poisoning. The patient also suffered for some time from crops of boils one after another. He further remarked that the chemistry of the body could not be measured by that of the laboratory. The conditions under which the chemical reactions occur within the system cannot be even approximately imitated outside the body, because they are quite unknown. He further suggested that perhaps the lead salt, rendered insoluble by the action of therapeutic agents, is picked out by the tissues from the circulation like grains of indigo are. He also raised the question as to whether the colic, anæmia, etc., of plumbism were due to the direct action of the lead or entirely to secondary changes. He favored the latter view.

Dr. Hingston said that some years ago he followed a practice then highly recommended of treating phthisis by large doses of acetate of lead, a half to one drachm three times a day. He found, when accompanied with acetic acid to insure its solution, no toxic effects followed these large doses. He was inclined to the opinion that it was not lead that was toxic, but the particular salt. Observation had shown that the carbonate and chromate were both highly toxic, while the acetate was not so.

Dr. Geo. Ross said he had been induced to try acetate of lead for abdominal aneurism, but he found that small doses (five to ten grains) brought on colic and other toxic symptoms.

Dr. Ruttan, in reply to Dr. Ross, stated that the yellow and green dyes used in printing postage stamps contained chromate of lead, and he had been able to trace several cases to this source. He believed that there was much still to learn regarding the pharmacology of lead salts. A favorite hæmostatic among obstetricians was two-drachm doses of acetate of lead, repeated, if necessary. Excess of acetic acid could not be a preventative, as he knew of several cases of lead poisoning from using vinegar that contained lead dissolved from the glazing of the jar that was used to hold it. In one case there was less than two grains to the fluid ounce of vinegar, yet the colic and other toxic symptoms were well defined. The lead in these cases must have been in the form of acetate in solution.

Dr. Stewart said that where acetate of lead is given in medicinal doses some escape and some are affected; all patients are not equally susceptible to the action of lead. And, again, the toxic effect of the drug occasionally manifests itself by its action on the blood, or may attack the nervous system or the intestinal ganglia. The treatment is generally an alterative one. He thought that iodide of potassium acted as an alterative and not as a chemical antidote to the lead. He regarded the œdema so frequently a marked symptom in these cases to be due to vaso-motor paralysis.

ASSOCIATION OF AMERICAN PHYSICIANS.

The fourth annual meeting was held in the Army Medical Museum and Library, Washington, D. C., September 18, 19 and 20, 1889. The Association was called to order at 10 a.m. by the President, Dr. Francis Minot, of Boston.

The first business was the reading of the President's address, which dealt with the progress of medicine during the last fifty years. He reported the deaths of the following members: Drs. H. D. Schmidt, New Orleans; John C. Dalton, New York (honorary member); Robert Palmer Howard, Montreal; and Edward T. Bruen, Philadelphia.

Dr. C. F. Folsom, of Boston, read a paper on *The Early Stage of General Paralysis*. The author first reported a number of cases illustrating the early stage of the disease, in which the motor disturbances were very slight, and might readily be overlooked and escape detection. The striking loss of muscular control or power, generally considered a part of the disease, was not found until a late period of the

disease. The mental symptoms consist in impairment of a peculiar quality, often so slight as to be made out with difficulty. The disease arises most commonly under prolonged strain, particularly when associated with unaccustomed excesses. At least two-thirds of the general paralytics have had syphilis. The relation of the disease with syphilis is too frequent to be accidental. The disease is, however, not a stage of syphilis, and is not benefitted by specific treatment. The prognosis is probably not so hopeless as it is generally considered to be. The common early treatment is hurtful. Foreign travel is injurious. The only hope of at least partial cure or marked amelioration is in entire mental and physical rest.

Discussion.

Dr. ROBERT T. EDES, of Washington, reported the case of a man suffering now from pronounced general paralysis, in whom the first symptoms of the disease made their appearance some twenty years ago. If the anatomical view of general paralysis is accepted, he did not consider it strange that mental symptoms might precede the motor, depending upon the seat of the lesions.

Dr. S. WEIR MITCHELL, of Philadelphia, was sure that certain cases of general paralysis began most markedly with motor trouble, while others began most decisively with mental conditions. In regard to syphilis he agreed with the author, except that he had seen cases due to syphilitic disease in which cure followed specific treatment. He had also seen cure follow in a small number of cases where the treatment was begun in the early stages, but where the motor disturbance and the mental incapacity were sufficiently marked to render the diagnosis reasonably certain. In all of these cases there had been a total abandonment of all previous pursuits with absolute mental and physical rest. He agreed with the author that foreign travel was often injurious.

Dr. JAMES J. PUTNAM, of Boston, remarked that the fact that syphilis acts in this disease, not by producing a direct lesion, but in an indirect manner, justified us in looking for other causes of degeneration which might act in a similar manner. He asked if the reader had seen any cases in which chronic lead-poisoning was the apparent cause of the general paralysis, and related a case in which the imperfect and slow speech, the imperfect handwriting, and the expression of apathy and indifference, suggested a diagnosis of general paralysis. In this case there was, however, a history of drinking-water contaminated with lead, and there were certain local symptoms indicating lead-poisoning.

Dr. Wm. Pepper, of Philadelphia, believed that he saw these cases from a different standpoint than that of Dr. Folsom. They come to him as cases of dyspepsia, lithæmic disturbance, and the like, and are under his care for some time before symptoms leading to recognition are developed,—sometimes for years before the paretic symptoms appear. He could not regard syphilis as in any way essential in the causation of general paralysis. In regard to the early stage of the disease, there was not one symptom mentioned by Dr. Folsom or described by others as indicating the early stage, which he did not often find in cases of nervous lithæmia. There may be a grouping of these symptoms, or a delicacy on the part of the diagnostician which will enable a finer and finer shade of these differences to be recognized, which does constitute a basis of diagnosis. He thought that general paralysis could be initiated by many disturbing, depressing or irritating causes, and that, in its early stages and slight degrees, it was capable not rarely of being entirely cured. If these cases are permitted to go on, with neglect of hygeine, and with excesses (sexual, alcoholic or business), a notable proportion will end with symptoms of general paralysis.

Dr. C. F. Folsom, of Boston, said, in regard to lead, that while he had seen cases in which this agent had produced symptoms of general paralysis, he had not seen a case in which the terminal symptoms of general paralysis had been produced. As illustrating apparent cure after specific treatment, he referred to a case in which the use of large doses of iodide of potassium apparently produced complete recovery, and the patient returned to his previous business. The symptoms, after several months, reappeared, and have continued to steadily progress. Whether this is the result in all such cases, he was unable to say.

Dr. James Stewart, of Montreal, read a paper on *Tetany*. The details of the following case were referred to: The patient, a male, aged forty, has been troubled during the past eight years with regularly recurring attacks of tetany. He served as a soldier during the American civil war. Suffered at that time and subsequently from chronic dysentery and malarial attacks. For upwards of ten years he has been troubled with diarrhœa. Patient is tall, emaciated and anæmic. The first subjective symptom of his tetany is usually double vision, which is quickly followed by the characteristic contractions of the flexor muscles of the hands. Occasionally the flexor muscles of the fore-arms and the abductors of the arms become spastic, muscles of the face almost constantly suffer, muscles of the lower extremities rarely. The affected muscles are the seats during the attacks

of fibrillary twitching. The attacks often last several days (seven to twelve), unless terminated by the very free use of morphia. The galvanic irritability of the nerves is found to be greatly increased, also the mechanical irritability of both nerve and muscle. Knee jerks exaggerated during attack, absent in intervals. Œdema of the hands and arms, with herpetic eruptions frequently to be seen after particularly severe attacks. The quantity of urine excreted during attacks is usually normal in amount, and contains urea and indican in great excess. Patient has been under observation for more than three years, and it has been noticed during the past two years that he has been getting gradually dull and apathetic. It takes him a long time to answer questions, he complains of general numbness, his face and lips are swollen: symptoms closely resembling those seen in myxœdema.

Tetany may be divided into three varieties: (1) Epidemic or "rheumatic" tetany, common in Europe, but rare in America. This course is acute and favorable. (2) Tetany from exhausting causes, as lactation, diarrhœa, etc. Course is chronic and favorable. (3) Tetany from removal of the thyroid glands. Course generally is usually either quickly fatal or chronic and incurable. (4) A form of tetany occurring in cases of dilatation of the stomach. Very fatal. Infantile tetany is excluded from above division, as what is so frequently called tetany in infants is not that disease. No doubt true tetany may occur in childhood.

Experimental Tetany.—When the thyroid gland is removed from cats, dogs or monkeys, a condition very similar to the typical tetany of the human subject is observed, namely, fibrillary tremors and intermittent spasmodic contractions. Death usually follows in a week, and no changes can be found to adequately account for it. The fact that there is a great increase in the electric irritability of the nerves after the removal of the thyroid glands is strong evidence of the similarity of the tetany of man and animals. Of the many forms of muscular contractions seen in man, in none, with perhaps the exception of the cholera, do we find any marked increase of the electric irritability of the nerves and muscles.

Morbid Anatomy.—No changes that in any way can be considered characteristic have been described.

Nature of.—All recent observers tend to confirm the conclusion of Schiff that the tetany following removal of the thyroid gland is directly due to the loss of the gland, and that the thyroid gland in some way has a direct influence over the nutrition of the nervous system.

It is difficult to explain how causes so diverse in their operation, as "rheumatic" influences, diarrhœa, pregnancy,

lactation and removal of the thyroid, can induce similar symptoms. It appears probable that impoverishment of the nerve centres is one of the main factors in its production.

Dr. JOHN T. CARPENTER, of Pottsville, Pa., read a paper on *Tetany and a New Principle of its Pathology* The author defined tetany as a nervous disorder accompanied by tetanic spasms of an intermittent character, which may extend from the extremities to the muscles of the jaw, and is reproduced during the periods of intermission at will by pressure on the track of the affected nerve trunk or over the blood vessels obstructing the circulation. An historical view of the disease was given. Tetany was regarded, not as a special disease, but as a sequel of precedent phenomena only. The affection was regarded as the result of septic absorption. The diminution of cases of tetany coincident with the successful treatment and the prevention of septic poisoning was regarded as an argument in favor of the connection between septicæmia and tetany. Cases illustrating this view were cited. The views previously held in regard to the pathology of tetany were discussed and considered.

Discussion.

Dr. FRANCIS P. KINNICUTT, of New York: I have seen but two cases of intermittent tetany, both occurring in patients with dilatation of the stomach. In one the dilatation was due to pyloric stricture resulting from cancer. In the other there was non-malignant stricture. In both of these cases the conditions were favorable to absorption of poisonous matter.

Dr. F. T. MILES, of Baltimore, reported the case of a young woman aged twenty-two years. She had suffered from six to eight years from dilatation of the stomach. She had vomited acid matters but never offensive. She had several times had numbness of fingers and toes. She suffered her first attack of tetany twenty-four hours before her death. In this case the stomach had never been washed out.

Dr. A. JACOBI, of New York, had been struck with the stress laid by the readers upon sepsis as the cause of tetany. In one of the cases reported by Dr. Stewart, which he thought was due to the absorption of putrid material, the stomach was twisted; and Dr. Jacobi suggested that the intermittent contracture was due to nervous influence resulting from the twisting rather than to absorption. He did not doubt that there were cases in which septic absorption produced such symptoms; but when we recall the fact that the contracture is temporary, we must conclude that the influences given rise to that attack were also temporary. Many of these cases are, I think, the result of nervous irritation. In some of these cases reported I should attribute the condition to anæmia.

(*To be continued.*)

THE

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ANTIPYRINE IN WHOOPING COUGH.

During the past few months a great deal has been written about the alleged efficacy of antipyrine in the treatment of whooping cough. From a careful perusal of a number of these articles, we think an unbiased observer must be led to the conclusion that this treatment is not only practically inoperative, but is attended by greater or less dangers.

In Monti's Klinik, in Vienna, twenty-eight cases were carefully treated with antipyrine, in doses ranging between five and thirty grains in the 24 hours, with an entirely negative result; the average duration of the twenty-eight cases being 50½ days. Neither the intensity or the number of paroxysms were in any way influenced. Baginsky records a very similar experience. Tuczek treated his own child, a boy aged four, who was suffering from whooping cough, with 6 grains of antipyrine 3 times daily. Towards the end of the third week the little patient became soporose, had violent convulsive attacks resembling cortical epilepsy. The heart's action was weak and frequent. The pupils were dilated and the temperature subnormal. A maculous exanthem made its appearance. During the whole period of treatment the urine contained acetone. Tuczek attributes all the untoward symptoms to the antipyrine. The case certainly teaches the valuable lesson that antipyrine should always be given with caution, especially to children, when a continuous action is desired. From its direct influence on the albuminous constitutents of the blood, its prolonged use is certainly attended with considerable danger.

BANFF AS A HEALTH RESORT.

It is unfortunate that no paper was read at the recent meeting on the virtues of the Banff springs and air, in the treatment of disease. That this place is destined within a short period to become an important health resort appeared to be the almost universal verdict of the numerous practitioners present at the meeting. Banff air and Banff sulphur water are, however, powerful for evil as well as good, and until the Government appoints a physician who is thoroughly conversant with modern balneotherapy, the evils are as likely as not to predominate. A motion was introduced at the late meeting with the object of attaining this end, but it was withdrawn, owing to the opposition of a few men who certainly should have known better. We have heard of numerous instances where great and irreparable mischief was caused by the too free use of the hot sulphur bath. No one who understands the profound functional changes induced by the frequent use of such water, but will at once see the advisability and urgent necessity there is for scientific direction, and until this is done, practitioners from a distance should exercise the greatest possible care in advising anyone to this resort. It is impossible for the family physician, even were he competent, to so instruct his patient in all the numerous details of hygienic and dietetic treatment which should be carried out at such places, in order that the fullest benefit and the least evil should result.

THE CLIMATE OF SOUTHERN ALBERTA.

The important paper on the Climate of Southern Alberta, by Dr. Kennedy of Fort McLeod, which we have great pleasure in publishing, deserves the serious attention of all Canadian practitioners. As yet, unfortunately, no exact observations of a general character have been made on the climatic conditions of the North-West. Dr. Kennedy, from his own observations, is able to show however the adaptability of this region as a climatic resort for many diseases, especially for the earlier stages of pulmonary tuberculosis. Dr. Kennedy well lays stress on the importance of a dry, bracing, clear atmosphere in the treatment of these cases. Alberta fulfils these necessary conditions ap-

parently as well as any climate on the continent. The unsuitability of the climate for neurasthenic patients is noted. Several instances came under our own observation where the truth of this assertion was brought out.

The comparative rarity of typhoid fever is what we should naturally expect, and if ranchmen understood better the value of cleanliness it would be still rarer. If the microscope was used more frequently in the diagnosis of fever, we would hear less about typo-malarial fever all over the American continent. It has been well said by Osler that "the characteristic changes in malaria are as distinctly determined in the blood as are those of tuberculosis of the lungs in the sputa." Laveran's researches on the blood in malarial fever have now been confirmed from so many sources, that we may say that by means of a microscope we can usually determine in a very few minutes whether we have to do with malarial poisoning or not.

THE INDEX CATALOGUE.

The tenth volume of the Index Catalogue, recently published, contains references from the letters O to Pfutsch. It is hardly necessary to add that the same care and thoroughness characterize this volume as the previous issues. It is impossible to overestimate the usefulness of the great work so ably conducted by Dr. Billings. The present volume includes 7,658 author titles, representing 2,905 volumes and 7,282 pamphlets. It also includes 14,265 subject-titles of separate books and pamphlets, and 29,421 titles of articles in periodicals.

Medical Items.

MEDICAL DEGREES ACQUIRED IN THE UNITED STATES WITH ALARMING FACILITY.

The *North American Review* for October contains a very instructive, if somewhat alarming, article by Drs. Eggleston, Flint and Doormus, in which, under the title "The Doors Open to Quackery," the writers discuss the present methods by which professors of the art of healing are manufactured in America, and turned loose upon a luckless community. Dr. Eggleston

says that there are "not a dozen American medical colleges out of 117 that would be tolerated for a moment in any country that pretends to be civilized;" and this despite the efforts of the best men in the medical profession, which are openly combatted or secretly thwarted by quacks, charlatans and low-class colleges. It clearly is not for want of degree-granting colleges that the American doctor is less informed than his brethren in other countries, for it seems that taking the average of all other countries as a fair average, there are schools enough in America to educate medical men for 300,000,000 people, but in most of them the standards for matriculation and graduation are put down so low as to make an American diploma almost a reproach in other countries. It will be remembered that Dr. Rauch, of the Illinois Board of Health, visited Montreal during the small-pox epidemic that raged in this city some years ago. Dr. Rauch was able to speak in terms of high commendation of the general sanitary regulations of Montreal, and the means it has at command for coping with zymotic disease. Dr. Rauch, it seems, put up a young journalist of Springfield, Ill., to try for a medical diploma from the Bellevue Medical College, Boston, Mass., the president of which was a rabid anti-vaccinationist. The diploma was granted, and the reader will be interested by the perusal of the thesis on the strength of which this license to kill was issued.

VACINATION.

The Grate increase of Disease in thease Late years Calls for Explanation Undoubtedly the Doctors of this day is to blame for very much of it. But more than anything Else in my opinion is the Inseartion into the Pure Blood and Vitle fluid of our Inosent offspring of that vile Diseas of the Animals cowpox So grate has the Curse Became that Privelidges of School Edication is Denide in this and Many other States to those who wisely Refuse to Submit to this Curse that is just a Peace of the Nonsensikal Medical teachings of the Day when Theory and Imagination Rool instead of Practical Expearance and which keaps its Studends in close Confinement a Big part of three or four years to hear the Nonsens which is thear peddeld out to them consumtion Siffles and Skin Disease Runn Wild among the People This calls for a Strong kick on the Part of our noble Proffession which should seak to Build upp the Health and Streangth of the People instedd of Planting the Seeds of Diseas in them To Prove that Vacination Don't do no good we nead ondly to say that Thear has Been More Small Pox in this Place in the last

year than thear was in the last Nineteen or Twenty year and more deaths from it I neadnt say no more About a Thing that is so Plane to Eny thinking Man or Woman Eather we should all Band ourselves togather in all Parts of the Country to Shut off this Cursed Practiss the people Should be tought Better But the Days is Cuming when Enlightenment will take the Place of Ignoranse and Prejudice and when that Time Comes these fannatics who live by Scaring People will have to step aside and Vacination will not be Heard of any more. (*Montreal Star.*)

—George C. Stephen, M.D. (McGill '87), after a course of study in Vienna, has received the L.R.C.P. Lond., and L.S.A. Eng. He has begun practice at 88 Sutherland Avenue, London, Eng.

—Through the great liberality of the late Thomas Workman of Montreal, McGill University is to receive the sum of $120,000, to be devoted to extending and perfecting the facilities for teaching Applied Science.

—The seventeenth annual meeting of the American Public Health Association will be held in the hall of the Brooklyn Institute, Washington and Concord streets, Brooklyn, N.Y., Oct. 22, 23, 24 and 25. Addresses of welcome will be delivered by Hon. Alfred C. Chapin, Mayor, on behalf of the city, and by Alexander Hutchins, M.D., on behalf of the medical profession. The following topics have been selected for consideration at the meeting:—

1. The Causes and Prevention of Infant Mortality.

2. Railway Sanitation.—(*a*) Heating and ventilation of railway passenger coaches; (*b*) water-supply, water-closets, etc.; (*c*) carrying passengers infected with communicable diseases.

3. Steamship Sanitation. 4. Methods of Scientific Cooking.

5. Yellow Fever.—(*a*) The unprotected avenues through which yellow fever is liable to be brought into the United States; (*b*) the sanitary requirements necessary to render a town or city proof against an epidemic of yellow fever; (*c*) the course to be taken by local health authorities upon the outbreak of yellow fever.

6. The Prevention and Restriction of Tuberculosis in Man.

7. Methods of Prevention of Diphtheria, with Results of such Methods.

8. How far should Health Authorities be permitted to apply known Preventative Measures for the Control of Diphtheria.

9. Compulsory Vaccination.

10. Sanitation of Asylums, Prisons, Jails, and other Eleemosynary Institutions.