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MODERN DIFFICULTIES IN BACTERIOLOGICAL
DIAGNOSIS.*

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At a time when in the popular estimation bacteriology is showing itself to be of greater and ever greater import not only in matters of health and disease, but also in the very commonest commercial relations of every-day life, and when the world in general seems to be becoming rapidly convinced that the microbe is at the bottom of everything; when, in fact, bacteriology has already made an ample apology for its existence, it is, I think, well that occasionally one of us, not from a sceptical spirit, but because of the very strength of his belief in the importance of his science, more especially in its relationship to public health, should pause, and should, as a bacteriologist, point out that matters are not quite so settled, that in fact everything is not quite so surely established as in the opinion of very many it would seem to be.

Taking into account the extraordinarily large accumulation of facts that we now have concerning the bacteria, it is wonderful to think that to all intents and purposes the advance of bacteriology has been synchronous with the

* A communication presented to the Montreal meeting of the American Public Health Association, September, 1894.

scientific lifetime of so young a man as I am. There is scarce one present here but can remember the days of ample doubt as to the pathogenic properties of any of the bacteria; scarce one but can remember the time when Pasteur's wonderful series of observations upon anthrax and the bacillus of anthrax hardly received credence. From that period one saw passing days of gradually lessening doubt, until Koch's wonderful investigations into the bacillus of tuberculosis made men rush to the other extreme, made them absolutely sure that whether the microbe was discovered or no, specific microbe exists for every febrile disease, and for a great number of non-febrile diseases. Now, at the present time, there is among bacteriologists, among those deeply read and acquainted with the subject, as it were a backward swing of the pendulum, to a certain extent. What I mean is that, largely through the teaching of the German school of bacteriologists we had, but a few years ago, come to look upon every disease in which a definite microbe had been discovered, as being due to the presence within the organism of some microbe whose characteristics were absolutely sharply-defined. There was, for example, an absolutely specific microbe of cholera, possessing constant properties, constant peculiarities of growth on various media and constant chemical reactions of part of its products, with constant development of special ferments. There was a sharply-defined diplococcus of pneumonia, a bacillus of typhoid that could not be confounded with any other microbe. And so on with regard to all the important diseases whose germ has been discovered.

Well, I do not wish now to say that this is false; all that I wish to do in this short paper is to impress upon you the advisability of crying "Halt" before we unreservedly stand to this belief, and it is of especial importance to the members of this Association that the advisability of deliberating long and carefully should be kept in mind: inasmuch as it is just in relation to some of the most wide-

spread and epidemical microbes that we have at the present moment the greatest difficulty in regard to the exact bacteriological diagnosis. That these microbes, by their presence and growth in the system, causes disease no sane [and competent] bacteriologist has the smallest doubt, but we have before us in relation to typhoid, cholera and diphtheria, not to mention other cases, a series of problems that are as yet unsettled. The right solution of these problems is, from the point of view of the public health officer, of vital importance. As yet I cannot regard these problems as having been fully solved or nearly solved; and in this view I believe I shall have the support of my fellow-bacteriologists.

The main problem before us at the present time is in relation to the determination of species. Are we to conclude that there are, it may be, several closely allied species which are capable of inducing the main symptoms of any given disease, or are we to regard the several slightly divergent forms which may be gained from different cases of what clinically we recognize as a single disease as but varieties or races of one species which have obtained more or less permanent characters setting them off from the type? What, in short, are we to regard as the limits of variability? Apart from a constant recurrence to experimental inoculation (which is not always possible) how are we surely to recognize the pathogenic nature of the form we isolate from cases of disease?

Take, for instance, what is found in connection with typhoid; no one in our days, who has made actual observations, has the slightest doubt as to the cause of that disease; every one is agreed that it is due to a bacillus, having, on the whole, well defined characters, if once we obtain the bacillus from the body of a patient in a fairly early stage of the disease. No one, again, doubts but that typhoid spreads through the water, through contamination of the water supply, but now here is the difficulty. If we examine, in the first place, the water supply supposed to be contaminated, in case after case we may be successful in

discovering on suitable media of growth colonies, or growths, which closely correspond to typhoid bacilli ; or, again, if we examine the stools of the patient supposed to be affected by the disease, there again we may, among crowds of colonies presenting but a slight divergence from the characters usually regarded as typical of the bacillus of enteric fever, find some few colonies only distinguishable by the most delicate tests, but still not quite conforming to the type, and the question is, are those colonies truly those of the typhoid bacillus, or do they represent some closely allied species ? For myself I scarcely see how it is possible to give a positive answer in either of these cases. It is true that in other diseases the point can be settled by experimental inoculation into animals ; in enteric fever, however, unless one is successful in gaining cultures of the microbe direct from the human organism from a typical case of the disease and employing them while they are still young, inoculation into animals is of no effect. Then there is another side to the question. Suppose that one repeats the series of experiments made by Babes, and carefully examines the peculiarities of the growths obtained from different cases of undoubted typhoid at different periods of the disease, then it is possible by these means to separate out quite a large number of cultures, whose general properties, it is true, correspond with those of the typical *Bacillus Typhi* of the text-books, but which at the same time in minuter characters differ from the type and from each other to quite the same extent as do the cultures of doubtful import found in supposed contaminated water and in the fæces of suspected cases. I do not mean to say here that in the majority of cases of typhoid one comes across any marked divergences from the type, but in a large number of doubtful cases it is that one is most likely to have, and that one most frequently does have these slight cultural divergences, and the question is what is the conclusion at which we are to arrive. Are we dealing with varieties of the bacillus of typhoid, or are these wholly different and non-pathogenic species ? What is to be our diagnosis ?

Or, take again cholera? Every one, I suppose, is acquainted with Cunningham's remarkable declaration that out of sixteen cases of cholera at Calcutta, the home of the disease, he was able to isolate no less than ten different spirilla resembling each other on the whole, but nevertheless in his belief presenting such clear and constant distinctions that he classed them not as varieties but as species.* Thanks to Professor Welch, of the Johns Hopkins University, I had last year a series of more than half a dozen growths taken from patients suffering from undoubted cholera, who had come from Europe in different ships to the port of New York during the last cholera epidemic. These cultures had been isolated by that able bacteriologist, Dr. Dunham, and certainly each separate case presented some little difference either in rapidity of growth, in amount of pigmentation, in morphological characters of the spirilla separating them off from Koch's type. Case after case might be recorded of these divergences on the part of growths of the cholera spirilla from different quarters, the most noticeable being those recorded by Sanarelli and by Metchnikoff in connection with spirilla taken from various cases in the neighbourhood of Paris. The difference between these various growths are as great as are those between Koch's typical spirilla and the spirilla obtained from water in regions where no true cholera has occurred. Only quite recently, for instance, an epidemic not of cholera but of diarrhoea has been described as occurring at Lisbon, in which spirilla closely resembling the true spirillum of cholera has been isolated. Here again, what is the conclusion that has to be drawn? How is the health officer at any point of landing to give an absolutely certain bacteriological diagnosis? Again, take diphtheria. Here we are introduced to a slight modification of the problem before us. In the case of diphtheria, as in that of

* It is true that at Berlin they have proved with success that a considerable number of these so-called species of Cunningham are only races of the cholera-spirillum—nevertheless case after case is being published in which spirilla isolated from cases of this disease do not accord in their characteristics with Koch's narrow limitations of the peculiarities of the cholera-spirillum.

suppurative disease (pyæmia) and of pneumonia, not to mention yet other examples, that we are dealing with a disease due to a microbe of usual pathogenic properties, there cannot, in a typical case, be the slightest doubt, yet it is possible very frequently to obtain from the healthy individual, either from the skin or again from the pharynx and mouth, cultures of a form morphologically and biologically undistinguishable, from the virulent microbes of the above mentioned disease.

This class of cases, it is true, is not quite so difficult to deal with as those previously mentioned, because while morphologically the saprophytic forms are undistinguishable from the pathogenic, a clear distinction can be gained by experimental inoculation. Animals will take the disease and die in the course of a few hours if inoculated with the pathogenic form, and will resist inoculation or die only after many days if inoculated with the saprophytic form, and yet it must be confessed that from a diagnostic point of view this morphological likeness does introduce the grave difficulty that in order to arrive at a sure diagnosis, experimental inoculation must be performed and the bacteriologist must sacrifice a very large number of animals. But even this experimental procedure only determines the pathogenic qualities of the isolated microbes; it does not wholly settle the question of species. We know both by experiment and study of growths obtained from various cases that pathogenicity is a variable quantity, just as are ferment production and optimum temperature of growth.

Of course I must acknowledge that in speaking thus I am looking and making you look at one aspect of the case, but I am doing this purposely, because unless this aspect be duly contemplated, there is a danger of wholesale and uncertain diagnoses being made, and if bacteriology is to be the indispensable adjunct to departments of public health, it is urgently necessary that during the next few years, while the usefulness of bacteriology in diagnosis is under trial, the very greatest care be taken to preclude

hasty and incorrect diagnoses. I acknowledge freely, for example, that even without experimental inoculation one is generally able to determine by bacteriological methods whether a given case is or is not one of diphtheria ; where the true disease exists, there the number of colonies developing at the end of twelve to twenty hours is relatively enormous ; whereas, in a case where the bacillus present is not pathogenic the number present upon the surface of the medium is very few.

But making all acknowledgments of this nature that can be made, I still believe that what I say is worthy of earnest consideration and constant remembrance on the part of the bacteriologist. Not until some absolute method for distinguishing between various species of bacteria has been elaborated, will bacteriologists be able to make an absolute diagnosis in this most important class of doubtful and suspected cases. And for my own part I am inclined to believe that no such method will ever be devised. What I say may, to some at least, appear heretical, nevertheless it is my opinion, and I find that it is the opinion of most of the bacteriologists whom I have met that with increasing knowledge there is increasing difficulty in sharply defining the various species of bacteria. That this should be so seems to me to be only natural, for what are bacteria but the very simplest forms of life with which we are acquainted, of shape so simple that throughout the whole of the group we have but a passage from sphere to straight rodlet, to curved rodlet, to spirillum, forms without sex and multiplying in the main by fission or division.

As Weissman has remarked with regard to a similar simple form, suppose that an amœba attached to some small particle in a current gains or protects itself by a thickening of its ectoderm along the surface exposed to the current, then if that amœba divides, each of the two amœbæ will possess the same characteristic of the slightly thickened ectoderm, and remaining in the same region or under the same conditions, all the descendants of this one amœba

must inevitably possess this same characteristic, and in this way a special race of amoebæ must tend to be produced. So it is with the bacteria, slight alterations of environment must affect, and, it has been proved experimentally, undoubtedly do affect the characters of the microbes subjected to those changes, and there is an absence of that beneficial effect of sexual fusion and reproduction to preserve the mean characters of the species. Given any one form of microbe it can only retain its special characters over any long period of time by retaining a like environment, and thus it is that we must expect to find not so much sharply-defined species of pathogenic microbes, as fairly well defined groups of pathogenic microbes presenting slight divergences either in virulence or in morphological characters, or in power of fermentation or in all of these conditions, the microbe varying to a slight extent according to variations in environment. In cases of disease that are what is termed most typical there we must expect to find and to isolate the microbe most nearly presenting typical characters. In our doubtful and difficult cases we must equally expect to find microbes departing from the type. It may be that in the individual showing atypical symptoms, some peculiarity in his system, some increased or lessened power of resistance to the inroad of the bacteria, may bring about a modification of the microbe. It may be on the other hand that through unusual environment the microbes have become modified prior to their entry into the system, and thus rendered capable of producing only a modified disease. Probably both of these are factors. In either case it appears to me that the bacteriologist of the future will not so much recognize sharply-defined types as he will group together under broad headings, varieties or races of bacteria having common characters of growth and somewhat similar action upon the organism; while the officer of public health, meeting with a member of one of these groups, associated with a not perfectly typical case of disease, will treat it as suspicious, and will treat a case from which is isolated, not necessarily as one of clearly-

defined disease, but as one worthy of detention and observation; that is to say, in the future it should not be necessary to make an absolute and possibly incorrect diagnosis, but it will be deemed justifiable to simply state that the case is suspicious, inasmuch as the bacteriological evidence is suspicious. As to this grouping of bacteria, there is already a fair consensus of opinion with regard to certain pathogenic forms; for example, we recognize broadly a group of micrococci producing suppuration, of bacilli causing the development of tuberculosis in different animals, of spirilla inducing choleric diarrhoea, of micro-bacilli of acute septicæmia in various genera of animals. But we still know very little about the relationship of the members of the various groups.

It has seemed to Dr. Wyatt Johnston and to myself, as well as to many other bacteriologists, that the best field for establishing the laws of grouping is to be found in a study of the innumerable slightly varying forms discoverable in ordinary water. From the very wealth of the bacterial flora in water, the subject of these bacteria in the water supply is in an absolutely chaotic state, so chaotic that now-a-days one can scarce name and describe a new species, for fear lest the slightly different characters given by some other observer in some other part of the world, as those of a species which he has isolated, be that of some variety of the same species. It has seemed to us that the only way of emerging out of this chaos is for a series of laboratories to work out each one of the group of microbes; one laboratory, for instance, taking those producing green pigmentation; another the red pigment bacteria; another the *Bacillus Coli Communis* with all its varieties in contaminated water. By this means, working out a very large number of cultures isolated from regions all over the continent, the points of resemblance and of divergence of these cultures will best be determined, and as I say from the study of a large number of closely-allied forms, it will be that the laws of grouping can be determined; in fact only

by this method can we establish some guidance to lead us out of our present difficulties. The scheme, it is true, is a large one and may possibly be found impracticable ; nevertheless we deem it worthy to make the attempt to gain the co-operation of others, and we hope that before long, with this co-operation of other laboratories throughout America, some good work may be initiated in the direction here indicated.

DIPHThERIA AND DIPThERITIC PARALYSIS AND THEIR TREATMENT.

By S. P. COOKE, M. D., OTTAWA.

Diphtheria, so-called from the Greek word *διφθέραι*, leather, or a skin, is an infectious and contagious disease, characterized by a fibrinous exudate, usually upon a mucous surface or upon the skin when deprived of its epidermis. It is due to the presence and action of bacilli at the seat of infection, and is accompanied by constitutional disturbances and nervous symptoms due to the absorption into the circulation of a virulent poison—toxalbumin. The presence of the Klebs-Löffler bacillus distinguishes it from other forms of pseudo-membranous inflammation.

According to the latest researches the membrane appears in three different forms, any of which may be present in either a mild or severe case.

1. A membrane lying upon the mucous surface of the pharynx and removed without much (if any) injury to the underlying parts.

2. Membrane invading the epithelium and upper layer of the mucous membrane.

3. White or gray infiltration of the deeper structures, sometimes ending in necrosis.

Clinically cases of diphtheria may be classified as follows, according to its frequency of occurrence in different situations, viz.: 1, pharyngeal; 2, nasal; 3, laryngeal; 4, ocular; 5, cutaneous; 6, aural. It also occurs in the vagina and anus.

Diphtheria was known to the Ancients and has been described under many names, but Paul Bretonneau, of Tours, in France, in the year 1826, first called it *diphtherite* and pointed out the true pathology of the disease. In 1855 he substituted the name *diphtherie* for diphtherite. The name was almost unknown in English medical literature till 1859, when the Syden-

* Read before the Ottawa Clinical Society, June 1894.

ham Society published a volume of memoirs translated from the French of Bretonneau and others ; the name slightly modified has now been accepted by all European languages.

As a schoolboy in this city about 34 years ago I remember a young and prominent barrister being attacked with a malignant form of sore throat, which proved to be diphtheria and destroyed his life. The disease did not spread in the city to any extent, but in the surrounding country, especially up and down the valley of the Ottawa, the fatality was considerable.

Diphtheria is highly contagious ; it has its favourite localities—localities in which it is always endemic and frequently epidemic. It is most common between the ages of two and ten years, but may attack the new-born infant or those infirm with age. It is not hereditary, but certain individuals and families seem to have a special aptitude for receiving and developing the poison. As an example permit me to cite the record of a family who lost a child of the disease in Paris, a sister two years after died in Florence, and about the same time an elder brother perished from the same affection at the Cape of Good Hope. And the mother of these three children nearly succumbed to this affection in childhood herself.

I can recall to mind now in my own limited experience at least three families who have lost nearly all their offspring at different times from this affection.

One family residing on the Gatineau road, the father a farmer by occupation, having lost one child after another as they approached the second year, at my suggestion built a new house on another part of his property, and instead of using the water from a creek which flowed past the house he dug a well, but the next child died within a year of its birth.

It was endemic in Egypt and Syria, receiving the names of Egyptian and Syrian ulcer in the Homeric period 1000 years before Christ. In England in the epidemic of 1858-9 it caused the death of over 20,000 people. The late Dr. Fothergill says children and young people are more prone to it than adults ; a greater number of girls have it than boys, more women than men, and the weakly of either sex are more likely

to suffer than the strong and vigorous. Climate and season do not influence it ; it presents the same features the world over. The period of incubation is from 2 to 3 days, but even 14 days may elapse from the exposure to the first appearance of the disease.

Pharyngeal diphtheria is the commonest form of the disease, 19 cases out of 20 commence in this situation.

The early symptoms of this disease are difficult to classify ; usually we are called to see a child who has perhaps vomited its last meal, is slightly feverish and listless, has perhaps had a convulsion, is pale and pinched looking ; then on opening the mouth we find more or less decided redness, with swelling of one or both tonsils ; soon afterwards we see a sharply defined whitish patch, perhaps on the tonsils or posterior wall of the pharynx ; it resembles at first coagulated mucus, it is semi-transparent, grows concrete and thick and very soon reaches a membranous consistence.

The majority of text-books teach us that any attempt at detaching this membrane will leave a bleeding surface. From personal experience I can safely say that this does not always occur. I have frequently removed a diphtheritic membrane without causing any hæmorrhage. Trousseau maintains that by careful manipulation there is not the slightest oozing of blood, and that it can, moreover, be shown by the aid of the microscope that on the surface which adhered to the mucous membrane the epithelium remains with its vibratory cilæ intact.

The disease may extend from the pharynx upwards to the nose, lachrymal ducts and eustachian tubes, and downwards involving the trachea and its divisions. Almost invariably the lymphatic glands at the angle of the jaw corresponding with the swollen tonsil are turgid. This symptom is of paramount importance, as in ordinary membranous sore throat the glandular engorgement is entirely absent, or if present is much less marked than in pharyngeal diphtheria.

When the disease is left to itself it generally remains for five or six days confined to the pharynx, the older the subject the longer is the disease in becoming developed. False membranes

form more rapidly in children than adults, from the greater plasticity of the blood in the former. In children between three and six years of age both tonsils and the posterior part of the pharynx may be coated with diphtheritic membrane in from 36 to 48 hours, whereas in adults and old people from five to six days may elapse before all these parts are invaded.

According to Trousseau the membrane grows from day to day by the addition of new layers which form below those first deposited; the layers assume a stratified arrangement, those at the surface becoming soft and easily torn, and are altered in colour by food and medicine taken by the patient, by matters vomited, by oozing of blood from the pharynx or posterior nares; become grayish or blackish so as to resemble a gangrenous slough, and exhale a disgustingly foetid odour, but the detritus being removed the mucous membrane appears red, scarcely excoriated and certainly presenting no trace whatever of gangrene. This great clinical teacher only met with three cases of gangrene in his whole career.

Pharyngeal diphtheria sometimes invades the œsophagus and even proceeds to the cardiac orifice of the stomach, but usually invades the larynx and trachea, causing the very fatal affection known as diphtheritic croup.

In the case of a married lady I attended last summer with pharyngeal diphtheria the prostration was extreme and vomiting for 24 hours almost uncontrolable. I remained all night at the bedside of this patient, constantly fighting the invisible enemy, and on the third day, when all membrane had disappeared from the throat, she was attacked with severe abdominal pain, became very pale and symptoms of collapse were ushered in. She passed from the bowels a large quantity of blood, but thanks to ergot, turpentine and whiskey she rallied and is well to day.

Nasal diphtheria may be either primary or secondary, but usually extends from the pharynx. First of all a redness appears at the orifice of the nostrils, analagous to that observed in persons suffering from coryza. Even slight coryza supervening in diphtheria is to be regarded as a serious occurrence, for it shows that the specific inflammation has reached the nasal

fossæ. The cervical glands soon become involved as the lymphatics from the nose empty into them, there is an increase in the secretion from the nostrils, the patient blows his nose frequently, the mucus secreted is mixed with minute quantities of blood, and there are generally attacks of epistaxis; within 24 or 48 hours there will be a profuse flow of sanious ichor and the lining of the nostrils is covered with false membrane; there is also present lachrymation, an almost never-failing symptom; it is caused by obstruction of the lachrymal passages from tumefaction of their mucous lining. Sometimes the false membrane reaches the eye from the nose. Notwithstanding, with the mildness of the general symptoms life is always in serious jeopardy when there is much glandular engorgement. This glandular turgidity, says Trousseau, is a symptom redolent of malignity, and he says there is no occurrence so alarming as the extension of the disease to the olfactory mucous membrane. Of 20 persons attacked with nasal diphtheria 19 die. Bleeding from the nose often precedes the formation of false membrane, and these bleedings constitute an important warning of the coming of plastic exudation. Epistaxis must always be regarded as a most serious symptom. Great blanching of the skin is a constant accompaniment of this form of diphtheria; it is a sign of the cachectic state into which the patient has fallen. There is a dislike for food both in children and adults. The gallop heart rhythm, indicating severe heart failure, is frequently present even before the pulse becomes markedly quickened; it is supposed to be caused by the ventricles not contracting at the same time.

As the case goes on, the surface becomes cold, there is either extreme restlessness or an ominous stillness supervenes and, as I have seen upon at least three occasions, syncope may occur; once in a boy twelve years old wishing to empty his bladder, while in the act fell forward against the bed a corpse, and two younger patients die under similar circumstances.

Laryngeal diphtheria may be either primary or secondary; the latter is the commonest form. It is then an extension downwards from the nose or pharynx; its propagation to the

larynx was known long ago. Arctæus speaks of it as "ulcera pestifera" in the 17th century; the Spaniards called it garrotillo; the Americans suffocative sore throat at the close of the last century, and it is at present known to us by the Scottish name of croup—diphtheritic croup.

The prominent symptoms of croup are too well known to all of us for me to trouble you with any details. A short time after the invasion of the trachea difficulty of breathing comes on, it occurs earlier in children than adults. Sometimes, although the laryngeal lesion continues, says Trousseau, and although there is a permanent mechanical obstacle to the passage of air, and although the false membrane remains adherent to the vocal cords, the difficulty of breathing is intermittent. The patient may have several fits of dyspnoea during the day, proceeding even to suffocation. Bretonneau says the intermissions belong to a numerous class of pathological phenomena; he further says, is not the pain of cancer, stone in the bladder and other diseases intermittent, although their cause is permanent? It happens sometimes that in a paroxysm of coughing the larynx is suddenly cleared. I have only seen this occur once in my 25 years practice.

Dr. Peter says this expulsion of the false membrane may lead to a spontaneous cure, but usually it follows a downward course to the ramification of the bronchial tubes, and it does so with great rapidity; in four days a considerable surface of the bronchial mucous membrane may be coated with diphtheritic deposit and it is generally between the second and fourth days inclusive that the bronchi are invaded, if they are to be invaded at all.

Ocular diphtheria usually advances from the nasal fossæ to the eyelids. The author I quoted a moment ago says, at first the attack resembles simple catarrhal inflammation, but in a few hours symptoms come on like those in purulent ophthalmia, but the presence of the plastic exudation makes the diagnosis clear. Sometimes the cornea is destroyed and the eye lost; it is generally of a malignant type and fatal. Diphtheria may attack the mucous membrane of the vagina and of the anus. I have

seen but one case, in a young woman about 20 years of age ; there was pharyngeal diphtheria in the house.

Cutaneous diphtheria may manifest itself upon any part of the body which has been deprived of its epidermis, therefore great care should be taken to avoid blistering, the application of leeches and to cauterize thoroughly any solution of continuity.

Aural diphtheria usually extends up the eustachian tubes and is not common.

To conclude this part of my subject allow me to read you a few general observations upon some special symptoms and the nature of this dread disease.

Trousseau has described at great length and very minutely an epidemic of diphtheria of the mouth which broke out in a garrison at Tours in France. Unlike other forms of diphtheria it often remained stationary for months, seldom attacking nursing children. I have already made this paper too long, but would refer you to Trousseau's *Clinical Medicin*, second volume, for an account of this disease.

Whatever manifestations and whatever general forms diphtheria may assume, it is always in its essential nature the same disease. The diversity of aspect presented by the local affections depends solely upon the diversity in the nature of the tissues in which the morbid action shows itself. The different manifestations all originate in one sole cause ; it is not inoculable from man to man.

The alteration which takes place in the blood was first pointed out by Dr. Millard in 1858. The blood becomes brownish, the colour of prune juice or liquorice ; it stains the fingers ; the blood forms soft clots and the arteries, instead of being found empty after death, contain nearly as much blood as the veins.

Albumen occurs in the urine in about one-third of the cases, but it is also found in other infectious specific troubles ; it was first noticed in diphtheria by Dr. Wade, of Birmingham.

The striking paleness of the skin in diphtheria has, I have no doubt, been frequently noticed by all present. It is due, no doubt, to the weak circulation and, I think, to the general sepsis of the system.

The absence of knee-jerk noted by Dr. MacDonnell, of Montreal, is also a symptom of diphtheria; but, gentlemen, I think you will agree with me in saying that by careful observation of general prominent symptoms we can always be certain of our diagnosis without being too scientific. In private practice parents, as a rule, do not look favourably upon too much handling of young children, and here I may state in this connection that we should always use very gentle means in examining diphtheritic throats in children, as death has been known to follow rough handling on more than one occasion.

Loeffler says four weeks should elapse from the beginning of the attack until children return to school, but each case must be judged upon its own merits; the only safe way is to ascertain the absence of bacteria, see that all clothing has been thoroughly disinfected, and the child perfectly clean. If a nursing infant contracts diphtheria it should be weaned.

Welehr says that although diphtheritic bacilli form no spores they withstand for a long time drying and other influences which are fatal to less resisting forms of bacteria. Specific bacilli have been obtained in cultures made from diphtheritic membranes preserved dry in a piece of linen cloth for five months. They may live still longer in a moist state and the virus may retain its activity for a year or more in damp situations. Anything to which the diphtheritic membrane can adhere may be the means of spreading the infection.

Paralysis is by far the most important of the sequelæ of diphtheria; it can be experimentally produced by inoculation and occurs more frequently in adults than in children. It occurs in a variable proportion of cases ranging from 10 to 15 and even 20 per cent. It comes on usually in the second or third week of convalescence, sometimes as early as the eighth day of the disease.

The affection, says Dr. Osler, is a toxic neuritis due to the absorption of the poisonous toxalbumin, and like other forms of multiple neuritis has an extremely complex symptomatology according to the nerves which are affected. The paralysis may be local or general; of the local form the most common is that

which affects the palate. This gives a nasal character to the voice and frequently causes the expulsion of liquids through the nose. The affection may extend to the constrictors of the pharynx and deglutition becomes difficult or quite impossible. I remember the case of a six-year-old boy in which paralysis of the pharynx occurred four months after convalescence had set in and caused the patient's death.

The muscles of the eyes are frequently attacked; there may be ptosis, strabismus and loss of power of accommodation, and very often with the palatal paralysis is associated a weakness of the legs without actual palsy, but with loss of the knee-jerk.

The heart is frequently affected, marked slowness of the pulse often occurs, even coming down to 30 beats in the minute. Heart failure or fatal syncope may occur at the height of the disease or during convalescence. The gallop heart rhythm, mentioned in a former paper, occasionally occurs and there may be slight increase in the area of cardiac dullness.

The intercostal muscles and diaphragm sometimes suffer, causing intense dyspnoea. The bladder and rectum are occasionally affected.

Mutability of symptoms is characteristic of diphtheritic paralysis. You will often observe the affection increasing in one limb and diminishing in another, and the parts which are first affected after recovering frequently relapse into a worse condition than in the beginning. This peculiarity does not depend upon any lesion of the nerve centres noticeable, at any rate, post-mortem.

Virile debility, amounting sometimes to complete impotence, frequently exists in diphtheritic paralysis. The senses of smell, taste and vision are all in turn affected, but dimness of vision is most commonly met with and is occasionally one of the first symptoms of diphtheritic paralysis.

Albumen is not always present in this affection. Moreover, there is said to be no coincidence between the presence of albumen in the urine and the variations in the paralytic symptoms. The nervous symptoms which occur in Bright's disease are convulsive and comatose in their character and have no resem-

blance to those now under discussion, with the exception of the amaurosis, so often met with in albuminuria. No one has ever observed paralytic manifestations in Bright's disease.

Graves in his clinical lectures, wishing to point out the relation which exists between different diseases, mentions numerous well known facts which present a great analogy to those we are now studying. He states that an entire ship's crew, after eating of a species of conger eel, were seized with nervous symptoms similar to those produced by lead poisoning. Some of them died in a state of violent delirium, those who survived were affected with general paralysis; in some the affection was permanent, in others recovery took place in three or four months.

Trousseau says that paralytic affections sometimes supervene in persons attacked with urticaria, and I wondered when I read it whether the eating of some kind of fish, which frequently causes urticaria, did not also produce the paralysis. He also says that in syphilis, irrespective of paralysis dependent upon specific tumours of the encephalon and spinal cord and osseous growths of the cranium and vertebral canal, there occur other paralytic affections which cannot be traced to any lesion.

Paraplegia has been known to follow small-pox and other eruptive fevers, also in convalescence from typhoid, typhus and cholera. Paralysis of the palate has been noticed after typhoid fever.

Sir John Harley, of London, in the first volume of *Reynolds' System of Medicine*, demonstrates many points of resemblance between scarlatina, diphtheria and typhoid fever. The inhalation of bisulphide of carbon causes a form of paralysis, and workmen employed in the manufacture of caoutchouc suffer from paretic affection.

Treatment of Diphtheria.—Many and varied are the remedies which have been tried and found wanting in the treatment of this affection; as yet no specific has been discovered for the cure of the disease.

The two principal indications are to limit or prevent the local development of bacilli and to fight with unrelenting vigour

the effects of the absorption of the toxic elements which they produce. It is next to impossible to lay down any routine plan, and each case should be treated on general principles. The sick room should be well ventilated and lighted, a temperature of about 70° maintained and the air saturated with steam which is impregnated with some volatile antiseptic, like the following combination, viz.:

Acid carbolic,	ʒi.
Ol. encalypti,	ʒii.
Spts. of turpentine,	ʒiii.

SIG.—Add a tablespoonful every half hour to about a quart of water, which is kept simmering over a flame.

The throat should be kept free from debris, and I think peroxide of hydrogen diluted with listerine, which I have used myself for many years, or perhaps better still, the peroxide diluted with lime water, is the best remedy known for this purpose. An objection to the peroxide is the pain it sometimes causes and it occasionally produces fresh lesions in the healthy mucous membranes. I give you this on the authority of Dr. Dillon Brown; I have never noticed it myself. Dr. Brown says if considered necessary to use the peroxide pure, neutralize the excess of acid with an alkali. In laryngeal cases inhalation must be depended upon, and the fumes from subliming calomel are said to be most destructive to the Klebs-Loeffler bacillus. It usually takes about 10 minutes to sublime 15 grains of calomel. This treatment is believed to protect the bronchi and was first suggested by Corbin, of Brooklyn, and is said to obviate tracheotomy or intubation on many occasions. Twenty years ago, during a severe epidemic in Hull, I used sulphur as a local application by insufflation and gave internally a mixture of chlorate of potash, tincture of iron and glycerine. I had better success than with many remedies since tried. Speaking of chlorate of potash I may say of the drug that in my hands for 25 years it has proved an excellent remedy.

Dr. Coghill, of the Isle of Wight, at the International Medical Congress at Washington, read a paper on the drug and sums up its value as follows: It is useful in cases of deficient

oxygenation of the blood ; in 15 grain doses 3 times a day it is serviceable in preventing diseases of the placenta and of enabling a woman to go to full term who had previously miscarried three times ; this is also my own experience. Barthalow says in maternal stomatitis it is the only remedy worth mentioning. Dr. Coghill finds it a cardiac stimulant, probably by improving the quality of the blood. Waugh's formula in diphtheria is :

	Pot. chloratis,	5i.
	Acid hydrochlor,	5ss.
Mix and add	Tinct. of iron,	5ii.

Water sufficient to make 4 ounces.

Sig.—Teaspoonful undiluted every 2 hours.

Free chlorine is generated in this mixture and it has been found an excellent remedy.

Stimulants according to the age and strength of the patient should be given from the beginning ; but, gentlemen, avoid over-stimulation. Enough is as good as a feast, and I have seen diphtheritic patients almost moribund from being dosed with brandy and whiskey *ad libitum*. The most nourishing food should be given at stated intervals, so as to avoid over-distention of the stomach and consequent vomiting from indigestion. When deglutition is painful I have found ice cream to be taken by children when other food was refused. It acts also as a destroyer of bacilli, as they do not thrive at a low temperature. I have frequently employed the ice bag to the angles of jaws when the glands were much inflamed, I think with good results. Never forget, under any circumstances, to keep nutrition up to the mark.

Sir Morrell McKenzie placed great faith in the salicylate of soda. Subsulphate of iron with carbolic acid and glycerine makes an excellent application. In 1891 Mr. Turner, of Gloucester, England, recommended paraffin or coal oil as a local application for diphtheria. The membrane was scraped or peeled off and the remedy applied to the surface ; its action is supposed to be due to the higher hydrocarbons contained in the oil. It may be used as a spray or thickened with soap bark and applied with a brush.

About three weeks ago I was called to see a young lady whose right tonsil was covered with diphtheritic membrane. I ordered a gargle of coal oil and peroxide of hydrogen, a small quantity to be used every three hours. At the same time she took internally a teaspoonful of listerine every three hours. In 24 hours the membrane had disappeared. A younger sister contracted the disease and used the same treatment with the most gratifying results, the only untoward symptom being inflammation of the tonsil, which went on to suppuration at the end of six days, but the patient exposed herself to the night air a few days after the diphtheritic attack. She also suffered from paralysis of the palate. I intend following up this line of treatment and will furnish you with results in due time.

Corrosive sublimate has many admirers, but allow me with all modesty to say that I am not amongst the number. I have always been disappointed in the use of this drug, and I am happy to find a man like Prof. Osler in his work on the Practice of Medicine saying that in diphtheria he much prefers the perchloride of iron and that he has never seen from the administration of mercury, either as calomel or bichloride the specially good effect which many writers describe. Dr. Dillon Brown says for the gallop heart rhythm morphia administered hypodermically is a most efficient remedy—ice bag over heart, musk internally, possibly pressure over pneumogastriCS in the neck.

Both animal and vegetable pepsines have been used as solvents of diphtheritic membrane, but their constant and thorough application is difficult, and their usefulness consists in being kept in contact with the membrane. Lactic acid and trypsin come under the same category.

Nasal diphtheria requires prompt and thorough disinfection, and here absolute cleanliness plays an important part. A solution of borax and glycerine, a saturated solution of boric acid and peroxide of hydrogen with lime water may be carefully applied with a syringe, the nozzle of which is directed horizontally to permit of the fluid escaping through the opposite nostril; care must also be taken not to allow the syringe nozzle to press on the septum or inferior turbinated bone, as troublesome epistaxis may be set up.

Laryngeal diphtheria always fills the physician's mind with anxiety and the patient requires the most careful watching. When the first symptoms are noticed a tent should be placed over the cot or bed and steam, pure or medicated, introduced constantly. If breathing becomes laboured and signs of urgent dyspnoea come on it is our duty to interfere mechanically. This may be done in two ways—by intubation or by tracheotomy. Statistics show very little difference in the results from these operations; perhaps intubation makes the best showing, but it is probable that many of the milder cases are intubated, while the worst cases are reserved for tracheotomy. Intubation certainly has the advantage in the first ten years of life, after that, as far as recoveries go, the difference is not very marked.

Stern has summarized the indications which are helpful in determining the choice of operations as follows.

1. All things being equal, intubate when the patient is under $3\frac{1}{2}$ years old.

2. Between $3\frac{1}{2}$ and 5 years I would be regulated by individual circumstances, with a preference for tracheotomy.

3. After 5 I would perform tracheotomy.

4. In adults I would try intubation.

5. Amongst poor people, irrespective of age, I would always intubate, as skilled nursing is always requisite after tracheotomy and cannot be procured outside of our hospitals for the poorer classes.

6. Intubation should never be performed when there is a possibility that the trachea is crowded with membrane.

Dr. Dillon Brown recommends arming a small laryngeal applicator with cotton smeared with Canada balsam and repeatedly passing it down the larynx, by which means much loose membrane may be removed. An emetic sometimes answers the same purpose.

Recent studies in immunity have given us a knowledge of an antitoxine which neutralizes and destroys the toxalbumin of the Klebs-Loeffler bacillus. Although experiments have been confined so far to animals, the results have been successful enough to justify the hope that the same results will be followed in the human system.

Post diphtheritic paralysis has a natural tendency to get well, and all we can do is to aid nature in building up the shattered system. The chronic catarrh left after diphtheria should not be neglected, but I have always found that as the patient gained strength the catarrhal trouble disappeared.

In conclusion, gentlemen, I think it the bounden duty of every medical man when called upon to treat diphtheria, be the case mild or grave, to impress firmly upon the mind of the attendant the great dependence which must be placed upon his or her carrying out your treatment. Parents or other relatives, as a rule, are unfit to take charge of diphtheritic patients and at times, indeed, the nervous system is so upset that children become actually unmanageable.

I am now giving coal oil internally as well as using it locally. The unrefined Canadian oil is alone suitable for internal administration, as in the refining caustic acids are employed, which renders the oil too irritating.

NOTE.—The following is the formula I am now using as a spray every half hour :

R—Paraffine (unrefined)	ʒvi.
Spts. wine (rect.)	ʒii.
Essence menthae pip.	my.

SOME CASES IN PRACTICE.*

TRAUMATIC HERNIA—EXPLORATORY LAPAROTOMY—HODGKINS' DISEASE—PLACENTA PRÆVIA.

By ROBERT E. MCKECHNIE, M.D., NANAIMO, B. C.

In the following case reports you will probably not find anything decidedly new or startling, but rather, with one exception, a series of reports of cases which any of us may meet with any day.

The question may be asked, "Is any good then served by writing up such work?" The younger members of the profession will say "yes," for such reports give a more vivid and realistic picture of cases in practice than can be found in the text-books, bring one's mind, in fact, from theory to practical experience, and in addition serve to refresh one's memory to some extent with those points in diagnosis and treatment which are mainly required. These remarks are not meant to apply to the following notes, but rather to the publishing of case reports in our journals. Good work is done by so doing, and our minds are kept on the *qui vive* by reading them there, and many a successful diagnosis has been led up to by a busy practitioner having read of a similar case while he has been hurriedly running through his journal. Therefore, hoping that the following may not be without some value, I submit them for your use.

Traumatic Hernia, Palliative Treatment, Cure.—T. S., a coal miner aged 35, temperate and of good habits, while engaged at his occupation was injured by a fall of rock which forced his body against his pick handle. He came to my office complaining of a swelling above the right groin, said it was not very painful, had been received that same day, and was caused by having been forced against his pick handle.

* Read before the Canadian Medical Association at St. John, N.B., August, 1891.

On examination I found a soft elastic tumour, oblong in shape, about three inches by four, just above Poupart's ligament on the right side and extending from the pubic to the superior iliac spine. It was resonant on percussion, gave an impulse on coughing, disappeared when the patient assumed the dorsal position, etc., giving, in fact, all the symptoms of hernia. An opening was found through the abdominal muscles admitting the tips of three fingers and situated at a point half an inch above the centre of Poupart's ligament. The skin over this opening was not even abraded, but later on ecchymosis appeared.

For treatment I was tempted to make success a certainty by laying open the site of the hernia and closing the wound as in a laparotomy, but decided otherwise. I put my patient to bed for three weeks with a pad held firmly over the wound by a spica bandage. Since then he has been up and about, still wearing the pad while awaiting a special truss which I wish him to wear for a few months. The accident happened nine weeks ago and to-day there is no sign of a hernia, merely a hard scar to be felt at its site, with the skin freely movable over it. On causing him to strain I cannot detect the slightest evidence of bulging, but everything seems firm and secure. But to make doubly sure I intend him to receive the benefit of the support of a truss until the scar tissue becomes stronger. Therefore I claim a cure in this case from the use of simple palliative treatment.

Laparotomy in a Case of Mistaken Diagnosis.—I was asked to see a case, and later on to operate on it, by Dr. Campbell, of Northfield. The patient was a corpulent Belgian woman of 35, with a numerous progeny. She had always been very healthy, with no indications of pelvic disease before the present illness. Four months previously her menses had stopped and she considered herself in the "family-way," but her good health stopped with her menses. She had during the last two months had increasingly severe pains in the lower abdominal areas, with at times a sanious discharge from the vagina, and during this

two months her temperature kept above the normal, being variable. She lost strength rapidly and when I first saw her was in bed, with a feeble pulse of 120, temperature of 103°, face anxious and indicative of suffering, knees flexed and the patient complaining of much abdominal pain. On examining bimanually I found Douglas' pouch filled by a firm, immovable, smoothly rounded mass, the cervix uteri jammed against the pubic bones, and a mass occupying the hypogastric region and resembling a pregnant uterus of the fourth month in shape and size. The examination caused much pain. A leucorrhoeal discharge was noticed from the vagina.

The woman was thought to be pregnant, and her symptoms pointed strongly to the presence of pus somewhere. Accordingly, an exploratory laparotomy was decided on, with the intention to deal as required with what was found.

When the abdomen was opened the tumour in the hypogastric region was found to be adherent quite freely to the intestines. The adhesions having been partially broken down, on passing my hand down the posterior surface of the tumour I encountered a mass of granulative tissue, with a base the size of a silver dollar. It projected from the tumour and was surrounded by numerous adhesions. Finally, on completely exploring the tumour with the hand passed down to Douglas' pouch, it was found continuous with the mass previously felt in the vagina. The whole mass was immovable and still adherent in many places. The tumour was very firm and not at all like a pregnant uterus. On account of the mass of granulative tissue found posteriorly and the exceedingly firm nature of the tumour, it was thought to be malignant and too far gone to justify a hysterectomy. Accordingly the abdomen was closed and an unfavourable prognosis given.

The after results of the case are interesting. The operation proved her salvation, although the operators can take no credit. On the eighth day afterwards an immense

quantity of pus discharged through a point of its own election in the abdominal wound, the temperature fell, and by the tenth day the patient felt so well that, in the absence of doctor and nurse, she got out of bed and joined in the regular Saturday night beer drinking, actually getting drunk. This did not hinder her rapid recovery, the sinus in the abdominal cicatrix eventually closing under daily irrigations of the abscess cavity, and to-day the woman is as strong and hearty as she ever was. I do not as yet know what structures were involved, where the uterus hid itself, what the mass of granulative tissue meant, why a large collection of pus like that should feel so solid, or why Fortuna should look so well after the operators as well as the patient.

Hodgkin's Disease—Treatment by Splenic Extract—Failure.—J. C., a coal miner, aged 36; married and with a family of healthy children; temperate and with no previous history of disease, luetic or otherwise.

This man was a patient of my partner, Dr. Præger, to whose kindness I am indebted for the privilege of trying a new line of treatment. J. C.'s illness dated back three years, with gradually increasing anæmia, general weakness and enlargement of cervical glands. I first saw him some six months before I started treatment. At that time he was in hospital, and Dr. Præger dissected out a large mass of cervical glands whose size was tending to compress the trachea and threatened suffocation.

Later on when I took him over he was bed-ridden, wasted to a skeleton, exceedingly pale, feverish, the temperature varying from 99° to 102°; pulse 150 and very feeble; glands perceptibly enlarged in the groins and axillæ, but immensely enlarged from the lower jaw to the clavicles, with much smaller enlargements posteriorly. The glands were hard and a little tender. Much pain was felt down the left arm from pressure on the brachial plexus; the sternum and ribs were quite tender on percussion and he also often complained of pain in them, inde-

pendent of any manipulations. Both liver and spleen were enlarged, but no abdominal glands could be felt. The case was clearly an advanced one of Hodgkin's disease, and in the beginning of May, 1893, I began treatment by injections, three times weekly, of 25 minims of saturated glycerine extract of sheep's spleen. Carbolic acid sufficient to make it 1 in 40 was added for preservative purposes. The treatment was kept up for six weeks. When first started the blood corpuscles were counted and found to be, red 415,000 per c.mm., white 50,570 c.mm., or a ratio of about 8.3 to 1. I cannot find in any text-book or work of reference such a low ratio or as few red corpuscles, and thinking a mistake had been made tried it again, with a like result, and then testing my own blood found the red 4,600,000 per c.mm., and safely concluded I was right.

On the day following the first injection his pulse dropped to 120 and he felt much better and stronger, and as late as June 13, 1893, I find this note: "Has continued to feel better, stronger and brighter; pulse still 120." He always said he felt better after an injection, but I discovered a fallacy due to his imagination, for several times when I could not get a fresh spleen I gave him his regular injection, merely of 1 in 40 carbolic, and found it answer the same purpose. The beginning of June, four weeks after starting the treatment, I found the blood contained the same number of white corpuscles, but an increased number of red corpuscles, these latter being of various sizes, a few normal, but the majority much smaller, while two weeks later the white cells were greatly increased in number, as many as 12 in a single square of a Zeiss haemocytometer, many squares with from one to four cells in and a few with none. These white cells were found in clusters as though agglutinated. The red cells were found about five to a square, and all uniformly of a minute size. So that a six weeks' course of treatment by splenic extract had not arrested a degeneration in the blood, but had probably been instrumental in effecting a greater change than

could the disease itself. The patient was evidently losing ground in the last two weeks and I then discontinued treatment. He died about three weeks later.

I merely wish to record the above as negative work imperfectly done, but which may contain enough of fact to prove useful to someone else. The most interesting points are the decrease in the red corpuscles and increase in the white, noted when treatment first began, the ratio of 8.3 to 1 being extraordinary; and later on the increase in red cells of a very minute size, with the total disappearance of the normal sized cell, and at this same time the still further increase in white cells, which I forgot before to mention, varied in size from below the normal to half as large again as the normal. The treatment had no beneficial effect, but possibly the reverse.

Placenta Prævia.—Induction of Premature Labor and Successful Result.—M. D., is the mother of three children, the youngest 13 years old. She was left a widow then, but recently married again and became pregnant. She was an active, healthy woman, with a previously good sexual history.

I was sent for when she was at the seventh month. Three weeks previously she was seized with a sudden flow, unaccompanied by pain, but it ceased itself in a few days on her remaining quiet. Two weeks later she again lost a little blood, which was arrested without medical aid. The day before I was sent for the flow again began, without pain, and as a large quantity of blood was lost at this time she became alarmed and wished assistance. I found her blanched, with a small rapid pulse; her abdomen distended with a pregnant uterus and a copious flow of blood from the vagina. In all it was estimated that she had lost one and a half pints of blood in 24 hours. Vaginal examination did not give positive evidences. There was complete absence of a cervix uteri, and I could not find the os even, but this was due to the nervous state of the patient, which did not permit an examination entailing pain. However,

I diagnosed placenta prævia on the symptoms, kept her in bed, gave her an opiate and explained the situation to her husband, getting his permission to act as I saw fit. The flow again ceased, but recurred more severely in six days again.

My friend, Dr. Davis, was called in, who gave the anæsthetic (chloroform), and right here I would like to give my opinion on its use in midwifery cases. It is undoubtedly more easy to get a patient to take it and to get a person under its influence than ether is. But I have invariably noticed that wherever it is given there is a much more profuse post partum flow than normal. And so I would suggest that in cases which have already experienced a loss, or where one anticipates more loss than ordinary, chloroform is contraindicated.

Before anæsthetizing her a more thorough examination revealed a vertex in the pelvic brim, but it was indistinct per vaginam, owing to some intervening body—the placenta. After getting her under chloroform she was prepared by having the vulva and vagina cleansed by a creolin solution. My hands and arms were likewise prepared. I then introduced my right hand into the vagina, and with difficulty discovered the os uteri of pin-hole size, but not the slightest evidence of the cervix. In fifteen minutes I dilated the os digitally, thrust my hand through the placenta, and seizing a foot drew it down, and rapidly delivered a living male child, which only survived four hours. But little blood was lost during the whole procedure. The placenta was then stripped from its attachments and brought away, the uterus irrigated by a copious hot creolin solution, good contraction secured and the patient tidied up in bed.

The placenta was situated centrally, my hand having perforated it alongside the cord.

But little blood was lost up to this time, but in half an hour a flow began which was not checked for several hours. I account for it by the fact that the lower segment

of the uterus with the cervix does not contract as firmly as the fundus, hence the placental site was not shut up by this hæmostatic action. And I blame the chloroform, too, for leaving its relaxing effect yet apparent in these structures. The patient became collapsed, pulse irregular, almost imperceptible, 165, and the outlook was gloomy. Hypodermics of ergot, with hot douching, finally checked the flow, while champagne was used in combatting the collapse. For over four hours matters remained in *statu quo* but an improvement set in about half an hour after the patient had received a two quart rectal injection of saline solution, and never afterwards was the same serious state met with.

Despite the antiseptic precautions and a hot vaginal douche every four hours, the temperature became elevated on the evening of the second day and remained above normal to the ninth day. The patient, however, steadily gained in strength and was out of bed on a lounge at the end of two weeks and is now enjoying good health again.

Retrospect Department.

QUARTERLY RETROSPECT OF GYNÆCOLOGY.

PREPARED BY T. JOHNSON-ALLOWAY, M.D.,
Gynecologist-in-Chief, Montreal General Hospital.

Hæmatoma of Vulva after Delivery.—GOLDENBERG (*Centralbl. f. Gynak.*, No. 30, 1894) notes that, according to Winckel's statistics, this complication occurs only once in 1,600 labours. A patient, aged 20, was delivered of her first child at term. Labour was protracted owing to rigidity of the os uteri. The head did not lie long in the pelvic outlet. At the end of three days delivery occurred without instruments; the physician left when the placenta had come away spontaneously. A few hours later he was sent for; the patient had been seized with giddiness and a swelling had developed. Goldberg saw her ten hours after delivery. She was in a state of great excitement, lying on her back and suffering from severe pain in the vulva. A very tender dark-blue fluctuating swelling, as large as a child's head, had developed on the site of the left labium majus, distending the perineum. It reached for a considerable distance up the vagina, but being so tender its limits could not be accurately defined. The uterus was well contracted. The hæmatoma was evidently due to the rupture of some submucous vessels from pressure of the foetal head. As the hæmorrhage seemed to have ceased and the patient's surroundings were very insanitary the hæmatoma was not incised. Ice was applied to its surface with antiseptic dressings. On the fourth day the swelling burst and the blood escaped. There was no rise of temperature during childbed. Two months later, the patient having thoroughly recovered, no trace of the complication remained except a fistulous tract an inch deep opening on the surface of the perineum. Chevaleff (*Répert Univ. d'Obst. et de Gynéc.*, July 25, 1894) states that a woman, aged 33.

was admitted into hospital with a swelling which had developed immediately after delivery. This swelling was as large as a fist and occupied the left labium majus, the corresponding half of the vestibule, the perineum below and the pubes above. The diagnosis was hæmatoma of the vulva through rupture of a vessel superficial to the pelvic fascia. The swelling was left alone for a week, ice, etc., being applied to its surface. Then a small incision was made at a point corresponding to the middle third of the labium. The tumour slowly emptied itself and there was no hæmorrhage. Recovery was perfect.

This is an extraordinary case of prolonged delay in delivery with forceps, and it is also defective in the matter of not having incised the hæmatoma at once when seen. These hæmatomata rarely bleed when incised, and if they do the bleeding point can easily be controlled.

Traction on the Tongue in Hysteria.—TH. BALADE (*Gaz. des Hép. Toulouse*, July 28th) has in two cases made very violent hysterical attacks cease by traction on the tongue, the organ being drawn with some force out of the mouth, and kept in that position for some minutes. This procedure was successful when every other treatment had failed.

This is a very "French" method of treatment. It reminds one of the barbarous "*Twitch*"—a loop of rope on the end of a pole, which brutal farriers used to put on a horse's tongue, high up—and then keep on turning the pole until the poor brute became subdued into submission.

Fibroids and Conception. Pregnancy and Labour.—HOFMEIER (*Zeitschr. f. Geburtsh. u. Gynæk.*, vol. xxx., 1894), in a very complete and well-tabulated essay, denies that fibroid disease of the uterus has any direct influence in causing sterility. Statistics do not show that, as has been alleged, subserous myoma predisposes considerably to sterility, whilst polypi and myoma of the cervix have little influence in that direction; nor can it be shown that fibroids promote fertility. These tumours seldom begin to appear till late in sexual life, so that if the patient is

barren or multipara the cause of her sterility or fecundity must have influenced her long before the development of her fibroid. The alleged frequency of this disease in elderly virgins is based on a fallacy. It is the local affection which the most readily drives a spinster to the gynaecologist, whilst middle-aged married women trouble less about small and slow-growing abdominal swellings. Women with fibroids who marry late in sexual life are fertile, though Hofmeir can hardly make out cause and effect in this fact. Fibroids by no means strongly predispose to abortion. It seems that this accident happens only when the uterine cavity is rendered unfit to bear through the size and relations of the tumour; nor does fibroid greatly interfere with the uterine contractions during labour. The best time for hysterectomy is not immediately after delivery, but a few weeks or months later.

Extra-uterine Pregnancy: Elimination of the Fœtus per Rectum.—T. SPANNOCHI (*Raccoglitore Medico*, July 30th, 1894) reports the following case of extra-uterine pregnancy, remarkable for the mode of its termination. A robust woman, without trace of disease of any kind, four months after a perfectly healthy labour, began to complain of pains in the hypogastrium. The symptoms pointed to an extrauterine pregnancy, probably in the left Fallopian tube. A month later the sac ruptured, and the fœtus was discharged into the abdominal cavity. Reactive peritonitis around the foreign body came on; then followed suppuration and perforation of the intestine with discharge of pus. Owing to the continuous contractions caused by the presence of the foreign body the intestine became dilated and prolapsed; finally, after twenty-eight days, the fœtus came away through the anus. After a considerable time complete recovery took place.

This case is evidence of the most profound state of ignorance, inducing cruelty of the most barbarous nature.

A Case of Advanced Extra-Uterine Gestation in which a Living Child was Removed, the Placenta Left Undis-

turbed and the Abdominal Wound Entirely Closed.—Dr. CULLINGWORTH: Whereas all competent authorities are now agreed as to the proper method of dealing with cases of advanced extra-uterine gestation in which the child is *dead*, there is no such agreement as to the treatment of cases in which the child is *alive*. The difficulty in these latter cases lies in the enormous risk attending the removal of the placenta. The method that has of late been generally practiced is to perform abdominal section, remove the child, leave the placenta behind, drain the wound, and allow the cord to hang out of the wound by the side of the drainage tube. This plan, however, is generally followed by such a long process of sloughing and discharge that it was suggested by Lawson Tait, Bland Sutton and others to cut the cord off short and close the abdominal wound entirely, thus giving the placenta a chance of being absorbed, in any case postponing its removal until the activity of its circulation has diminished.

The case which I bring before you is, so far as I am aware, the first instance in which this suggestion has been carried out; and though the experiment was not successful in saving the woman's life, it failed, as it were, only by accident, and was so nearly successful as to afford the strongest encouragement to future operators to repeat it.

The patient was a wretchedly poor and ill-nourished woman, aged 33. She had last been pregnant three years previously. She ceased to menstruate in March or April, 1893, and had a severe attack of abdominal pain in May, with slight hæmorrhage from the vagina. In the middle of August she was again seized with severe abdominal pain, chiefly on the right side. In September she was sent into the hospital and then had an abdominal swelling which reached to an inch above the umbilicus and which was thought to be the pregnant uterus. Fœtal movements and fœtal heart-sounds were clearly heard. She remained fairly well from September up to January 5, 1894, when she was seized with acute pain and vomiting. On January

13 she had pains simulating those of labour, and as the uterus was found by her local doctor to be empty, she was again sent into the hospital. She was operated upon the same night. The child, a fully developed living male, was lying in the peritoneal cavity, enveloped in its membranes and also at its lower part by the remains of the ruptured sac. The child was extracted and as much of the membranes and cord as possible was cut away, the placenta being left and the abdominal wound entirely closed. The patient's condition remained satisfactory until the twenty-fourth day, when she had a rigour, followed by vomiting and a rise in the temperature and pulse-rate. It being evident that there was some septic absorption going on, the abdomen was reopened on the twenty-sixth day and the placenta removed. There was little or no hæmorrhage, but in the remains of the amniotic cavity there were 8 to 10 fl. oz. of purulent fluid, and the stump of the cord and the amniotic covering of the placenta had the odour of commencing decomposition. On laying open the umbilical vein and its tributaries, soft, breaking-down, purulent blood-clot was found in them. There was no evidence of suppuration in the substance of the placenta.

The patient on being placed in bed became suddenly faint and collapsed; she revived a little under saline intravenous transfusion, but again fell into a state of collapse and died 7½ hours after the operation. The post-mortem examination showed no evidence of hæmorrhage or peritonitis.

The child continues to be alive and well.

I attribute death to the shock of the second operation acting on a dangerously debilitated patient. It is my intention in any future case to remove the amnion and cord *completely* at the time of the extraction of the child.—*The Medical Week*, August 17, 1894.

On the Treatment of Salpingo-Ovaritis by Ignipuncture.
—RAQUIN, in a recent thesis, defends the conservative treatment of these cases, following the lead of Pozzi (and Martin), and says that often puncture of the little cysts

with the thermo-cautery is followed by quite as good results as the total removal of diseased organs. Sclerocystic degeneration of the ovary and diffuse ovaritis are regarded as suitable cases for ignipuncture, provided the tube be permeable.

The technique of the operation is simple enough. After opening the abdomen with a small median incision, the coils of intestine are shoved up by means of a compress and the adnexa sought for. Any adhesions are broken up, and the tubes and ovaries are drawn up into the wound. The wound is then catheterized by introducing a stylet into the fimbriated end as far as the cornu of the uterus.

Should one find large, pale, œdematous ovaries, the point of the cautery is made to penetrate the œdematous stroma as many times as the degree of increase in volume and the œdema render necessary. Should there be cystic degeneration, the little cysts are opened one after the other with the cautery and their inner walls cauterized. Sometimes a little hæmorrhage follows. This is easily controlled by a catgut suture or so.

If indicated, hysteropexy should be performed.

There is no danger in the operation. It gives good results, but sometimes fails in hysterical patients in whom, very likely, castration would have produced no better cure,

Seven cases are reported.—*Presse Médicale*, August 18, 1894,

Intraperitoneal Treatment of the Stump in Myomectomy.

—LEOPOLD, at the end of an interesting paper with the above title, sums up the results of all the cases of myoma upon which he has operated since 1889-90: Enucleation by the vagina, 46; mortality, 0. Castration, 40; mortality, 2; 5 per cent. (1 sepsis, 1 heart failure). Myomectomy with intraperitoneal treatment, 21; mortality, 0. Myomectomy with extra-peritoneal treatment, 29; mortality, 2; 6.8 per cent. Vaginal total extirpation, 24; mortality, 0. Total, 160; mortality, 4; 2.5 per cent.—*Centralblatt f. Gyn.*, No. 26, 1894.

Pathology and Treatment of Pelvic Abscess in Women, with Especial Reference to Radical Operation by the Vagina.—LANDAU, *Archiv. f. Gyn.*, 1894, Band. xlv., Heft. 3. After a thorough study of the causes of pelvic suppuration and the methods of infection, L. reports 141 laparotomies in which he performed salpingo-ectomy, with a total mortality of 2.8 per cent. These cases were divided as follows :

Pyo-salpinx, 63 ; hydro-salpinx, 38 ; both pyo- and hydro-salpinx, 6 ; non-purulent salpingitis, 10 ; tubal pregnancies, 24.

As to the end results he regards sixty to seventy per cent. as permanently cured. While these statistics are very good, he recognises that many cases treated by laparotomy are not completely successful. Under certain conditions of complicated abscess formation, L. greatly prefers vaginal radical operation, *i.e.*, the removal of the uterus and its appendages by the vagina. He gives at length the clinical histories and the details of the operations on thirty such cases, all successful and, as he claims, permanently cured.

His masterly study of the subject is wound up by the following *résumé* :

1. Abscesses occurring in one side of the pelvis where we have to do with a single point of softening, incision is indicated ; by way of the vagina should the abscess be in that neighbourhood, by way of the abdominal walls, especially in the subinguinal region, should the seat of the abscess be near them. Should the abscess reach from the vagina to the abdominal walls, healing is hastened by incision, both below and above, and drainage. A counter-opening is, however, in general not necessary. The question whether the abscess is intra- or extra-peritoneal or intratubal has no influence on recovery, so long as the abscess is only unilocular. Should incision prove ineffective, resection of the uterus is strongly indicated.

2. In the case of recurring multilocular abscess in unilateral multilocular pyo-salpinx, the only thing to be con-

sidered is laparotomy with removal of the affected appendages. If, and this is generally to be recognized only during the operation, there is at the same time present an extra-peritoneal abscess (generally of the subligamentary type), this should be drained from the vagina and the abdominal cavity closed.

Should, however, contrary to expectation, upon opening the abdomen, it be found that the appendages on the other side are diseased, we should proceed as under Section 5.

3. In the case of bilateral disease and unilocular abscess on both sides, incision by the vagina or the abdominal walls is permitted in accordance with the principles laid down in Section 1. This attempt at cure (even in the case of pyosalpinx duplex unilocularis), even if unsuccessful, is not prejudicial to other operations should they later become necessary, and may possibly be successful.

4. In the case of bilateral disease and multilocular pus sacks, such as multilocular pyo-salpinx, etc., laparotomy with extirpation of the adnexe on both sides is certainly admissible; but the operation does not guarantee a permanent cure. Far better in these cases

5. As in the case of bilateral disease and complicated multilocular pyo-salpinx with or without the formation of fistulae, with multiple intra and extra-peritoneal abscesses and in cases of all the simple abscesses, in which more conservative attempts have proved unsuccessful, is the radical operation, *i. e.*, the extirpation of the uterus and its adnexa, in other words, the emptying of the pus cavities and the removal as far as possible of all the walls of the abscesses per vaginam.

6. This radical operation by way of the vagina is performed by aid of forceps and morcellment, and the operation is a relatively safe one and gives excellent results.

7. According to my own experience the extirpation of everything that is diseased should be by the vagina. Should this be impossible, at once, on removing all that is

possible by the vagina, a laparotomy should be done and the operation so completed.

8. In certain cases, even before the attempts at vaginal extirpation are made, careful examination will have made clear the difficulty or impossibility of removing per vaginam all that is diseased. In these cases, and especially in those in which the diagnosis has not made certain whether the process is bilateral, the combined operation should be determined upon from the beginning. When in doubt whether one has to do with a bilateral suppuration, of course one would begin with a laparotomy. When it is probable, even if it is not certain, that the extirpation of all the diseased tissues is possible per vaginam, the extirpation should be begun from below.

In cases where examination makes completion of the operation by the vagina improbable, as, for example, pus sacs lying high up and forward, the operation should be begun by a laparotomy and the freeing and possibly removal of the adnexa from above, but the removal of the uterus must be performed under all circumstances per vaginam.

9. In these cases of combined operation L., for drainage, leaves the vaginal wound wide open, and also uses in the abdominal incision a glass drainage tube for three or four days.

10. Favorable experience with the radical operation as regards its success, and the complete cure of complicated abscesses, make it advisable also in uncomplicated suppurative diseases of both appendages in these cases in which, up to now, it has been regarded as enough to remove the affected appendages and leave the uterus, as, according to the experience of almost all operations, absolute cure is not assured by the old treatment.

11. It is strongly urged that more weight should be laid upon the diagnosis as to whether the affection be bilateral before the so-called exploratory incision through the abdominal walls or the vaginal vault, so that women shall not be mutilated on account of the certainty and relative safety

of the "hystero-salpingo-oöphorectomia vaginalis," whom it would have been possible to have cured by more conservative means.

12. It is strongly urged that vague terms, such as pelvic suppuration, inflammatory disease of the appendages, etc., should be avoided, in order that statistics of real value may be collected, and that such terms should be replaced by ones referring clearly to the seat of the suppuration.

Correspondence.

A CORRECTION.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIRS—In your report of the proceedings of the last meeting of the Canadian Medical Association, held at St. John, N. B., in August last, I am credited with having said in the discussion on appendicitis that “the most extreme mortality after these operations was only about two per cent.” From the context one can only infer that this statement applied generally to all operations for appendicitis. Such a statement is certainly not justified by facts and, so far as I know, no such claim is made by any operator. In the paper which gave rise to the discussion I reported forty cases operated upon with three deaths, a mortality of seven and a half ($7\frac{1}{2}$) per cent., which I considered very low for acute cases operated upon during the attack. What I said was that “*in cases operated upon in the intervals between the attacks the mortality did not exceed two per cent.*” a distinction apparently overlooked by your reporter. Will you kindly publish this correction in your next issue, as the misleading statement has been made, not only in your journal, but in every published report of the meeting which I have seen.

JAMES BELL.

Montreal, October 6th, 1894.

Reviews and Notices of Books.

Atlas der Krankheiten der Mundhoele, des Rachens und der Nase. In 31 farbigen Tafeln dargestellt von Dr. med. L. GRUENWALD. Price M6. Muenchen: J. F. Lehmann.

This little atlas contains a number of well executed drawings representing the most common affections of the mouth, nose, naso-pharynx and pharynx. The drawings are coloured and represent very well the actual conditions seen in the cases described. This atlas will be found to be a handy reference for the student when accompanied with a small manual of diseases of the nose and throat.

The Pocket Anatomist. By C. HENRI LEONARD, A.M., M.D., Professor of Gynæcology Detroit College of Medicine. Leather, 300 pages, 193 illustrations; post-paid \$1. Detroit: The Illustrated Medical Journal Co.

This is the eighteenth edition of this handy little work, which has been so popular both in England and this country. It is bound in flexible leather and, the paper being thin, it can be easily carried in the pocket. It is very complete and most fully illustrated, the illustrations being photo-engraved from Gray's Anatomy, English edition, and therefore are as correct as can be. The student will find it a useful little volume to carry about with him to "read up" whenever he has a few spare moments.

A Manual of Human Physiology: Prepared with Special Reference to Students of Medicine. By JOSEPH H. RAYMOND, A.M., M.D., Professor of Physiology in the Long Island College Hospital, and Director of the Hoagland Laboratory. Pp. 382; \$1.25. Philadelphia: W. B. Saunders. 1894.

This book is written with the idea of presenting the main facts and principles of physiology as concisely as possible. The style is clear and some parts of the book cover their ground very satisfactorily, notably the chapter on physiologi-

cal chemistry. But a text-book of physiology where we look in vain for an account of muscle, where we find the larynx dismissed without reference to the function of speech and where the nervous mechanism of circulation is relegated to the hazy background, seems somewhat of an anomaly.

A Manual of Modern Surgery, General and Operative. By JOHN CHALMERS DACOSTA, M.D., Demonstrator of Surgery, Jefferson Medical College, Philadelphia. W. B. Saunders, Philadelphia. 1894.

This volume belongs to a series now being published by Mr. Saunders especially for the use of students. If this work is a sample of the whole series we can predict success for the venture. The author has written his part in a manner most suitable to the needs of a student, and indeed the practitioner will find that a perusal of the work is not lost time. Quite a feature of the work is a summary of what to do in hæmorrhage, under the heading of "Golden Rules for Procedure in Primary Hæmorrhage." Here every form of bleeding is taken up and definite directions given for treatment; the student is not told what he may do, but what he is to do. And so throughout the book the indications for treatment are given positively. We notice, however, that Clover's ether inhaler is not mentioned, but only the Allis inhaler. Again, enucleation is omitted from among the methods of dealing with tumours of the thyroid gland, while other and more difficult methods are mentioned.

The work is fully illustrated and well printed, and altogether is a very complete and useful manual.

Transactions of the American Surgical Association. Vol. XII. 1894.

The volume contains the following articles :

Address of the President, J. Ewing Mears, M.D.

The Surgical Treatment of Empyema. By John Ashhurst, Jr., M.D.

Amputation of the Entire Upper Extremity (Including the Scapula and Clavicle) and of the Arm at the Shoulder-Joint, with Especial Reference to Methods of Controlling Hæmorrhage; with a Report of One Case of the Former Amputation and Four of the Latter. By W. W. Keen, M.D.

Amputation at the Shoulder-Joint. Hæmorrhage Controlled by Wyeth's Pin Transfixing One Flap, and Elastic Pressure. By Oscar H. Allis, M.D.

Methods of Teaching Surgery. By John S. Billings, M.D.

The Teaching of Surgery. By John Chiene, M.D.

The Surgery of the Kidney. By Louis McLane Tiffany, M.D.

The Surgical Treatment of Surgical Kidney. By Robert F. Weir, M.D.

Surgery of the Ureter. By Christian Fenger, M.D.

Treatment of Inoperable Malignant Tumours with the Toxines of Erysipelas and the Bacillus Prodigiosus. By William B. Coley, M.D.

Erysipelas: Has the Streptococcus Erysipelatosus an Antagonistic and Curative Effect upon Local Tuberculosis? By DeForest Willard, M.D.

Strangulation of Meckel's Diverticulum Caused by Volvulus of the Ileum. By J. W. Elliot, M.D.

Mooted Points as to fractures of the Arm. With Notice of an Improved Splint. By J. McFadden Gaston, M.D.

The Removal of Stone-in-the-Bladder. By William S. Forbes, M.D.

Indigo Calculus from the Kidney. By William S. Forbes, M.D.

Extirpation of the Larynx. By William H. Carmalt, M.D.

Thyroid Abscess; Thyroidectomy; Recovery. By Joseph Ransohoff, M.D., F.R.C.S.

Venous Tumour of the Diploe. By Lewis L. Pilcher, M.D.

Some Surgical Cases. Fracture of the Surgical Neck of the Humerus Complicated by Dislocation of the Head beneath Coracoid Process. Cure of Extensive Varicose Condition of Long Saphenous Vein by Complete Excision. A New Operation for Torticollis. Inversion of the Uterus Complicated by a Polypus Attached Symmetrically to the Fundus; Exploratory Laparotomy; Subsequent Removal of the Polypus and Reduction of the Inversion. By Charles Burnham Porter, M.D.

Treatment of Urethral Vegetations by Means of a Circular Cutting Curette. By John B. Deaver, M.D.

Extra-Uterine Pregnancy and Pelvic Hæmorrhage. Cases and Remarks. By H. M. Richardson, M.D.

A System of Legal Medicine. By ALLAN McLANE HAMILTON, M.D., and LAWRENCE GODKIN, Esq. Vol. I; 657 pages. New York: E. B. Treat.

The first half of this work contains articles on Medico-Legal Autopsies, by A. T. Barstow, M.D.; Death in Its Medico-Legal Aspects, by F. A. Harris, M.D., and C. A. Hibbert, M.D.; Blood and Other Stains—Hair, by Prof. Babcock; Identity of the Living, by McLane Hamilton; Identity and Survivorship, by B. W. Cordoza; Homicide and Wounds, by Lewis Balch, M.D.; Inorganic Poisons, by C. E. Pellow; Alkaloid Poisons, by Walter S. Haines, M.D.; Ptomaines and Putrefactive Verdicts, by V. C. Vaughan, M.D.; Life Insurance, by Brandreth Symonds, M.D., C. T. Bishop and W. A. Purrington; Indecent Assault on Children, by W. Travis Gibb, M.D.

Most persons who have had to write encyclopædic articles upon well-worn topics begin the work with the expectation of producing something new in matter or arrangement, but towards the close of their labours recognize with regret that what they have written is very much what anyone else would have written under the circumstances. This does not apply to the volume under consideration, and one is at once impressed with the fact that the articles in it bear the stamp of personal experience and are not compilations. Of a large number of interesting observations published here for the first time the details of the expert examinations in the White-chapel murders will probably be found most interesting, but throughout the authors have supported their statements by cases of their own. This mode of treatment makes very interesting reading and it is refreshing to meet with a book of this description upon a subject which is usually treated by compilation. The disadvantage is that the topics are treated somewhat unequally, as for instance when we find 42 pages devoted to arsenic and only 40 to all other inorganic poisons. In the chapter on blood no mention is made either of the carbon-monoxide or such hæmoglobin structures, nor is chlorate of potassium poisoning referred to anywhere. The article by Vaughan on putrefactive changes is full of interest and he calls attention to the following observation, which will be new to most chemists and is not recorded in any of the standard textbooks, showing that arsenic may become volatilized and so

disappear from putrefying organs under the influence of anaerobic putrefaction;

"It has already been shown that the presence of arsenic does not interrupt the anaerobic putrefaction. Some of the putrefactive fluid from the decomposition of a chopped liver contained a considerable amount of arsenic. This fluid was placed in a bottle and kept in the laboratory for six months. During this time the bottle was frequently opened and whenever this was done a large quantity of gas escaped with almost explosive rapidity. After the above mentioned time it was decided to estimate the amount of arsenic in the fluid. Upon attempting to do this it was unexpectedly found that the fluid contained not the slightest trace of arsenic; in other words the arsenic had been given off from the fluid in the form of a gas. It was supposed at first that this was a new discovery, but upon looking up the matter it was found that Hunepild in the early part of the present century had found that tissues impregnated with arsenic gave off during putrefaction a garlic odour and that later arsenic disappeared wholly from the tissue." Prof. Vaughan also discusses the putrefactive substances which simulate vegetable alkaloids.

The book is well printed and bound and should be in the hands of all who are interested in legal medicine.

Bibliography.

- The Modern and Humane Treatment of the Morphine Disease.** By J. B. MATTISON, M.D. Reprint from *Medical Record*, December 23, 1893.
- Can Physicians Honourably Accept Commissions from Orthopedic Instrument Makers?** By H. AUGUSTUS WILSON, A.M., M.D. Reprinted from *The Philadelphia Polyclinic*, 1894.
- Morphinism in Medical Men.** By J. B. MATTISON, M.D. Reprint from the *Journal of American Medical Association*.
- Transactions of the Medical and Chirurgical Faculty of the State of Maryland.** Ninety-sixth Annual Session.
- Le Musee Social.** Par M. E. CHEYSSON.
- Societe du Musee Social.** Reconneue d'Utilité Publique.

Canadian Medical Literature.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian work published in other countries) for notice in this department of the JOURNAL.]

PERIODICALS—SEPTEMBER, 1894.

CANADIAN PRACTITIONER.

- (1.) Address of the President of the Canadian Medical Association—T. S. S. Harrison, Selkirk, Ont.
- (2.) Potassium permanganate, the new antidote to morphia—G. Chambers, p. 646.
The Eleventh International Medical Congress—E. E. Kitchen St. George, Ont., p. 650.
Phlegmon of the hand—H. Morrell, Slayton, Minn., 657.

CANADA MEDICAL RECORD.

- Two herniotomies in a child under five years of age—Bassini's method, p. 265.

CANADA LANCET.

- (3.) Notes from cases of abdominal section, with remarks—H. H. Meek, London, Ont., p. 1.
Treatment of Endometritis—H. E. Hayd, Buffalo, N.Y., p. 6.
The importance of early attention to the disability caused by infantile paralysis—A. S. Judson, New York, p. 8.

ONTARIO MEDICAL JOURNAL.

Editorials on the Ontario Medical Council election.

L'UNION MEDICALE DU CANADA.

- (4.) Monstruosité par Défaut—L. J. O. Sirois, St. Ferdinand d'Halifax, p. 449.

DOMINION MEDICAL JOURNAL.

Some practical hints in the recognition and treatment of diseases of the skin—L. Duncan Bulkley, New York, p. 69.

- (1.) Address of the President of the Canadian Medical Association—Dr. Harrison.

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CANADIAN PRACTITIONER.

- Intestinal obstruction following operation in which the peritoneal cavity is opened—G. H. Rose, Catonsville, Md., p. 719.
- Some facts and fallacies in medicine—R. A. Reeves, Toronto, p. 650.
- The chemical importance of ptomaines or cadaveric alkaloids in medico-legal analysis—W. B. McVey, Boston, Mass., p. 735.
- (5.) The prevention of tuberculosis—J. P. Macdonald, Hopewell, N.S., p. 740.

Abdominal hysteropexy—K. N. Fenwick, Kingston, Ont., p. 74.
 Medical practice in Korea—O. R. Avison, Seoul, Korea, p. 77.
 (Correspondence.)

CANADA LANCET.

The study of anatomy—D. J. Gibb Wishart, Toronto, p. 37.
 Neurotic complications in La Grippe—Stephen Lett, Guelph,
 Ont., p. 41.
 Hydronephrosis of one kidney and atrophy of the other—A.
 McPhedran, Toronto, p. 42.

DOMINION MEDICAL MONTHLY.

Influence of the mind upon the body—Dr. Bayard, St. John,
 N. B., p. 105.
 Cases of septicaemia following induced abortion—A. R. Atherton,
 Toronto, p. 112.
 Lengthened sittings in lithotripsy—J. Francis Tweed, Dor-
 chester, N. B., p. 115.
 A case of refracture of Femur—J. A. Ivey, Cobourg, p. 116.

MARITIME MEDICAL NEWS.

Notes on convulsive seizures—W. H. Hattie, Halifax, N. S., p. 389.
 (6.) A Case of interscapulo-thoracic amputation for chondro-sarcoma
 of the shoulder joint—F. J. Shepherd, Montreal, p. 394.
 Reminiscences of the late International Medical Congress at
 Rome—W. Tobin, Halifax, N. S., p. 395.

(1.) This address appeared also in the September number of this JOURNAL (page 162.)

(2.) This paper consists of a series of experiments performed for the purpose of ascertaining the action of permanganate upon morphine, and from which the author concludes that :

1. Potassium permanganate in dilute solution, not stronger than gr. i to the ounce, may be given by the stomach without danger.

2. Potassium permanganate, grain for grain, completely decomposes morphine, the decomposition occurring in acid media more rapidly than in a neutral medium.

4. Foodstuffs and acetic acid do not interfere with the decomposition.

5. Potassium permanganate is an efficient antidote if taken while the morphine is in the stomach.

The question still remains as to whether potass. permang. is of therapeutic use after the morphine is absorbed into the system, but the author infers that small repeated doses

would be of value, as it has been proved conclusively that morphine introduced subcutaneously into the system is excreted into the stomach.

(3.) These notes are upon four cases of more than usual interest :

Case I. A large dermoid cyst of the left ovary and a small dermoid of the right.

Case II. Ruptured tubal pregnancy on left side, complicated by a ventral hernia in the cicatrix, following a previous abdominal section for tubal pregnancy of the right side.

Case III. Suppurative appendicitis and acute peritonitis. Incision and drainage, followed twenty-three days later by a discharge of the gangrenous appendix through the abdominal wound.

Case IV. Tumour of the pylorus and duodenum causing stricture, gastro-enterostomy with Murphy's Button. The operation was performed on 23rd April, and up to the date of publication the button had not been found.

(4.) The fœtus was of seven months, and of ordinary size. The head, neck, upper and lower limbs were normal, but the whole of the anterior thoracic and abdominal wall consisted of a thin transparent membrane like the amniotic sac. There was no trace of a diaphragm, the heart and lungs seemed to have no other attachment than to the aorta. The liver was of an enormous size, but the stomach, intestines and kidneys seemed normal. There were no traces of genital organs, bladder or anus. The umbilical cord was only 2 inches long and had been broken during the birth. The child lived a few minutes. The mother had given birth to deformities on two former occasions, the first being hydrocephalic, and the second having had spina bifida and club feet.

(5.) As a preliminary to any system of prevention, it is necessary to educate the public as to the contagious nature of the disease, how to avoid contracting it, and to teach those who have it how to avoid transmitting it to others.

This may be done by making use of the "secular press" and by organizing "societies for the prevention of tuberculosis." Then we want legislation: (1.) A system of registration of all cases of disease as soon as it manifests itself. (2.) A careful system of disinfection of all infected buildings, private as well as public, and all public conveyances. (3.) Government inspection of infected places, all dairies and slaughter houses. (4.) Establishment of special hospitals for the reception of the infected poor. (5) The enactment of laws to prevent the infected from spreading the infection.

The author strongly deprecates the practice of sending cases of tuberculosis, which have reached the second stage, away from home, as being not only useless and often cruel, but as being the most effective method of spreading the disease.

(6.) This case was shown before the Montreal Medico-Chirurgical Society, Oct. 28th, 1892. (Mont. Med. Journal, Vol. 21, pages 210-527.)

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Annual Meeting.

The twenty-fourth annual meeting was held on Friday, October 5th, 1894, Dr. JAMES BELL, President, in the chair.

The members present were: Drs. Wm. Gardner, G. P. Girdwood, A. Proudfoot, James Perrigo, J. B. McConnell, J. Chalmers Cameron, F. Buller, T. Wesley Mills, D. F. Gurd, J. A. Macdonald, G. T. Ross, Thomas D. Reed, James Stewart, J. Alex. Hutchison, F. R. England, H. S. Birkett, A. W. Gardner, E. H. P. Blackader, H. A. Lafleur, J. H. B. Allan, D. DeCow, J. H. Bell, J. A. Springle, G. Gordon Campbell, James M. Jack, J. G. McCarthy, J. Leslie Foley, F. A. L. Lockhart, J. A. Macphail, D. J. Evans, W. S. Morrow, A. E. Orr, H. D. Hamilton, H. B. Carnichael, C. F. Martin, George A. Berwick, S. Ridley Mackenzie and Kenneth Cameron.

The minutes of the last annual meeting were read and confirmed.

Dr. J. M. JACK, the Treasurer, reported that there was a balance of \$218.44 on hand, the receipts having been \$1,228.53 and the expenditure \$1,010.09.

Dr. KENNETH CAMERON, Secretary, reported that at the beginning of the session there were 117 ordinary members, 15 new members were elected, 1 died and 1 resigned, making a present total of 130; of these 114 are resident and 16 non-resident.

The number of temporary members had been greatly increased by the election of the resident staff of the Royal Victoria Hospital, the total membership now being 16. No honorary or corresponding member was elected.

Twenty regular meetings were held with an average attendance of 33.25 members per meeting, or an increase of

2.25 members per meeting over last year; The largest attendance at any meeting was 48 and the smallest 13 members.

Dr. T. D. REED, the Librarian, read the following report:

Considerable difference of opinion existed as to the desirability of placing the library and reading room in a different story of the building from the meeting room; the separation has now been accomplished for a year, in our present quarters, and each member can form his own opinion of the change.

The number of readers may be considered to have been about the same as previous years; exact statement on this point cannot be made, as members have access at will to the room by private key and leave no record of attendance.

The journals have been maintained as before and the valuable series of London, Philadelphia, New York and Montreal publications have been kept up by binding.

There are now on the table 4 weekly and 30 monthly journals.

No additions to the library by purchase have been made, as the Council has not appropriated any money for the purpose. It is very desirable that the Society should arrange for an annual appropriation for the purchase of the new encyclopedias, dictionaries, practices and other works of reference, which everyone would like occasionally to consult.

We are indebted to Dr. Blackader for a valuable series of *Braithwaite's Retrospect*.

To Dr. Smith and others our thanks are due for numerous medical journals.

The new room, though small, has been found comfortable and sufficiently commodious for the present.

The following officers were elected for the ensuing year.

President—Dr. G. P. GIRDWOOD.

1st Vice-President—Dr. J. B. MCCONNELL.

2nd Vice-President—Dr. J. ALEX. HUTCHISON.

Secretary—Dr. G. GORDON CAMPBELL.

Treasurer—Dr. J. M. JACK.

Librarian—Dr. F. A. L. LOCKHART.

Council—Drs. JAMES BELL, PERRIGO and SHEPHERD.

Dr. JAMES BELL, the retiring President, then read the

ANNUAL ADDRESS.

The Constitution and By-Laws of the Montreal Medico-Chirurgical Society demand of the retiring President that "He shall present at the annual meeting a written address, which shall include a resumé of the work done during the year."

You have already heard from the report of the Secretary that we have now a larger membership and that we have had during the year just ended a larger attendance, both average and minimum, than ever before. From the Treasurer we have learned that notwithstanding our more commodious and more expensive quarters and the great expenses incurred in fitting them up for occupation, we have a surplus of over \$200 at the end of the year. This is undoubtedly due largely to the adoption by the Society of better business methods (as well as to the energy of the Treasurer), but it must also be taken to indicate a greater and more genuine interest in the Society by the profession at large. These facts speak for themselves and constitute an effective answer to those who feared that in taking these rooms which we at present occupy we were launching out upon a scheme of extravagance which would ruin the Society.

Turning now to the professional work of the Society during the year, I find that it may be summed up as follows: There were 9 papers and 9 case reports read, 19 living cases exhibited, and upwards of 73 specimens presented. Besides these, 3 demonstrations were given which are not included in any of the above headings.

What instantly strikes one in this very condensed resumé of the professional work is, that while on the whole there was no dearth of work, there were only 9 papers given in 20 meetings. Following up this analysis we find

that among 142 members and an average attendance of 33.25, 25 names only appear as contributors during the year. Moreover, the discussions have been confined to a small proportion of the members present at any meeting. This, I fear, is the weak point of the Society, and I trust that the members will pardon me for calling attention to it. With every department of medicine represented on our programme, as they have been—clinically and pathologically—medicine and surgery, gynecology and obstetrics, ophthalmology, otology and laryngology, and with such a wealth and variety of material presented it seems strange that lack of discussion should be a feature of our meetings. I am sure that I voice the sentiments of the older members and of those who have been the main contributors in the past when I say that we would gladly see the younger members take a more prominent part in the preparation and the discussion of papers. Let it not be thought for a moment that here some are teachers and some are students, rather let it be understood that all are students and all may be teachers; that here we meet on common ground for mutual benefit and for the advancement of our profession. We have abundant facilities, let us have active professional work in the Society from every member, young and old. This is all that is needed to make our Society a great power in the land. In fact it is already a great power, and we can look with pride upon the part which it has recently played in several great public reforms, notably the reform of the national quarantine system within the last two years. In making this statement I do not wish in any way to detract from those who were more directly responsible for the reforms mentioned, but simply to state the fact that this Society did not stand aloof but took a firm and uncompromising position in support of the movement for reform.

The discussion of matters concerning the health of the public and the welfare of the profession I conceive to be an important function of this Society. Further, a more

active interest among the members must rapidly develop a higher class of work—collective investigation, formal discussions on important subjects in the different departments of medicine, committee investigations and reports on material presented at the meetings, and finally, as an outcome of all this, better arrangements for the editing and publishing of a volume of the Society's transactions annually.

There is another matter which I wish to specially commend to the thoughtful consideration of every member of this Society. A year ago we celebrated the fiftieth anniversary of the founding of the Society: to-night we are transacting the business of the twenty-fourth annual meeting of its second renaissance. Is not the time ripe for the establishment of a permanent home for the Society? We are domiciled here in our present quarters for four years more, and although at this moment I know of no scheme on foot, or even suggested for the purpose, it does not seem to me that it need be looked upon as entirely utopian to hope that before our present lease has expired such a scheme should at least be well under way. Of course it means money, and I know too well that no large sum of money could be raised among the members of this Society, but this fact need not be fatal to the project. We see hospitals, schools, libraries and institutions of all kinds grow up around us, not only in Montreal, but elsewhere, from public and private benefactions, in many cases directly influenced by medical men. Why may we not hope, if the want is made known, that some public spirited citizen will in the near future build such a monument to his memory? Such an institution will certainly be founded in Montreal sooner or later. Such institutions already exist and have long existed in all great medical centres, even in this, the new world. I have not inquired into the histories of the different institutions of this kind, but I was greatly impressed by the fact, noted during a recent visit to Philadelphia, that the Academy of Medicine

of that city is now nearly two hundred years old. What we want is a permanent abode, not only for our meetings, but where we may establish a library and a museum for reference, and preserve pictures and mementoes of the great lights of the profession to stimulate us and those who come after us to greater efforts and better work. In conclusion, gentlemen, I beg to tender you all my sincerest thanks for the honour which you conferred upon me a year ago by electing me President of this Society, and for the confidence and support which you have since accorded me as its presiding officer.

Selections.

Dr. Brown-Sequard's Orchitic Fluid.—

The death of Dr. Brown-Sequard has served to revive in some minds an interest in his orchitic fluid, in which the great physician had himself much hope. The *Lancet* in a recent number publishes some significant notes upon experiments with the fluid made by Dr. Guy M. Wood and Dr. A. J. Whiting, both physicians to the Hospital for the paralysed and epileptic, Queen's Square, London. The fluid was obtained directly from Paris, through Dr. Brown-Sequard's personal kindness. The injections were hypodermic, made with a Koch syringe, kept aseptic in absolute alcohol. The dose was from one gramme of the fluid to six grammes, and in all but three cases, diluted with an equal quantity of water. Except when the doses were large, no immediate effects were perceptible. In those some pain was felt at the point of injection. Twenty-three patients were treated. In eighteen cases there was no change from the treatment; three patients were slightly better; two were worse. At the beginning of the observations several patients said they felt better after the injections. At the suggestion of Dr. Buzzard, two women were given daily injections of two grammes of distilled water only, for three weeks. Both the patients declared that they felt decidedly better after each treatment, though of course there was no change in the physical condition. The physicians, therefore, conclude that in all the cases treated, the sensation of being better was due to the mental effect of the injection and not to the orchitic fluid, and they do not think that the results obtained warrant any further trial of the remedy.—*Scientific American*.

The Utility of a Billy Goat.—No doubt our title would suggest to some of our readers pleasant reminiscences of driving pairs or even tandems. To some of our city denizens to whom the promiscuous collections to be seen on certain

vacant city lots are familiar, the idea might naturally occur of Billy-goat performing the work of the scavenger by feasting upon old shoes, empty tomato cans, etc. The few who in early life may have fed upon goat's milk will think kindly of this phase of the animal's utility. But in the popular mind it is through the skin of the goat and the kid that the species of animal renders himself most useful to man.

It is, however, from a far different stand-point that the utility of the goat has in recent years come to be viewed by sanitarians, and of late even by therapists.

The stubborn resistance which the goat has so often been known to oppose to the will of his youthful master is but slight, indeed, in comparison to the force and tenacity with which he resists the infectious power of tuberculosis. In fact, the goat has been found by observation and experiment to enjoy a degree of natural immunity against tuberculosis so high that it may be regarded as one of the domestic animals which is practically free from any tendency to this disease. For this reason the goat has recently come into prominence as one of the domestic animals capable of rendering a number of most valuable services to man.

In the first place, it has been amply shown that the goat is capable of propagating the vaccine virus against small-pox in the same manner as is the young heifer, a fact of no little consideration now-a-days when the opponents of vaccination are unscrupulously or insensately using any and every means to prejudice the populace against the employment of vaccination as a protection against small-pox. Then again, the goat is now used successfully for the propagation of a protective, and even a curative virus for such deadly diseases as diphtheria and tetanus (commonly known as lock-jaw).

From the familiar position of a somewhat despised though serviceable domestic animal, Billy-goat bids fair very soon to be elevated to the rank of one of the greatest benefactors of the human race.—*The Dietetic and Hygienic Gazette*.

Did You Ever Notice—That putty women expect to have porcelain children ?

That discontent is a disease which change of climate cannot cure ?

That marriage develops antagonisms as well as compliances, and needs common sense in an uncommon degree ?

That nature effaces legality, and determines whether acquired kinships shall hold good in fact as they assume to do in law ?

That the nostrum advertisement creates the symptoms which the nostrums cures ?

The "practical" people are often the biggest fools ?

That the philosophy of results can never be established until all the returns are in ?—the relief of pain within three minutes is only the voice of the nearest precinct.

That doctors sometimes dispense because they can't write an intelligible prescription ?

That the fee of the specialist is, alas, sometimes his most lasting memorial in the mind of his patient ?

That the great riddle which most people are trying to solve is, how to dance without paying the piper ?

That the "blows which patient merit of the unworthy takes" are serviceable when the recipient builds them into the fabrics of his philosophy ?

There is no fool like an old fool, *because* practice makes perfect ?

That though politics is always "turning the rascals out," the politician is never out of a job—that is to say, the supply of rascals to be turned out is always equal to the demand of the campaign thunder-manufacturer ? If this is not perpetual motion, what is it ?

That the velvet paw of the soliciting doctor resembles the tiger's in more ways than one ?

That the philosophy of the nostrum-prescriber is : "Where no one knows, all have an equal right to guess." Considering its quality, isn't this professional wisdom rather high-priced ?

That men are unique in their troubles, but profoundly alike in their genuine consolations ? Life is more real than any of its forms.

That "love," "patriotism," "faith," and other words of

deep significance, are often made to do duty for their exact opposites? This is as ghastly as the application of cosmetics to the dead.

That those who rail most vociferously at medicine are among the first to telephone for the doctor?

That the knowledge of pertinent facts will always confer advantage? The rest of the play is ingenuity and farce.

That the brunt of the greatest effort of nature toward sustaining the equilibrium of supply and demand is laid upon the babies; and, like Greek grammar, they exhibit more exceptions than examples of the rule?

That nature is frank, and hypocrites are her pathogenic micro-organisms? Their art is to be so small that the microscope of investigation cannot find them out—but pathology results, nevertheless.

That nature makes a desperate effort to remedy her blunders every time she brings a baby into the world? If the children did not inherit more of the virtue than the vice of their ancestry, the race would long ago have become extinct. Yet this is a coward's excuse for burdening the unborn with mortgages to disease and sin.—*The Medical Age*, Oct. 10, 1894.

The Guardian Angel of the Ambulance.

—Strange, passing strange that the ambulance surgeon should have such burdens thrown upon his much-enduring shoulders. Each time that the clangor of the well-known bell announces his passing we look up and wonder what ills he is bent on relieving, we think that his presence is one of the most shining marks of that loftiest degree of civilization which is based upon mutual help. Yet the sensational-questing reporter, that autocrat of our breakfast table, when hard pushed for canvass whereupon to bedaub his gaudy pigments, has been known to seize upon the ambulance surgeon. His pen-chromos have depicted the man at the back of the ambulance as one who is haughty and puffed up with a sentiment of his importance, as one who at times commits grave errors, who scorns the disinterested advice of eager bystanders, is heedless of suffering and impervious to sorrow, and finally, and without benefit of clergy, is guilty, oh anathema! of being young.

Ours the privilege of defending him from these odious charges ! Ours the hand to lead him to his real position in the esteem of a generation whose vision, though prone to refractive errors, can commonly be corrected by means of proper glasses.

Haughty, forsooth ! Because the jolting of his chariot fails to disturb the serenity of countenances that mirrors a restful conscience. He has been known to err ! Let the providers of so-called " scoops " pick up their stones. They never get blown up by the night editor, and have all been preserved in the spirits of just men, made perfect. The ambulance surgeon harkeneth not to the crowd's advice. He hath been known to firmly reject the proffer of the usual luscious quid of fine cut wherewith to bind a wound, preferring, in his obstinacy, the golden-hued gauze that smileth to Heaven. He is heedless of suffering, since he prefers to irrigate with bichloride solution rather than with copious tears, and impervious to sorrow, since he can seldom be persuaded to attend the wakes of those for whom the ambulance proves an Acherontian bark.

But he is young. What plea can we advance in mitigation of this damning, but often truthful accusation ? What is his excuse ? Gentlemen of the jury, if length of whisker was a measure of merit and a badge of skill, where should we be ? Consider the humble goat. He sows not, nor does he reap, and yet Greeley in all his glory was not in it with him. The ambulance surgeon, we say it without fear of contradiction, is often young through no fault of his own. Could he have hastened the nuptials of his progenitors, he would have done it, and could he have foreseen the reportorial attacks to which he was doomed, he might have forbidden the banns altogether. The ambulance surgeon of this city has been known to climb a steeple and, upon a few shaky boards poised at vertiginous heights, minister to one too badly hurt to be moved at once from his dangerous position. He goes down the holds of great ships for men that lie there crushed and bleeding ; he has been made a target for pistols in the hands of crazed ones, tremulously aiming at ophidian hallucinations. Night and day he is at the beck and call of suffering humanity ; in all weathers you hear his crash-

ing gong. We are glad that he is young and able to accomplish such things, and feel that his salary of nothing a day and clothe himself is more than earned. Suprising as a word of approval must be to him, we know that he can stand it, for he is used to emergencies and sudden shocks, and we hereby tender him the assurance of our most distinguished considcration.—*The International Journal of Surgery.*

Sad Mishap With Animal Extracts.—

In a number of published papers I have urgently advocated giving honestly and fairly the record of our successes, as well as failures, of our blunders as well as our hits, in published reports of cases. The time has now arrived for me to put these precepts into practice, some very lamentable mistakes, not to use a stronger expression, having taught me a lesson that I shall try to profit by in the future, and which, I think, ought to be made known to the profession, in the hope that it may inure to the general good.

The blunder I wish to call attention to occurred recently in the preparation and use of the animal extracts so fortunately discovered by the late Dr. Brown-Sequard, of Paris, France, and so effectually developed by certain eminent physicians in our own country. After having carefully and diligently experimented for quite a lengthy period in the manufacture and use of these extracts, I came to the conclusion, from my results in the treatment of certain functional troubles, that I had accidentally hit upon an unusually excellent technique in the manipulation, and felt emboldened to try my hand in the treatment of some organic troubles.

One particular lot of the extract had proved so exceptionally efficient that I decided to adopt the method pursued in its preparation as a rule for my laboratory. Looking up the note of the method I had employed with it, I ascertained that in all essential particulars except one I had followed that of the high authorities now everywhere recognized in this connection. The exception had regard to the length of time given to the maceration. Instead of one year, the regulation time, I had left the

material in the macerating vats for eleven months, five weeks and eight days.

My first experiment was made with two black-and-tan setter dogs, who, in attempting to take charge of some blue-grass hay in the manger of a Kentucky thoroughbred stallion, had been set upon by that spirited animal and compelled to beat a hasty retreat, each with the complete loss of an ear. These canines were named, respectively, Ardotto and Scipio. Ardotto had lost his left ear and Scipio his right. As Ardotto had become quite vicious, and was also unkindly suspected by his neighbors of eating his mutton too fresh, I conceived the notion of killing him and feeding his ear to Scipio in the shape of aurine, or ear-extract, to be made according to my improved formula.

The result was marvelous. In the course of a few weeks after Scipio began taking the aurine thus prepared, an ear began growing rapidly from the old stump, and in a short time the appendage was fully restored. If there was any difference, it looked smoother and glossier than the other, and, indeed, though not noted at the time, it was an exact reproduction of the ear of the condemned Ardotto. I failed to take into consideration at the time that the dogs were twins, that they had lost opposite ears, and that they were both black-and-tan, all those coincidences being purely accidental. However, after a short time Scipio was unluckily run over by a street-car, and lost his left hind leg. Encouraged by my former successes, I began to look up a suitable dog that could spare a leg, or a leg that could spare a dog, with the view of preparing a quantity of legine, in the hope of restoring as before the lost member. The first dog brought was a strong, bench-legged cur, with a shaggy, well-curved tail. After the carcass had been divided ready for committing to the vats, it somehow failed to meet the fancy of my assistants as well as myself, so we threw it aside and substituted an animal that appeared to be a vigorous cross between setter and Newfoundland, using the right hand leg in the preparation of the extract.

An enterprising young friend, however, took it into his head to treat a bob-tailed dog belonging to his mother, with a pre-

paration of tailine, in the hope of restoring the missing member, and requested permission to prepare the extract in my laboratory from the tail of the rejected cur. To this I cheerfully consented.

After macerating our materials with scrupulous regard to the period we had adopted as our rule, viz. : thirteen months, five weeks and eleven days, my assistants went into the laboratory early in the morning, before it was fairly light, to get the legine to begin on Scipio's leg. Unfortunately, in doing so they cracked the glass jar containing it. The jar in which my young friend had prepared his tailine stood next to it, but was thought by them to be empty. Into this they hastily poured the legine and brought the jar into the operating-room, where the mixture was administered to Scipio.

At first things went on most gratifyingly. A leg began growing rapidly from Scipio's stump, and in a short time it was thought best to turn him out for exercise so that the new joints might be made supple. When he was brought out it was observed that the hair on his tail was becoming rather coarse and stiff, and it was noticed, too, that the tail had begun to turn over his back. At first, however, it was thought that this roughness of the hair was due to the fact that he had not been in a situation to have the toilet of his tail properly attended to, while the curling was attributed to pressure against the walls of the narrow kennel in which he had been confined. Both the curling of the tail and the state of the hair grew worse daily, and an investigation which was now set on foot developed the mistake by which the legine and the tailine had become mixed.

In a short time Scipio's tail had become markedly bushy and ugly, and eventually became curled so tight over his back that half the time his hind feet were lifted clear off the ground. This led to the discovery that the extract from some animals is prepotent as compared to others, for evidently the tail developing elements of the cur had predominated over those of Scipio. But poor Scipio's misfortunes did not end here. We had made the legine from the right leg of the mongrel, and the result was that a right leg grew on Scipio's left stump, and the dew claw

was on the wrong side. Furthermore, Scipio had always been a right-handed accelerator, that is, he had been in the habit of lifting his right leg whenever he felt inclined to moisten hat-racks, door-posts, and the like, and by a streak of ill-fortune the same had been the case of the mongrel. So, when it became necessary for Scipio to discharge the renal secretion both legs would begin bouncing up in the most tumultuous and unsymmetrical way, and this, with the tilting of the hind-quarters due to the tight-curling of the tail, made poor Scipio at such times a picture of confusion, shame and chagrin that could not but touch a tender spot in the bosom of the most unsympathetic.

Imagine the consequences if I had been treating a sensitive young lady, say a beautiful blonde, who had happened to lose her nose through infection from the kisses of too ardent a lover, and a similar blunder had been made ! Imagine that noseine derived from the black, broad and flat proboscis of some glossy son of Africa had been used in the treatment, and worse still if worse can be, that some one making hairine from kinky shearings from the same source had got the extracts mixed as we did. I draw the veil !

Half the seigniorage in the national treasury would not suffice to meet the damages, especially if the jury should happen to take its cue from a verdict in a recent noted case at the national capital. I only venture this allusion in order to suggest the measure of gratitude that is due me for making this humiliating confession purely for the good of the profession, and bravely regardless of the fact that well-nigh universal success characterizes reports throughout medical literature.—LUKIANOS, in *The American Practitioner and News*.

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PROVISION FOR EPILEPTICS.

The treatment of this distressing complaint is, to say the least, very unsatisfactory and little headway seems to be made towards any more successful methods. The condition of the epileptic is really pitiful; many of them are persons of considerable ability and able to undertake any employment, but suddenly the terrible malady strikes them down to the terror of those around them and their own mortification, and consequently it becomes more and more difficult for them to obtain employment, until finally they drift into the poor house or become a burden on their friends. The sufferer is debarred from going to church or to any place of amusement, for he never can be sure when the attack will come on. The hospitals look on him as a nuisance, for the ambulances are being perpetually called out to attend to some one who is dying and on arrival finds the patient sitting up and looking about him in a dazed manner, just recovering from an epileptic fit, or perhaps has recovered and gone off about his business.

The proportion of epileptics is variously estimated at from one to two per thousand of the population, so it is far from being an uncommon disease, and what is to be done with this large and helpless class?

In a paper written by William Pryor Leitchworth, LL.D., Commissioner of the New York State Board of Charities, we find it given as the opinion of those who have given their time and attention to this matter, both physicians and charity

workers, that there is only one form of institution which meets the requirements of the case, and that is the colony system. The first of this system was in 1848, when John Bort, pastor of a Protestant church at La Force, near Bordeaux, France, built a house for friendless girls. This was enlarged and added to, and finally another house was built in 1881. In these the patients live as much as possible like families in their own homes. Outdoor life in the country was believed by the good pastor to do as much good as medicine. This was the first practical starting of the idea which has spread more or less over Europe, and has been adopted in some of the States of the Union, Ohio being the first to provide a state institution for epileptics.

Such a colony requires several houses, so that the cases may be classified, and as the number of houses increase this classification becomes more perfect ; each home is complete in itself under the charge of a superintendent or house father. A hospital must be provided and a staff of nurses with proper accommodation. Employment must be furnished in farm work, various trades, &c., so that the colony may be as self-contained and self-supporting as possible. Finally, every opportunity should be provided for the scientific study of the disease.

This system has been found to give the best results of any form of treatment, and to be most conducive to the happiness of these unfortunates.

Canada is no more exempt than other places from this disease, but nothing has yet been done by the government to alleviate their distress. It need not be a very expensive proceeding, with the vast acres of government land lying waste with timber enough upon it to put up the necessary buildings. If some of the sums squandered in useless engineering works, in building bridges where there is no traffic, or waterways where no boat dares to go, could be diverted to this use, not only would the patients themselves be benefited, but also their families, for the care and expense is greater than in many instances can be borne. If, however, the state cannot be prevailed upon to take up this question, it might be made a private charity, as it was

in Europe in its development. Such an enterprise would necessarily be on a small scale, but the expenses would not be great, and if properly managed might be made pretty nearly self supporting.

THE OLD COUNTRY DOCTOR.

For some time we have been making a collection of the opinions expressed in the newspapers regarding doctors, and a most unflattering collection it is. From beginning to end it reminds one of the old rhyme about the devil and his desire to become a saint. However, at last we have come across an extract from the *Christian Herald* that is in such direct opposition to the usual run of such articles, that we hasten to present it to our readers, so that they may not be altogether discouraged by the jokes of our unfeeling and unsympathetic populace. The article in question is headed "The Old Country Doctor," and was probably written by some one during the stage of gratitude which is usually among the sequelæ of a severe illness, and is followed, except in rare cases, by a condition of apathy towards, if not of absolute dislike of, the doctor. Be that as it may, the extract is as follows, and of its justice we leave the reader to judge :

"Our country physicians have so many hardships, so many interruptions, so many annoyances, I am glad they have so many encouragements. All doors open to them. They are welcome to mansion and to cot. Little children shout when they see them come down the road, and the aged, recognizing the step, look up and say, "Doctor, is that you?" They stand between our families and the grave, fighting back the troops of disorder that come up from their encampment by the cold river. No one hears such thanks as the doctor hears. They are eyes to the blind, they are feet to the lame, their path is strewn with the benedictions of those whom they have befriended. One day there was a dreadful foreboding in our house. All hope was gone. The doctor came four times that day. The children put away their toys and all walked on tip-toe, and at the least sound said 'Hush!' How loudly the clock did

tick, and how the banister creaked though we tried to keep it still ! That night the doctor stayed all night. He concentrated all his skill upon the sufferer. At last the restlessness of the sufferer subsided in a calm, sweet slumber, and the doctor looked up and smiled : ‘ The crisis is passed.’ When propped up with pillows, in the easy chair, she sat, and the south wind tried to blow a rose-leaf into the faded cheeks, and the children brought flowers—the one a red clover top, the other a violet from the lawn—to the lap of the convalescent, and Bertha stood on a high chair with a brush smoothing her mother’s hair, and we were told in a day or two she might ride out, joy came back to our house.

“ And as we helped the old country doctor into his gig, we noticed not that the step was broken, or the horse stiff in the knees, and we all realized for the first time in our life what doctors were worth. Encourage them. They deserve every kindness at our hands.”

Public Health.

“ WATERBORNE ” AND BREAD-NURTURED TYPHOID INFECTION.

Surgeon-Major S. J. Rennie, A. M. S., of Meerut, India, sends us the following short account of bread acting as a means of transport of the virus of enteric fever :

An instance having occurred in this station in which it has been almost undoubtedly proved that bread, especially in the form of half-baked, doughy “ plum cakes,” was the means by which the enteric virus was spread, I venture to put the circumstance on record, in the hope that it may lead to further observation and inquiry on the subject. In April and May of this year, enteric fever was very prevalent here, until, towards the end of the latter month, it assumed almost an epidemic form. From enquiries I was led to make, I found that the majority of those attacked were temperance men, and belonging to the Army Temperance Association. In this country the ordinary bread ration is issued by the Commissariat Department; every care is taken in its preparation, and the bread itself is usually excellent. The Army Temperance rooms and regimental institutions, however, procure their supplies of cakes, etc., from dealers in the native bazaar, who manufacture the articles in their own houses, often taking the water used in the process from very questionable sources. In the case in point, an inspection of the premises of the native baker who supplied the temperance rooms was made, by Brigade-Surgeon-Lieutenant-Colonel Boileau, Surgeon-Captain Tait, and myself, and as a result of what we then discovered, arrangements were at once made for a supply of cakes and other luxuries of a like nature prepared under European supervision. This was in the end of May, during which month there had been no fewer than seventeen admissions to hospital for enteric fever. The effect was marked and immediate, for the disease at once declined. There were only

three more admissions in the beginning of June, and not another single case during the whole of the remainder of June and July. These results, I think, speak for themselves, and I hasten to lay them before medical officers serving in stations where this terrible scourge of the young British soldier in India may be prevalent, with the suggestion as to the advisability of inquiring into the sanitary condition of the sources of the bread, etc., supplied to the regimental institutions of the troops under their charge, in cases where there is no obvious cause for the spread of the disease discoverable. I may add that a precisely similar state of things was found to exist at Cherat, where I was quartered last year, and where enteric fever prevailed in an epidemic form. I then also noticed that the majority of those attacked were temperance men, and an inspection of the bazaar bread shops revealed such a state of things that the vendors were brought before the civil authorities and severely punished. It was, however, too late in the season for any marked results to be observed, as the troops returned to the plains the following week ; but I felt quite convinced at the time that we had hit off the true cause of the spread of the disease, and my conviction has been abundantly verified in the present instance.

The source of the infection I believe to have been the impure water of the wells, which are usually situated within the house itself, or in the small enclosed courtyard common to almost all native residencies. On the margin of these wells, with true Oriental disregard of even the first principles of sanitation, all the personal ablutions, clothes washing and general "clearing up" of the whole family is performed. This is the water that is then drawn and used in the preparation of cakes by the native bakers. These cakes are placed in the oven, and exposed merely to a low heat, which may possibly kill the bacilli, but is quite insufficient to do for the spores, the result being a mass of that indigestible "stodge" which delights "Tommy Atkins" and the British schoolboy. The softer—more underbaked—and doughy it is the more it is appreciated, a fact well known to the mild Hindu "roti-wallah."

While writing on the subject I may mention what I consider

to be another very important and patent factor in the spread of disease in India—namely, the filthy habit of the native washermen of washing clothes in any little stagnant waterhole they may come across; these holes so used are often on the outskirts of a village, and are simply common cesspools. Infusions of the linen washed in these places yield bacilli by the score. In the hot weather, when the clothes are thoroughly dried, they may be rendered more or less innocuous; but far different is it in the rains, when the things are almost invariably brought back in a damp or semi-damp condition, and this, be it remarked, is the season when cholera is usually most prevalent. Much has been done in some stations to ensure a supply of clean running water for this purpose, but I firmly believe that all danger from this source will not be removed until every station in the country has its properly constructed “dhobies”—washing troughs—with a free inlet for the fresh, and a free outlet for the soiled, water.

Dr. Klein, to whom we have submitted the above statement, favours us with a note to the effect that “The typhoid bacillus does not form spores, but if, as above stated, the materials are ‘exposed merely to a low heat’ it is quite possible that some of the bacilli in the centre of the cakes remain shielded from the heat; experiment shows that a temperature of at least 65°C. acting for some time is required to kill the bacillus.”—*British Medical Journal*.

Medical Items.

THE JAG-CURE ACT.—In Michigan there was a statute passed by the Legislature allowing a magistrate to accept from a person convicted of being "drunk and disorderly" a recognizance that he would place himself under the care of some company administering a cure for the liquor habit. This is instead of the usual recognizance for good behaviour. This statute is known as the "Jag-Cure Act," but it has been declared unconstitutional by the Supreme Court.

The medical profession of Texas is not a unit, if we may be allowed to form a conclusion from the perusal of the pages of the *Texas Health Journal*. In the issue for July Dr. Cunningham has an article with the vigorous title "The Amazing Infatuation of the Texas State Medical Association in Pompously Parading Its Appalling Ignorance of the First Principles of Sanitary Legislation, and Its Unbounded Cheek and Unmitigated Gall in Presuming to Instruct Congress in the Proper Performance of Its Duties, Succinctly Set Forth."—*Medical Record*.

A CASE OF HYPERPYREXIA.—M. Ch. Richet reported to the *Société de Biologie* a unique case of hyperpyrexia, which M. Caparelli (of Catania) had communicated to him. A young woman in the neighbourhood of Catania for several days had an evening temperature of 45° C. (113° F.). The attending physicians, surprised at such an elevation of temperature, called Prof. Caparelli in consultation, and he observed an axillary temperature of 46° C. (115° F.), verifying the observation by using several thermometers. The cause of the hyperthermia was malarial poisoning, and under the influence of quinine the temperature became normal.

M. Richet recalled the case where a Cincinnati physician

reported a rectal temperature of 46.1° C. after insolation. It is most remarkable that the two patients who have presented these excessively high temperatures, the highest on record among mammals, have recovered.

—It has been stated that you may know the character of a place by its newspapers. The test may not be always true in its results; but the English press seldom fails as a faithful reflex of the times in which we live. It represents public opinion, and it indicates by its advertisements and its news the sort of people among whom it circulates and to whose wants it ministers. Look, say, at No. 795 of the *Leeds Intelligencer*, published by Griffiths Wright, at New Street End. This issue, a sheet of 16 small columns, appeared on *September 13, 1768*, and Mr. Rhodes draws our attention to the copy before us. This publication of a century ago gives a pretty clear idea of some peculiarities at least of the people who then did their part in “making” Leeds, if not what it is now, at all events as fairly great as the times and circumstance would permit. Here is a grave announcement recalling to mind the days when a very fatal and destructive disease prevailed extensively in the country:

“INOCULATION—Mr. SUTTON begs leave to inform the Public that he has taken into partnership Mr. HORSMAN, Apothecary and Surgeon, of HAREWOOD, who has there fitted up an elegant House for the Reception of Patients to be inoculated for the small-pox. * * * Seventeen children in the Township of Harewood have been already inoculated and safely conducted through that Distemper, to the great Joy and Satisfaction of their Parents.”

The benefits expected from inoculation were far from realized in the country generally, but there was, it seems from this significant announcement, great joy at Harewood. Small-pox was in its destructive power checked 30 years later on by Dr. Jenner's famous discovery of vaccination, and, whatever the opponents of vaccination in the present day may say, there is abundant cause for joy that, instead of every other person you meet in the street being dis-

figured by the effects of the malady referred to, there is scarcely any evidence at all of the disease.—*Yorkshire Post*.

“HAIL, HORRORS!”—Macbeth “supped full with horrors.” But could he return and live in modern times, he might have even a richer banquet than his first; for a Frenchman, M. Gelineau, has just published a volume upon “Unhealthy Fears, or Phobiæ.” These curious and uncomfortable states of mind were first described by Benedict and Westphall; but there are many species, and M. Gelineau has carefully compiled a complete list for the benefit of his shuddering yet fear-bound reader.

They are aichmophobia, or fear of sharp points, as of needles or pins; agoraphobia, or fear of open spaces, with a sub-variety, thalassophobia, or dread of the ocean; astrophobia, or fear of the stars and celestial space; claustrophobia, or fear of enclosed spaces; mysophobia, or fear of filth; hamatophobia, dread of blood; necrophobia, or horror of dead bodies; thanatophobia, or dread of death; anthrophobia, or fear of crowds; monophobia, a fear of being left in solitude; bacillophobia, or fear of microbes; siderodromophobia, or dread of railways; pathophobia, or fear of disease, with many subdivisions, of which the most important and most frequent are anginophobia (fear of angino pectoris), ataxophobia, syphilophobia, lyssophobia (or fear of rabies), spermatophobia and zoophobia (or fear of animals), which in his turn has subdivisions for cats, dogs, horses, mice etc., *ad totum catalogum animalium*.

Returning to the list, we find still kleptophobia, fear of becoming a kleptomaniac; pyrophobia, fear of matches; stasophobia, dread of standing upright; aerophobia, or dread of draughts of air; acrophobia, fear of high places; toxicophobia, a fear of poisons; demonophobia, a dread of the devil (this is rather rare).

There are also a very great number of phobiæ peculiar to certain professional persons, as physicians, artists, merchants, which have yet to be Hellenized and classified.

The culminating fear, however, the quintessence of dread, is the fear of having a fear, the dread of a dread, or phobophobia.—*Boston Medical and Surgical Journal.*

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