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ON THE NATURE AND PREVENTION OF
URETHRAL FEVER.

BY JAMES BELL, M.D.,
Surgeon to the Montreal General Hospital.

(Read before the Medico-Chirurgical Society of Montreal.)

Ten years ago I read before this Society a short paper on "Urethral Fever," in which I called attention especially to the causation of the disease and its nature and prognosis. To-night I propose to discuss this subject from the standpoint of the practical surgeon, with special reference to its prevention in operative and instrumental interference within the urethra.

It will first be necessary, however, to define clearly what is meant by urethral or urinary fever, and to refer briefly to the theories held as to its origin. I do not intend to occupy the time of the Society in reviewing the literature of this subject, nor to refer to authors or individual opinions, but to state as briefly as possible the theories of the leading surgeons of the present day regarding the origin of this disease. All surgeons, and in fact most general practitioners, are familiar with certain forms of constitutional disturbance which follow instrumental or operative interference within the urethra. In a certain number of such cases pre-existing disease of the kidneys, ureters or bladder, or of all these organs combined, or the setting up of a true sepsis (pyæmia or septicæmia), or the production of the disease known as surgical kidney, may explain these symptoms.

But there still remains a large class of cases occurring in male patients of all ages, and often where no lesion of any organ can be discovered, even by post-mortem examination, in which instrumental or operative interference within the urethra is followed by the train of symptoms to which has been given the names urethral fever, urine fever, catheter fever, etc. These symptoms occur in one of four different forms.

(1) Shock, collapse and death within a few hours after operation (9 to 24), with or without chill or fever, and with partial or complete suppression of urine.

(2) A severe chill with high fever occurring a few hours after operation, and usually following the first act of miccurition. Profuse sweating and prostration follow, but the whole disturbance lasts only from a few hours to two or three days.

(3) Recurrent chills and high fever coming on at irregular intervals and lasting perhaps for weeks or months.

(4) A moderate fever with slight chills or chilly feelings accompanied with great depression, low muttering delirium or semi-coma, dry, cracked tongue and anorexia, and usually ending fatally. Such cases occur only in old men with enlarged prostates, and in whom, as a general rule, attempts at catheterization with solid instruments have resulted in the formation of false passages just in front of the prostate and on the floor of the urethra. This form differs materially from the preceding ones, but clinical experience points strongly to its being identical in its origin.

The second and third classes of cases generally recover completely and satisfactorily. Although this subject has occupied the attention of some of the leading surgical minds of this century, especially in France, Germany and England, its pathogenesis has never been satisfactorily explained. Three distinct theories have been advanced as to its origin.

(1) That it is a septic process.

(2) That it is due in some obscure way to reflex nervous phenomena.

(3) That it is due to uræmia.

In December, 1883, Sir Andrew Clark, in an able and

exhaustive paper entitled "Catheter Fever," read by him before the Medical Society of London, submitted certain propositions which called forth a very spirited discussion, in which Sir Henry Thompson, Mr. Savory, Mr. Berkeley Hill, Mr. Reginald Harrison, and others took part. No definite conclusions, however, were arrived at, the speakers being pretty evenly divided in their advocacy of the different theories already mentioned. A very casual investigation of the subject will, however, show the utter inadequacy of any of these theories to explain the cause and nature of urethral fever. In its symptoms and in the absence of gross lesions it differs entirely from pyæmia or septicæmia, or other known septic process; there is no similar pathological condition produced by nervous disturbance, and it presents an entirely different picture from any known form of uræmia. The discovery of the animal alkaloids known as ptomaines and leucomaines, and the experiments of Dr. Bouchard of Paris from 1882 to 1886 upon the toxicity of the alkaloidal substances found in normal urine seem, however, to have given the key to a rational explanation of the origin of urine fever. From the amount of evidence which we now possess there can hardly be any doubt but that this disease is due to the absorption of the products of decomposed or decomposing urine from cut, lacerated or abraded portions of the urethra. It is not a septic process, but a form of poisoning closely allied to uræmia and due to the absorption of a toxic alkaloid produced by or during the decomposition of the urine. The clinical facts pointing to this conclusion amount almost to a demonstration. They are as follows:

(1) Urine fever is unknown after perineal lithotomy, external urethrotomy and internal urethrotomy in the pendulous urethra, and is far less frequent when the urethra is wounded on its roof than when it is wounded on the floor.

(2) When, after internal urethrotomy, the urethra and bladder have been carefully washed out with an antiseptic solution, urine fever does not occur until some time after urine has been passed over the wounded urethral surface, and is then of a mild type and generally free from danger.

(3) Operations upon the female genitals which wound or injure the urethra are not followed by any similar condition.

(4) Mr. Harrison of Liverpool has shown by a number of operations that when the bladder is drained by a perineal wound after internal urethrotomy that urine fever never occurs, and he attributes its origin to the absorption of the products of decomposing urine from wounds of the mucous membrane.

It is primarily with the object of contributing my experience in support of this important observation and adding my testimony in favor of the combined operation that I bring the subject forward to-night. I have records of five cases in which I have performed, within the past twelve months, the combined operation, and also of six cases of simple internal urethrotomy for stricture of the deep urethra performed within the same period of time. The five cases in which I drained the bladder by a perineal cystotomy were selected for this operation because of specially bad features in each case, as the detailed reports will show. The six cases in which I did a simple internal urethrotomy were, with one exception, not drained, because they were more favorable cases for operation. In the first series, in which I drained through the perineum, there was not in any case a subsequent rigor or rise of temperature, while in the six cases of the second series urine fever in a mild form followed in four cases, but only after micturition. Two cases only escaped, and in these I believe the result was due in great part to greater intelligence on the part of the patient in carrying out his instructions.

First Series—Cases of Internal Urethrotomy with Perineal Cystotomy.

CASE I.—G. R., aged 33. Traumatic stricture of seven years standing, from a fall astride of the edge of a plank; unable to pass his urine in a stream for past six years; distended bladder and constant dribbling causing excoriation of legs and great discomfort. On examination, a stricture at the root of the penis which admitted a No. 4 sound (English) was discovered, as well as a deeper one at the end of the bulbous urethra, through which I could pass no instrument whatever, and around which a fibrous

nodule three-quarters of an inch long and as thick as the point of the little finger could be felt. On the 13th of March last a filiform guide was passed into the bladder and the deep stricture divided along the roof of the urethra by Guyon's Maisonneuve Urethrotome. Both strictures were then thoroughly divided along the floor of the urethra by Otis's divulsing urethrotome, so that a 34 (French) sound passed quite easily. A staff was then introduced and a median perineal cystotomy performed, through which a large soft rubber catheter was introduced and tied into the bladder. The bladder and urethra were then washed out with a weak solution of salicylic acid (1 to 1000) dissolved by the aid of borax. No chill or other bad symptom followed. The temperature never rose above $98\frac{1}{2}^{\circ}\text{F}$., and at the end of forty-eight hours the catheter was removed. On the sixth day sounds were passed again up to 34 (French). On the eighth day he was discharged, and on his return eight days later the perineal wound was completely healed and sounds were passed again up to 34 (French). This patient returned weekly for two or three months to have the sounds passed.

CASE II.—A. S., aged 38, was brought to hospital in April last with a distended bladder and a history of stricture extending over four years and following a third attack of gonorrhoea. He had recently had retention on several occasions, and had had his urethra horribly torn and lacerated by repeated attempts to pass a small silver catheter. He was very ill and had a history of chills and fever for over a week before admission, his temperature being 102°F . when admitted. He also complained of pain and tenderness in his shoulders, and a localized extra-articular swelling rapidly developed over the point of each. Owing to his bad general condition, as well as to the condition of his urethra, no immediate attempt was made to pass an instrument, but, instead, his bladder was emptied by aspiration. Next day, on examination, he was found to have a series of strictures extending from the meatus to the deep urethra—the deepest one being, as usual, the tightest. There were also many false passages in the floor and sides of the urethra which discharged bloody and watery pus. With much difficulty a rubber filiform guide was

passed and the strictures treated by internal urethrotomy and perineal drainage, as in case I. No chill followed the operation, but the temperature remained high (99° – 103° F). This patient was undoubtedly suffering from a pyæmic condition on admission, the course of which was not unfavorably influenced by the operation. The perineal catheter was removed on the fourth day, and on the thirteenth day the patient insisted upon leaving the hospital and was not heard from again. I may add here that his employer stated that he was an inveterate drunkard.

CASE III.—J. T., aged 40, seaman, had a traumatic stricture of nine years standing following a fall into the hold of a ship and landing astride of the edge of a barrel. A hard fibroid mass as large as a crab-apple was felt on the perineum in the situation of the bulbous urethra, and corresponding to this mass within the urethra was a tough strictured ring which admitted with difficulty the point of a No. 2 sound. This case was treated in the same way as the two preceding ones, and with excellent results. No chill nor elevation of temperature followed the operation. The perineal catheter was removed on the fifth day, and the wound was perfectly healed ten days later. Sounds were again passed at the end of a week up to $3\frac{1}{4}$ (French), and the patient was discharged about four weeks after operation. His residence in hospital was somewhat prolonged on account of two attacks of the nature of renal colic, distinctly referred to the region of the left kidney, and accompanied by elevation of temperature—once as high as 104° F. The first of these attacks occurred fully two weeks after operation, and could not therefore be attributable—at least directly—to it.

CASE IV.—A. A., aged 42, was operated upon on the 29th of November last. He had a traumatic stricture of the deep urethra caused by falling from a ladder and landing astride of a steam-pipe four years ago. One year after the accident he was treated in the hospital by gradual dilatation, but he states that whenever an instrument was passed he soon after had a chill, followed by fever and sweating, and was ill for some days. For over two years his urine had been dribbling away, and his condition in consequence was a very miserable one. The stricture

was very tight, only admitting the filiform guide with difficulty, and was surrounded by a fibrous nodule distinctly appreciable externally. He was treated in the same way as those already mentioned, and without chill or fever. The perineal catheter was removed on the eighth day and sounds again passed up to 34 (French). His convalescence was delayed by an attack of orchitis, but the perineal wound was healed completely within a month.

CASE V.—J. C., aged 46, had a tight stricture of the deep urethra, which he attributed to riding long distances over a rough country. It was also treated seven months ago by internal urethrotomy and perineal drainage, and without chill or fever.

Second Series—Cases of Simple Internal Urethrotomy.

The following cases were all treated by internal urethrotomy alone. The patients were prepared in every case by a purgative given the night before the operation. The filiform guide of the small Maisonneuve instrument was first introduced, the patient then anaesthetized, and the stricture cut on the roof of the urethra by this instrument and dilated by tunnelled bougies passed along a metallic guide so as to admit Otis's instrument. The stricture or strictures were then cut on the floor by this instrument and sounds passed up to No. 34 (French). The bladder was then emptied by a soft rubber catheter and washed out with a warm salicylic acid solution (1-1000), and the urethra thoroughly irrigated with the same. The patient was instructed to hold his water as long as possible, and in no case did symptoms of urine fever follow until after micturition. Sounds were not passed again for a week and all did well, but with this exception of cases I and II, every patient had one or more chills with fever and sweating within the first couple of days after operation.

CASE I.—J. D., aged 26. Very tight stricture of bulbous urethra of three years standing, due to gonorrhœa. This patient did not pass any water for twenty-four hours after operation, and had no chill.

CASE II.—J. E., aged 36. Stricture of deep urethra of six years standing. Urethra very irritable and subject to spasm,

so that the instrument could not be passed without an anæsthetic. I dilated twice under anæsthesia with the greatest ease up to 28 (French), but the spasm returned immediately after recovery from the anæsthetic, and there was then no apparent improvement in the stricture. Both of these dilatations were followed by chill and fever. Under these circumstances I decided to do an internal urethrotomy. This patient retained his water for twelve hours after operation, and had no chill or fever. He made an excellent recovery.

CASE III.—P. R., aged 40, seaman. Two deep and very tight strictures. Chill and rise of temperature twenty-four hours after operation. Subsequent progress uninterrupted.

CASE IV.—V. S., an old man aged 68, with a history of treatment for stricture extending over twenty years. This patient's urethra was literally beaded with fibrous nodules varying from the size of a pea to that of a marble, and extending from the glans penis to the margin of the anus. His bladder was distended and overflowing. He declined to submit to any external operation. With great difficulty I succeeded in passing a filiform guide and cutting the strictures as in the preceding cases. He did not pass any urine for about fourteen hours. He had, nevertheless, a series of three or four chills with high fever and perspiration commencing about thirty-six hours after operation and lasting for about a week. The attack of urine fever was in this case very severe and alarming, considering the age and condition of the patient. This patient remained well for six months, when he contracted an acute choleraic diarrhœa, and died after a week's illness. There was no autopsy.

CASE V.—E. P., aged 33. Tight stricture of deep urethra of two years standing. Internal urethrotomy. Chill and fever twenty-four hours after operation. Rapid and complete recovery.

CASE VI.—E. V., aged 22, West Indian negro. Stricture of deep urethra of three years standing and following gonorrhœa. Patient at time of operation under treatment for early secondary syphilis. Internal urethrotomy. Chill and fever forty-eight hours after operation. Rapid and complete recovery.

In illustration of that form of urine fever which occurs in old

men, I will mention briefly three cases of enlarged prostate in old men in whom ineffectual efforts to pass solid instruments had resulted in severely wounding the deep urethra just in front of the prostate gland. These cases came under my observation in the hospital during the winter session of 1887 and 1888. The first two cases came from the country, and did not come under my care for several days after the injury to the urethra. Both were suffering from a low form of fever when admitted to hospital. They were both treated expectantly, the urine being regularly withdrawn by a soft catheter, but both died comatose after three or four weeks of low fever with occasional slight chills and profound nervous depression. In one only was an autopsy allowed, but no lesion was discoverable. The third case, very similar to the foregoing, was admitted two days after the injury to the urethra, and two days later, as there was some pus and great difficulty in catheterization on account of the false passages, a perineal cystotomy was performed and the bladder drained through the perineum for three or four weeks. He recovered slowly, but perfectly, although he still suffers from prostatic obstruction.

From a careful observation of the foregoing and many other similar cases, I venture to submit the following conclusions :

(1) That urine fever is a consequence of the lodgment and decomposition of urine in contact with wounded urethral surfaces, the inference being that the absorption of the product of decomposition which takes place from the wounded surfaces, and which could not occur through the normal urethral mucous membrane, is the direct cause of this condition. Mr. Harrison has also shown that patients whose urine contains a diminished quantity of urea are less liable to urine fever after operations upon the urethra.

(2) Urine fever is *absolutely preventable*, either by preventing the decomposition of the urine in contact with urethral wounds, or by providing a dependent drain so that it cannot lie in contact with wounded urethral surfaces long enough to decompose.

(3) That a perineal cystotomy is a simple and easily performed

operation, which does not materially add to the risks attending urethrotomy, and is not followed by unpleasant results if the drainage-tube or catheter be not too long retained in the perineal wound.

(4) That decomposition of urine can be delayed for a considerable time by thorough cleansing of the urethra and bladder by injecting with a weak antiseptic solution (salicylic acid or sublimate) after operation. This, with the precaution on the part of the patient of abstaining from passing urine for as long a time as possible, will greatly lessen the frequency of occurrence of urethral fever and diminish its risks. Repeated washings of the urethra in this way after each act of micturition for a few days would probably prevent the attack of fever altogether.

(5) Quinine, aconite and other drugs may be of use when urine fever has occurred, but they are powerless in most cases to avert it.

(6) Patients with enlarged prostate whose deep urethra have been lacerated by the passage of solid instruments should be treated by perineal cystotomy at once in order to arrest urine fever (or sepsis), either of which is likely to occur as soon as the patient is able to evacuate a part of his urine without the catheter.

DO BENIGN TUMORS BECOME MALIGNANT?*

BY JOHN B. HARVIE M.D.,
Physician to Troy, N. Y., Hospital.

(*Read before the Troy Medical Association, Dec 4th, 1888.*)

There is no doubt but that the different growths which are found in other structures and parts of the body are capable of affecting and producing similar results in the breast. At first sight it would seem probable that a benign and unmalignant formation would never result in anything more than what it originally was. That a formation or neoplasm would remain and continue as it primarily began and never transform or change into anything else. When we have the poison of measles sown in the system we expect to find measles re-

*Do tumors of the breast, which may be classed as benign, ever become, by metaplasia, malignant; and if so what tumors are subject to that change?

sulting from said contamination and not diphtheria, consequently if we have a simple non-malignant tumor of the breast, "or any other part of the body for that matter," we do not naturally look for the subsequent development of something which is essentially different in character, microscopical appearance and result as regards the patient.

Benign tumors of the breast have, until recently, been brought under one general class and named adenomata. Recent observers have, however, dissected out the subject fairly well, and have placed each species under a head of its own, according to the microscopical appearance and tissue of which it is composed. To the practical surgeon, however, a diagnosis is not always very easily arrived at. To distinguish between malignant and non-malignant growths, even in a situation so favorable for manipulation as in the breast, is a problem which occasionally taxes the ingenuity of the most experienced, and it will be found impossible to avoid error at times. It may be laid down as a rule, however, that the nearer the structure of a growth approaches the normal physiological tissue the more probable is it that such a formation is non-malignant, and the wider the channel the greater the possibility of malignancy.

In regard to the development of neoplasms whether they are of epithelial or connective tissue origin the question arises must they originate and increase by proliferation of the tissue which they represent, or can a cell of one series give origin to one essentially different, or may the result of multiplication be modified by the presence of cells of different systems on the same principle as if we plant certain kinds of vines in the same bed, such as cucumbers and citron we shall have resulting a fruit which is altogether unlike either one or the other.

The metamorphosis of the connective tissue corpuscles by what is known as epithelial infection or inoculation has been regarded by some as a very probable theory. How this infection might arise and what might cause it is as mysterious as the transformation which takes place in the fruit.

In regard to the origin of tumors the theory which stands out

most prominently, and the one most generally accepted, is that of local origin. The most recent theory, that of Cohnheim, demands an accumulation of dormant embryonal cells as such a cause. Cohnheim supports this view by experiments, in which he transplants foetal tissue into a mature animal with the result of excessive development of that particular tissue. Same practised after birth gives a negative result. Growth possesses for its active element cells and cells are propagated only by segmentation or pre-existing cells. Tumors have failed to be propagated by inoculation. Experiments have been tried time and again on individuals and animals without showing any result. Cohnheim thereupon returns to this theory that the morbid growth must spring from embryonal cells, and that as ovum, by segmentation, gives origin to different varieties of normal tissue, different in function and structure, so we may have produced abnormal varieties of tissue, with like divergent manifestation of function. It is further assumed that the elements from which a tumor arises are of an indifferent character, and that the result of the growth, what its character, etc., may be, is influenced in some way by the condition and circumstances at the time.

What part predisposition takes in favoring the development of simple neoplasms of the mammary gland is probably disputable. Family history, however, plays so important a role in the predisposition to the development of other affections that it seems as though it must be accepted as an important factor. The married state and the physiological transformation which takes place in the breast during lactation and pregnancy offer very slight, if any, contributing cause. Lactation, however, in predisposing to inflammatory and sometimes suppurative changes in the breast, may be followed by areas of circumscribed hardness, which may consist of cicatricial connective tissue holding in its meshes more or less glandular structure. Such a mass might, however, be classed with such as result from injury.

It seems almost probable that growths which are inclined to be innocent in character are, as a rule, confined to the connec-

tive tissue, and those which are malignant to the glandular portion of the breast. The growth and development of innocent neoplasms takes place within a capsule and does not involve the surrounding tissue; that of malignant formations the very opposite.

In considering the subject of why benign tumors of the breast are liable to become malignant by mataplasia, I should say that the lipomata and certain cysts are recognized as being uniformly benign, and that certain other growths, which are regarded as innocent, may, under certain circumstances, take on malignant action. What the occasion is which excites the intruder to change his coat and practically become a horse of another color is still a mystery.

Benign growths sometimes assume very great dimensions, but never affect any alteration in surrounding tissue except that of displacement of parts and atrophy through pressure. They are essentially local in their development.

Sometimes tumors, by their peculiar behaviour, answer all the requirements of a malignant growth, while structurally they retain the proper arrangement to entitle them to a position within the harmless fold. As to what tumors may become malignant by metaplasia I should regard those known as fibroma, a fibrous tumor, myxoma or mucous tumor, and adenoma, a glandular tumor, as those which are most likely to take on cancerous action. That form known as chondroma, a cartilaginous tumor, bring very rarely, if ever so.

All tumors are subject to degeneration, decay and death. They may inflame, suppurate and die, resulting in a mass of chronic inflammatory tissue, penetrated by sinuses from all points and absolutely refusing to heal. And it is an indisputable clinical fact that those growths which are earliest in reaching maturity are the first to show signs of decay, and it is further shown by experience that the tumors which attain maturity most rapidly, even though they be ever so benign at the outset, are more prone to undergo a cancerous degeneration. The slower the growth the more likely will it be to remain benign.

If a tumor be purely of a fibrous character, its growth will inevitably be slow, and the possibility of any malignancy may almost positively be disregarded, but if such a growth should be the seat of vegetations or fibro-cystic in character then it increases in dimensions much more rapidly and indeed is sometimes a strong rival of carcinoma itself.

The disposition of fibro-cystic growths to take on malignant action must not be overlooked. It is possible that a neoplasm might remain innocent throughout its entire structure for many years and become the subject of cancerous deposit. Erichsen reports such a case. The tumor had existed more than twenty years before removal, having commenced at the age of twenty-eight, but after extirpation cancerous matter was found at the bottom of some of the cysts, which, as the constitution was uncontaminated, was doubtless of recent formation, and the surface of the fungus was epitheliomatous.

The neoplasm known as myxoma or mucous tumor appears so seldom that its appearance is regarded almost as a curiosity. Its growth is somewhat rapid and is disposed to recur after removal. On account of the limited number of these neoplasms which have been recorded and the imperfect history of the cases, it is not known what percentage, if any, assumed malignant action.

The adenomata are also very rare growths. This species is probably more prone to undergo cystic degeneration than any other form of tumor. It is also more liable to recur after removal than any one of the simple neoplasms. Its progress is usually very chronic but occasionally assumes great rapidity of growth, thus almost simulating malignant disease. Although recurrence after removal in this form of neoplasm is quite great, still infection of neighboring organs seems to be very exceptional. When fatality occurs it seems to have been super-induced altogether on account of the local lesion or repeated operations and exhaustion in consequence rather than through any constitutional infection. Gross lays considerable stress on the liability of this form of tumor to become carcinomatous and considers the epithelium of the acini as the starting point.

Indurations of the breast in consequence of pre-existing mastitis are supposed to be a fruitful source for the development of malignant disease. Although these cicatricial masses may remain benign during the period of usefulness of the breast, still, when the age for the development of carcinoma arrives, and especially if any cachexia exists, the foundation of cancer is apt to be laid. Since the fact has been admitted that some forms of benign growths may assume malignant action it would stand almost to reason that any simple neoplasm which is liable to degenerate or take on irritative action may, providing the idiosyncrasy exists, become cancerous.

A CASE OF ACUTE SCLERITIS.

BY R. W. POWELL, M.D., OTTAWA, ONT.

(Read before the Ottawa Medico-Chirurgical Society, Dec. 14th, 1888.)

An interesting case of this somewhat uncommon affection, running a rapid and successful course, having recently come under my notice I have thought it might not be uninteresting to relate it to you. I find rather scant notice of the disease in the works I have consulted, and some authors do not mention it at all, but those who do, state that it is rare, is often an outcome or a manifestation of a gouty or rheumatic diathesis in those cases of non-traumatic origin, and Alb states it is not unusual at the climacteric. Most authors, however, state it is more common in men than women. A deeper insight into its pathology is not accorded to us. It is said to be rather obnoxious to treatment and inclined to run a chronic course and be prone to relapses, often lasting in this irregular way over many months.

In my case, a woman, the climacteric is just now on. She is not a gouty or rheumatic subject, has no special diathesis that I know of, has always been very healthy, except occasional indigestions. I put down her recent attack of scleritis to a severe mental shock, causing a peculiar harassing distress, and when I tell you that my patient was the mother of the victim of our recent terrible tragedy in connection with the balloon ascent this September, you will readily admit that I have good

ground for my premises as far as the mental shock is concerned.

On October 9th, 1888, Mrs. W. consulted me at her house for symptoms of marked aepsia. She was worn, haggard and depressed, and looked the picture of misery, and complained of no appetite, little sleep, constipation, disinclination for exertion, and an aversion to going out of the house or seeing her friends. She had some distress after eating and much flatulence and a feeling of fulness. Moderate headache.

I put her on appropriate treatment to meet these indications and in a fortnight she was much relieved and able to take a simple tonic. I discontinued my attendance after only three or four visits and thought little about it, the last time I saw her being about November 1.

On November 19th I was sent for. She then complained of a hemicrania, right side, the pain concentrating towards the orbit; had been present about three weeks and was gradually getting worse and more fixed towards the orbit. The globe of the eye was painful now and felt tense to her and rather too large for the socket. Sight slightly dim on that side. Pupils equal and no symptoms of glaucoma, unless the dimness of sight be so considered in a minor degree. On the sclerotic, towards the inner canthus, was a pink, injected spot about the size of a split pea.

The pain this day was very severe and made her feel sick and was accompanied by supra-orbital pain also. I gave her a saline cathartic, kept light away from the eye, gave her a belladonna ung. for brow application, atropine drops for the eye and powders of quinine and calomel night and morning. Early in the morning, two days afterwards, I had a hasty message that she was worse and could not see at all. On my arrival I was horrified at the appearance of the eye. The inflammation had extended completely around the cornea and no white of eye was to be seen. The whole globe looked like raw beef. The conjunctiva was in a state of marked chemosis—no lachrymation, no discharge, pupil sluggish and not very much dilated, and sight practically gone, though she could distinguish

light, but light increased the pain which was now very severe. Feeling very anxious I increased the strength of the atropine drops, directed her to steam the eye every two hours, kept light away by a light bandage, blistered the temple and told her to continue the quinine and calomel.

Nov. 23rd.—Pain diminishing. Chemosis declining. Florid injection of vessels of sclerotic and conjunctiva paling; sight rather better, can see the sashes in the window; blister discharging well.

Nov. 25th.—Symptoms all better; pupil well dilated and sight dim in consequence, but she can distinguish my hand and fingers; pain not nearly so great and inflammation resolving. Ordered an ointment of yellow oxide of mercury to be placed in the eye night and morning. The gums being tender and teeth painful I discontinued the calomel and gave her pot. iod. and pot. chlor. internally.

Nov. 28th.—Inflammation subsided. Pain nearly all gone. Sight now only dim, I believe from dilation of pupil and paralysis of accommodation by the atropine.

Nov. 30th.—Practically well; only the faintest tinge of conjunctiva congestion (light pink). Stopped atropine, but continued yellow ung. Had a general headache and could not sleep. This symptom was relieved completely by twelve gr. antipyrin at bedtime.

There is little more to be said. The case made an uninterrupted recovery and a few days after I changed the yellow ung., which smarted a little, flogging in *calomel à la vapeur*.

Dec. 3rd.—Can now see well. The atropine being stopped for two or three days pupil is almost equal to its fellow. Has a good appetite, sleeps well, is bright and cheerful and anxious to go out. I gave her the usual precautions as to windy, cold weather and so left her.

Dec. 11th.—Visited her to reassure myself. She has been out several times and no difference can be detected in the eyes.

I will not enlarge further on this case except to say that it ran an unusually rapid course and had a most encouraging termination. I believe that its main cause was a mental shock,

causing a real depression of spirits, amounting almost to melancholy, during which time, through mal-assimilation, the nerve centres were very badly nourished, and all this occurring just at the climacteric. At one time I was afraid that possibly I had to deal with a florid glaucoma—indeed on Nov. 21st I half feared a fulminant glaucoma. The treatment was, of course, on orthodox principles, and the result left nothing to be desired.

ON SOME FORMS OF PARALYSIS AFTER TYPHOID FEVER.*

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In a short communication relating to some of the surgical sequels of typhoid fever, Sir James Paget says :

“ I do not feel competent to deal with the question whether each fever has, as seems probable, its own proper sequels, and in this sense, though perhaps in less degree, as specific as in its fever-period ; but I have not yet seen either periostitis or local paralysis of muscles after any other than typhoid fever, or a fever which I suppose to be closely related to it, and I have not seen after typhoid any corresponding number of cases of large lymph glands, diseased joint, or other diseases of mere debility, such as may follow any acute illness.”

And he quotes the remark of Dr. Baly, to the effect that “ a book on the diseases of convalescence might be one of the most valuable that any physician could write.” A consideration of the truth of this remark has led me to lay before the Association a few notes upon the important subject of paralysis following typhoid fever.

It is an interesting question how far these so-called sequels or well-defined disorders occurring during the convalescence from fevers and other acute diseases are special or confined to certain of them only, and how far others may occur in a similar relation to several of them. Certainly, in many instances, the latter is found to be the case, as, *e. g.*, otitis

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media after both scarlatina and measles, whilst, again, some peculiar local derangements seem to follow in the wake of a particular fever, and to bear no similar relations to any other, *e. g.*, paralysis of the palate following diphtheria. So with peristotis after typhoid, which may occur in many situations. I have seen it several times on the tibia, once leading to severe necrosis, often on the ribs, and twice on the surface of the sternum. So with the affections of the nervous system, the most common form being of the muscles supplied by the peroneal or anterior tibial nerve, whilst more extensive paralysees are decidedly uncommon. The very peculiarities of the parts affected, and the frequency with which they are attacked in preference to all others, show certainly a predilection for them which must give the stamp of specificity.

It is not to be wondered at that the nervous system suffers in many ways after the prolonged disturbance to which it is subjected during a siege of typhoid fever. Indeed, it would be remarkable if derangements of the nervous functions were not often witnessed under these circumstances. In a certain proportion of all cases of this fever, the incidence of the poison seems to be upon the nervous system, as is evidenced by the occurrence of cephalalgia, insomnia, delirium, tremors and debility. As a sequel of these profound and prolonged disturbances in the nervous system all patients who have thus suffered are left in a condition of very marked asthenia, and it is a long time before they are in a condition to bear any, even moderate, amount of either bodily or mental fatigue. These signs of exhaustion of the nervous system are constant, and generally in proportion to the severity of the fever and the degree to which its violence has fallen upon that portion of the mechanism. But, apart from such general functional diminution, there are, in exceptional cases, signs that certain isolated, and often strictly localized, portions of the nervous system have suffered out of all proportion to the rest, and in them the impairment of function may reach a high degree. Thus, the cerebral cortex may be the part chiefly affected, and we observe, even after full convalescence has set in, that the mental functions remain imperfect,

and hallucinations and delusions may persist for a very considerable time—or, as concerns us most at present, some part of the spinal cord, or some one or more of the spinal nerves, exhibits altered function.

It is, however, a fact that although these sequential paralyses are more frequently observed after somewhat severe attacks of typhoid, yet they do not specially occur when the fever has been marked by an excess of nervous disturbance. Nor can any such predisposing cause as the influence of country or of a neurotic temperament be shown to play any part. The nervous phenomena, almost invariably, are both motor and sensory, presenting paralysis with either pain or anaesthesia. This has always been observed in *spinal* nerves, and has not been seen in any of the mixed (motor and sensory) central nerves. According to Nothnagel (*Deutsch. Archiv für klin. Med.*, 1872), from an examination of recorded cases, the following is the order of frequency of these affections: (1) The parts supplied by one nerve or branch of a nerve, with special predilection for the ulnar and the peroneal. (2) Paraplegia generally confined to the lower extremities, but not very infrequently involving an upper extremity—sometimes both arms and legs—sometimes one side more than the other. (3) Less frequently, one extremity, either upper or lower, or two extremities in crossed order. (4) Simple alterations of sensibility; if looked for, these will be found *very frequently*, though not so striking as the cases with combined paralysis and anaesthesia. They are observed chiefly in the lower extremities and especially in the feet.

From a consideration of many cases of paralysis after this fever, it may be inferred that the mode in which it is produced is by no means always the same; that, indeed, the effect of the poison is exerted sometimes upon some of the great nervous centres, especially of the spinal cord, and at other times upon the structures of some special and individual nerve or nerves. Jaccoud, *e.g.*, speaks of paraplegia being due to *oedematous infiltration* of the parts in the vertebral canal, and is of opinion that even prolonged *exhaustion* of these centres without organic lesion may be the cause of a motor loss enduring even for a con-

siderable time. Prof. Biermer relates an important case, in which he finds difficulty in deciding between acute poliomyelitis anterior and multiple degenerative neuritis, there having been pain, motor paralysis, good sensation, diminished electrical reaction, atrophy, and bed-sores, a tedious illness of several months, and, finally, complete recovery. As the tendency in all these cases is toward recovery, their pathology is necessarily scanty and founded upon what is better known about recognized lesions whose symptomatology is somewhat analogous.

The commonest variety of post-typhoid paralysis is that which is confined to the district supplied by one nerve—*e.g.*, the ulnar, peroneal, or the circumflex. Here, it is extremely probable that two distinct pathological conditions may exist. There may be a true interstitial neuritis or there may be an acute parenchymatous change in the nerve elements. The two varieties are separated from each other mainly by the presence or absence of *pain*—this symptom being a marked feature in the former, owing to the pressure exerted upon nerve filaments, and being absent in the latter where this condition does not exist; the main feature, however, the loss of power in the supplied muscles, being equally present in them both. It has been suggested by a recent writer (Thomson) that a similar acute parenchymatous degeneration is to be looked upon as explaining that common post-febrile paralysis, the diphtheritic, and the view has much to commend it.

It is not unusual after typhoid fever of considerable severity to find a definitely enfeebled condition of the lower extremities persisting for some time, and sometimes a person never entirely recovers his capacity for walking long distances. Such parietic cases have never been specially studied, but it is probable they would if any should fall under the head of defective innervation from prolonged exhaustion of the nervous centres.

The most important, however, of cases of post-typhoid paralysis are those of paraplegia, confined sometimes to the lower extremities and sometimes involving these together with some other parts. Well-marked cases of this kind are sufficiently unusual, and one may see several hundreds of cases of typhoid

fever without meeting with a single example. Not much has been written upon it, and in some articles very dissimilar conditions are probably included under the same description.

The following case is a striking instance of a very severe form of paraplegia directly resulting from typhoid fever and still ending in complete recovery :—

Julia L. was brought by the ambulance to the Montreal General Hospital on the 8th of November, 1887. The following account of her illness was obtained from her attending physician. She complained on September 1st of headache, feverishness, pains in the limbs, and a short hacking cough. After one week took to her bed. Was first seen by her physician on September 12th. At this time she had a severe cough with whitish expectoration ; moderate distension of abdomen, and gurgling in right iliac fossa. Temperature 102°F . The disorder ran the ordinary course of a moderately severe attack of typhoid fever without complication. Patient remained in bed until October 25th, when she got up, went about the house for three or four days and was apparently convalescent ; appetite good, sleeping well, and gaining strength rapidly. On October 29th temperature rose to 102°F . and she began to suffer from severe pains in the legs. The lower extremities were very sensitive, the patient not being able to bear any motion of the bed-clothes. The legs were flexed on the thighs and the thighs on the pelvis, any attempt at extension being very painful. At this time had incontinence of urine for one day. The skin over the left trochanter and sacrum very soon became red, and in two or three days a large slough, about two inches square, had formed in both these situations. The skin over the right trochanter also became reddened, but did not slough. The temperature soon became normal and remained so.

On admission, much emaciated and anæmic ; face pale ; eyes brilliant, pupils dilated and equal ; expression anxious and haggard ; skin dry and harsh, cool ; tongue clean and moist ; abdomen retracted, not tender on pressure. Lies on right side with legs and thighs flexed. Some œdema of left foot. Numerous small purpuric spots on both legs from knees downward. Great

wasting of muscles of both lower limbs, thigh and leg; both knees are rigidly bent; any movement to relieve the contraction is extremely painful. Marked paresis in all attempted movements of foot, leg, or thigh. She is unable to hold up either leg from the bed without support. Much tenderness on pressure upon the muscles of the legs and thighs. No anæsthesia. The skin over the two malleoli somewhat reddened. Plantar and abdominal reflexes present. There is a large bed sore over the lower part of the sacrum, about two inches square, covered with a hard, black slough, and with inflamed edges. There is a similar slough on the left trochanter, and the skin over the right trochanter is reddened but unbroken. Pulse feeble and rapid, but regular. Temperature normal. In lungs, many moist sounds heard at both bases, chiefly in the left. Urine contained a small amount of albumen. Complains of pain over the bedsores and weakness. Eats well. Sleeps soundly. Urine and feces pass naturally. Is very feeble and resents being moved or stirred. She was put upon a water-bed and the bedsores poulticed, and was given quinine, good diet, and a small allowance of stimulants. The sloughs soon separated and the sores were dressed with balsam of Peru and iodoform; they slowly granulated and finally healed. The contraction of the knees obstinately remained. In February the legs were gradually extended by means of weights and pulleys. By this means they were brought down until the legs were quite straight. During this time motor power was slowly returning and pain quite disappeared. After a time she could stand upright and perform flexion and extension movements of the feet and legs. Improvement was then rapid, and she was discharged March 1, 1888, able to walk nicely about the ward. She has since remained well and strong.

During apparent convalescence there occurred severe pain in the limb, marked tenderness of the skin and muscles, no anæsthesia, diminution of superficial reflexes, loss of electrical contractility, extensive bedsores, loss of power to a great extent but never complete, contractures, no disturbance of sphincters. The case looked very unpromising and it was only the known tendency of these cases toward recovery and the probability

that the lesion was really in the nerve-trunks, and not in the spinal cord itself, that enabled a somewhat favorable opinion to be entertained.

The second illustrative case is still more remarkable inasmuch as it presents an example of unusually extensive paralysis after typhoid—the nervous disorder involving all the limbs, and, in addition, the palatal muscles after the manner of diphtheritic palsy.

Ernest H., æt. fifteen years of age, was admitted under my colleague, Dr. Wilkins, into the Montreal General Hospital on the 26th of March, 1888, suffering from typhoid fever of a few days' standing. The case presented no unusual features and was of a rather mild type. On the twenty-fourth day of illness the temperature was 99°, and in a few days it reached and continued at the normal figure. About this time he found that he spoke with some difficulty—that is to say the effort required for speech was greater than it should be; it was noticed that his speech had a nasal intonation, There soon followed a sense of numbness in the ends of the fingers and in all the limbs; the weakness being greater upon the left side than upon the right. By the 4th of May he lay in bed without power to raise either leg from the bed; the head and arms were raised with great difficulty, and the grasp was very feeble. There were no pains in the extremities. The voice was quite nasal, speech was difficult, and swallowing required an effort and occasionally produced regurgitation. The velum palati was relaxed and insensitive. Knee-jerk absent in both legs. Tactile sense good. Muscles of lower extremities react normally to the faradic current, but somewhat slowly to the galvanic current. Muscles of the upper extremities react three times as strongly on the left side as on the right side. Eyes examined by Dr. J. J. Gardner: "Pupils react to accommodation and light, but somewhat lazily to light. Accommodation unimpaired. External ocular muscles act well, no weakness of internal recti. Fundus normal." He remained in this condition of extensive paresis, under treatment by means of galvanism and strychnia for several weeks, being removed by

his friends on the 27th of June, 1888. At this time the limbs had improved in power to a moderate extent, and the nutrition was better, the voice was less nasal.

Gowers (*Diseases of the Nervous System*, vol. ii.) alludes to similar cases, but mentions that, as diphtheria is known sometimes to accompany typhoid fever, so a paralysis in reality of diphtheritic nature may be observed as a sequence of such a compound attack; and the question may be raised whether H. did not have diphtheria. There is no proof that he did have throat affection of any kind; and, on the other side, he was, during the whole time, under skilled attendants in a hospital, and nothing was ever noticed or complained of which led to an examination of the fauces. It may, therefore, I think, be safely held that no diphtheria complicated the case. I would also recall, as strongly corroborative of the same view, that there was no disturbance of accommodation, and no albumen in the urine.

Although actual observations are not very numerous showing presence of the lesions of peripheral neuritis, and the absence of change in the spinal centres in cases in which post-typhoid paralysis has existed, yet they are sufficient to substantiate the occurrence of such a disorder. Indeed, in the light of the somewhat remarkable observations recorded by Pitres and Vaillard (*Revue de Médecine* t. v., 1885), we may be well surprised that the clinical evidences of neuritis are not more frequently met with. These writers made careful and extensive histological examinations of peripheral nerves in various parts of the body in cases of typhoid fever which had proved fatal from various causes, but in none of them there had, at any time, been evidences of nervous lesion or disorder. The result was, in every case, to find microscopical evidence of well-marked changes in the structure of most of the nervous trunks and their branches, whilst the actual nerve-roots and the spinal centres remained unaltered. And the question is raised, "How frequently in reality does such neuritis occur?" In the examples recorded there had been nothing from a clinical standpoint to suggest its existence, and

they were selected quite by chance. Does it occur both in fatal cases and in those mild or more severe cases which end in recovery? We are led to think the latter possibly true, owing to the frequency with which more or less marked evidences of sensory, motor, or tropic disturbances are met with as sequences of typhoid fever.

Is this neuritis set up by the elevation of temperature? or by the general derangement of nutrition? Or may the typhoid poison act directly upon the nervous fibres, irritate these, and ruin their structural integrity—determine, in fact, a parenchymatous neuritis? This neuritis, it is stated, attacks not only the superficial branches which innervate the skin, but also the larger and deeper trunks. May it not, therefore, be that the disturbances in them are to blame for many of the symptoms generally observed in typhoid: fever, cutaneous hyperæsthesia, muscular hyperæsthesia, wandering or localized pains in the limb, etc., symptoms which are often attributed, perhaps rather gratuitously, to irritation of the meninges or of the spinal cord? The truth would seem to be that when a neuritis of this kind is mild in character and affects only a few of the fibres of any particular nerve, no appreciable symptoms are produced thereby, or, at any rate, such slight phenomena as it may produce are lost in the complex symptomatology of the pyrexia; and that, for some obscure reason, these nervous lesions sometimes become exaggerated, extend to still other bunches of fibres, and then give rise to the well-marked symptoms due to a diffuse or a localized neuritis: sensory, motor, and tropic disorders, confined to the region supplied by one or several nerves, according to the distribution of the determining lesions

As regards the *etiology* of this affection, some authors have regarded it as due to the anæmia which must necessarily result from a long febrile illness. That such is not the case is proved by the actual condition of many of the patients who have shown no such degree of blood-impoverishment as would be at all sufficient to account for serious disorder of the nervous centres of their branches. The series of cases produced by Nothnagel

were selected from the barracks, and were all young, vigorous, and full-blooded men. The effects of any such anæmia would surely be more general, involving loss of energy in movements, but not a true paralysis. It could not possibly produce the clearly defined paralysis affecting special nerves as we find after typhoid fever. The other hypothesis which has been suggested is that the disorder consists essentially in a degeneration of the affected muscles. That this cannot be, is sufficiently obvious from the extensive sections of the body which may be simultaneously involved, as, *e.g.*, both lower extremities, or these together with an upper extremity; from the constant presence of pain at some period, and often severe; and from the existence of anæsthesia.

Post-typhoid paraplegia generally sets in gradually and disappears gradually, but, in rarer examples, it comes on suddenly and passes off either suddenly, or, at any rate, very quickly. Such a case is that reported by Olivier, which led him to infer the existence of a true, but temporary, congestion of the spinal cord. There is nothing impossible about the hypothesis, and it seems necessary in order to explain such a case, but certainly does not apply to the more common forms of gradual development. Nothnagel suggests that actual spinal hemorrhage is more probably here present, and that meningeal hemorrhage has, in reality, been found in fatal cases of typhoid fever.

The predilection for certain special groups of muscles observed in the paralyzes of plumbism and of diphtheria does not exist in the same degree after typhoid fever. In it there is no rule, and, to explain it, we must look for some cause capable of making its influence felt in an infinite variety of situations: the ulnar or the peroneal nerve, a plexus of nerves, both lower extremities, an upper, together with the opposite lower, extremity. At the same time, all degrees of intensity may be observed, from the slightest paresis up to complete abolition of function.

The paralysis generally develops slowly and gradually, and it commonly advances to a considerable degree before being arrested. Arrived at this stage, it may be expected to recede

spontaneously or under the influence of treatment, and the case to end in complete restoration of function. A more unusual course is that in which, as before, a slight, or very moderate degree of weakness is gradually developed, and then suddenly a great change occurs, and a perhaps complete paralysis sets in. Even here, the usual result is gradual return to power. In either cases, there are exceptional instances in which the paralysis will be permanent, even in spite of early and efficient treatment.

The first symptom is generally pain, and this may precede any motor defect by some considerable time. Pretty often, the pain and the commencement of the paralysis are noticed about the same time.

The cutaneous sensibility is nearly always diminished, and these sensory disturbances—*i. e.*, pain and anæsthesia—are amongst the most constant phenomena of this affection. In severe and well marked cases trophic changes are seen, consisting chiefly in a greater or less degree of atrophy. There is diminution of electrical contractility, both to the galvanic and to the interrupted current.

From a consideration of these general features Nothnagel strongly argues that the condition is essentially the same as one of traumatic paralysis when the injury has been done by some gradually compressing cause. We must, in that case, look for some pathological cause which is capable of acting in this way. Certain it is that, in fatal cases of diphtheritic paralysis (which has many affinities with that under consideration), there has been found evidence of thickening of the anterior and posterior roots of the involved nerves, especially in the neighborhood of their point of junction; and also of diphtheritic infiltration within the nerve-sheaths. It is probable that there would be found, in an early stage, proliferation of the connective tissue, and that the subsequent contraction which always sets in under these circumstances would keep up the compression of the nerve-filaments. The same hypothesis would apply to examples of extensive—or even quite limited—areas of anæsthesia.

Retrospect Department.

QUARTERLY RETROSPECT OF MEDICINE.

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RICKETS.

Rickets is not to be regarded as a mere bone affection. It is something far more than this; the disease affects not only bones but muscles and ligaments, mucous membrane and skin, the blood and the nervous system. The implication of muscles is shown by the remarkable enfeeblement of muscular power sometimes so great as to be mistaken for actual paralysis; the affection of ligaments by the yielding spine and relaxed knee and ankle joints; that of the mucous membrane by the tendency to catarrh, to croup, bronchitis, and to diarrhoea; the inclusion of the skin by the profuse sweating; that of the blood by anæmia; and the profound affection of the nervous system by its abnormal reflex excitability, leading to laryngismus, tetany and convulsions.

Whatever the constitutional defect which is at the root of the rachitic defect, it is certainly general, and affects all structures, although the bone fault is the most obtrusive and obvious. The theory that rickets depends on constitutional syphilis, that of M. Parrot, cannot be accepted. Syphilis may be an occasional factor, by is by no means a constant or sole factor. Firstly, because in the majority of cases of rickets the history is absolutely free from any suspicion of syphilis; and the patients bear no marks of the disease, as such well established signs as characteristic eruptions, snuffles, depressed nose, linear scars, pegged teeth, keratitis. Secondly, because a large proportion of children suffering from congenital syphilis are not rickety. Congenital syphilis modifies rickets, but it does not create it. Inherited constitutional taint is a doubtful factor; "I have seen nothing confirmatory of the view that rickets is inherited." Parent and child have been exposed to the same cause. General mal-hygiene, such as want of light, fresh air, cleanliness, warm clothing,

* Dr. W. B. Cheadle—Introductory remarks on the Discussion on Rickets at the annual meeting of the British Medical Association, August, 1888.

sufficient food, is doubtless a potent influence in the development rickets in many cases. Yet these are not the sole cause. Children may be brought up in the utmost squalor, and even be generally short of food, and yet not become rickety; and, conversely, may be brought up under the most perfect hygienic conditions in all these respects and yet become rachitic.

Special defects of diet.—"The evidence as to its connection with the developments of rickets is, in my judgment, conclusive." It is a question of quality rather than of quantity. Mere general deficiency will not produce rickets. One of the first and best established facts with regard to the food-connection is that rickets is almost entirely confined to "hand-fed" children. "The only example which I can call to mind of rickets arising in a child suckled by a healthy mother is one in which the mother became pregnant while suckling." The food factor is the only factor which is constant. What is the defect in the artificial food? The condition of food most commonly met with is a farinaceous diet. The occasional association of scurvy with rickets is not only very suggestive of a food origin, but especially of a connection with a farinaceous diet. The theory that lactic acid results from imperfect digestion and unites with the lime of the bones, removing it as a soluble salt, is inadequate, as it has regard merely to bone changes and explains nothing else; moreover, there are other weighty reasons for the non-acceptance of this explanation. That the evil effect of starchy food lies in some negative property is shown by the fact that rickety children get well when the starchy food is continued if ingredients such as milk or raw meat and cream be added to it.

An analysis of the artificial foods given to hand-fed babies shows in all a grave common defect. Two chief elements are wanting—animal fat and animal proteid; probably also, phosphate of lime. The abundance of fat in milk points to its extreme importance in the food of growing animals. The curative power of cod-liver oil is evidence in the same direction. The artificial farinaceous foods contain a mere trace of fat; instead of one-fourth of the whole solids, as in milk, 1-20, 1-80, 1-200 only. The deficiency of proteid alone is not sufficient to cause

rickets appears from the fact that animals grew rickety even when given proteids in excess; yet, as a matter of clinical observation, rickety children got well much more quickly if animal proteid is supplied freely in addition to fat than on the latter alone. The experience of the Zoölogical Gardens is to the effect that the withholding of animal fats and animal proteids from the diet of young animals rapidly produced rickets in them.

The only constant condition, then, found to be associated with rickets is a food fault which can be traced to the deficiency of certain special ingredients. Fat is found in all cells and is probably essential to all cell life and growth, and fat formed in the body clearly cannot replace it for structural purposes. Phosphate of lime is equally essential to every tissue, and it is found to be deficient in rickets both in bones and in the viscera also. Proteid, again, is essential to the vitality of protoplasm, and, indeed, to the activity of all vital processes. So that a diet deficient in these elements—fat, earthy salts, proteid—would explain not only the bone fault of rickets, but the feebleness of muscle, the nervous instability, the debility of mucous membranes. “I would sum up the pathology of ordinary rickets thus: 1. It is primarily a diet disease, which can be caused at will by rachitic diet just as certainly as scurvy by a scorbutic diet, and which can be cured as certainly by anti-rachitic diet as scurvy by an anti-scorbutic diet. 2. That the chief defect in diet which causes rickets is want of animal fat. 3. With this, probably also, deficiency of the earthy salts in form of phosphates. 4. A deficiency of animal proteid in conjunction with the preceding intensifies the condition. 5. The rickety state is accentuated by evil external hygienic conditions, such as foul air and want of light, although these are not essential to its production. 6. Rickets is modified in character by the concurrent existence of congenital syphilis and of scurvy.”

Connection with Syphilis.—It has been already stated that syphilis is not a constant essential or sole factor. Rickets occurs in a large number of cases in which the history is absolutely free from any suspicion of syphilis, and in which the children have none of the well-known marks of the disease, even of the

slightest kind ; and, secondly, the number of cases of congenital syphilis which bear the established marks of the disease, but which are not rickety ; and thirdly, because the cases in which the syphilitic factor can be traced exhibit special characteristics, such as craniotabes, cranial bosses, and perhaps enlargements of the liver and spleen. Thus, the syphilitic factor concurring with the diet factor modifies the disease, but does not alone create it.

Connection with Scurvy.—Dr. Cheadle was the first in England to recognize the real nature of infantile scurvy, and to trace its source to a scorbutic diet. Dr. Barlow has confirmed these conclusions, and similar cases have been confirmed and identified as scorbutic by Dr. Dickinson. There can be no doubt about the nature of this scorbutic condition of infants. The symptoms correspond to those of the scurvy of adults as exactly as the post-mortem changes. The cause lies in a diet of farinaceous or desiccated or condensed foods destitute of fresh element, just as in sea scurvy. Fresh milk is the great anti-scorbutic food of infants. Potatoes are likewise a great protection in the diet of the poor, and no doubt prevent many children from becoming scorbutic for lack of fresh milk, who become rachitic from that cause.

In all Dr. Cheadle's cases scurvy has been associated with rickets, although in some this has been of the slightest, and on this point Dr. Barlow's experience agrees. Probably the connection is not absolutely essential, but in the nature of things the two conditions are likely to arise together. Both are the results of artificial feeding. "If it is rare for a child at the breast to become rickety, it never becomes scorbutic." The constant existence of bone-tenderness and muscle-tenderness in cases of severe rickets suggests the possibility of many of these being slightly scorbutic also, without the more advanced and recognized signs, such as spongy gums or hemorrhages being developed. "I know from practical experience that many cases of slight scurvy pass unnoticed, the rickety condition alone being recognised, even when spongy gums or periosteal swellings indicate the presence of the scorbutic state.

Nature of the Enlargement of the Liver and Spleen.—Although this condition is laid down in Sir William Jenner's standard description as a regular feature of rickets, and Dr. Dickinson also considers it an essential part of the disease, Dr. Cheadle has been unable to find it in the majority of cases. Dr. Fagge, Dr. Goodhart and Mr. Clement Lucas have also failed to discover much enlargement of viscera in a great proportion of cases, while Dr. Gee regards it as a result of previous cachexia apart from rickets. The cases in which the spleen has become enlarged can be distinguished (Goodhart) by their special pallor. In a case under Dr. Cheadle's observation, where both liver and spleen are enlarged, there are marks of congenital syphilis. The change in the organs is a diffuse, often hyaline, fibrosis, in no way distinguished from the fibrous enlargement of ague or syphilis.

VALVULAR DISEASE OF THE HEART.

Dr. DaCosta's* paper deals with matters connected purely with the treatment of valvular disease of the heart, and the writer advances these propositions as indications for the management of such cases: 1. The state of the heart muscle and of the cavities. 2. The rhythm of the heart's action. 3. The conditions of arteries and veins and of the capillary system. 4. The probable length of existence of the malady and its likely cause. 5. The general health. 6. The secondary results of the cardiac affection. Of these the first is most important. When we know that compensation has followed injury, that heart muscle and cavity are for that case in a healthy condition, we should endeavor to keep them so simply by regulating the patient's life and habits. "No matter by what name the valvular disease is labelled, there ought to be no interference with it by drugs, certainly not by remedies which act upon the heart." But the same patient may show later on excessive cardiac growth and evidences of failing compensation. "The stretching, faltering heart calls for support and is

*The treatment of valvular disease of the heart, read before the Association of American Physicians, Sept. 19th, 1888.

rallied, made regular, and kept for a long time performing its functions admirably by the persistent employment of moderate doses of digitalis." Yet this is the same patient, and the point the writer wishes to make is that the same valvular disease will, at different times, according to the varying state of heart muscles and of the cavity, require very varying treatment. Dr. DaCosta has met with cases in which the active state of the circulation, the marked hypertrophy, the cardiac uneasiness were always greatly relieved by aconite, and so much aggravated by digitalis that the patient had the greatest dread of the drug, yet such cases in time, when the heart began to weaken, have owed, for years, their life to the steady use of digitalis. The quantity required is rarely more than ten drops of the tincture twice daily, kept up until the effect on the heart and pulse become perceptible—which may be in a week or in several—and then suspended, to be resumed according to circumstances. "Nay, I have found a single dose of ten drops, repeated once in twenty-four hours, preferably at bedtime, show the same happy results." Some patients do better with five drop doses every fourth or sixth hour. But the rather larger dose, at longer intervals, is usually the less disturbing plan. Should the digestive organs become deranged, I use digitalis by suppositories; from two to four minims of the fluid extract incorporated in cocoa butter are efficient. Digitalis is required in much larger doses in cases in which there is almost from the first dilation and all the excessive feebleness of circulation this brings with it; or in which, late in the history of the valve affection, the dilation has outstripped the hypertrophy. Digitalis, in such cases, may be alternated with strychnia and supplemented by alcohol. In still larger doses should it be given where compensatory hypertrophy is gradually lessening in proportion to the valvular defect; where the venous system is becoming gorged, the breathing much oppressed, the internal organs congested; where the feet are beginning to swell, the pulse rapid and compressible, and the heart often fitfully excited; where the symptoms become suddenly aggravated, and a sense of weight and distress in

the cardiac region suggests that the organ does not thoroughly empty itself. Fifteen minims of the tincture every second or third hour should be given, aided by ammonia and brandy. The patient must be kept at rest. This condition may supervene in any case of valvular disease, most frequently in mental disease, and when it occurs in aortic regurgitation we need not be deterred on theoretical grounds from withholding the treatment indicated.

If there be not a healthy heart muscle, but if granular, fatty, waxy or fibroid change be present, how must the treatment be changed? It cannot be materially modified except in the rather steadier use of stimulus; yet we will not obtain the same result from digitalis or kindred agents, and arsenic or strychnia is always worthy of a trial.

Another class of cases call for aconite. They present excessive muscular growth and cavities that have but moderately increased; a state more often met with in aortic affections, particularly regurgitation, but also in mitral regurgitation, with or without co-existing aortic disease. The impulse is extended, forcible, and forcible out of proportion to the cardiac percussion dullness: there is often throbbing of the vessels of the neck, and a feeling of constriction in the chest. Aconite relieves blood pressure. Dr. DaCosta gives two drops of the tincture every fourth or sixth hour for the first few days of the treatment, and then only twice a day; or give one drop every third hour until the effect on the force of impulse and pulse is produced, and keeps up this effect with a drop dose, two or three times a day, for several weeks, intermitting the treatment and resuming it from time to time. *Veratrum viride* has similar applicability, but it is more apt to nauseate. The happiest results have followed from a combination of one-drop doses of aconite tincture with three of tincture of *veratrum viride* and seven of tincture of ginger. It is an admirable sedative and does not sicken.

2. The rhythm of the heart. There are cases especially of mitral narrowing in which the extreme irregularity presents a striking feature. They are mostly cases with imper-

fect or weakening compensation, and therefore to be benefitted by digitalis and remedies of that class. As an adjunct to this treatment belladonna may be advantageously employed and pushed to its constitutional effect.

3. The condition of arteries, veins and the capillary system. We must remember that digitalis contracts the arteries and arterioles, and the indications are often to get with increased cardiac power a free flow in the vessels without resistance in them. No remedy does this and a certain remedy of the kind is greatly needed. The evidence is in favor of strophanthus contracting the vessels to a much less degree than digitalis. Nitro-glycerine and the nitrites produce rapid and great dilatation of the vessels, but have very little effect upon the muscular power of the heart. Belladonna and atropia, in decided doses, have somewhat the same action as nitro-glycerine, less on the vessels, rather more on the heart.

4. The probable length of existence of the malady and its likely cause. When the cause is rheumatic there is no special treatment. We possess no remedies to influence the results of the rheumatic endocarditis, when the acute stage is fairly over.

5. The general health. Iron is not, as a rule, a good remedy; it constipates, produces headache, a full feeling about the heart and is badly digested. It ought to be given in cases clearly anæmic, or after recovery from an acute malady.

6. The secondary results of the cardiac affection. Palpitation, in one set of cases, calls for ammonia and brandy. Here the pulse, though rapid, does not correspond in strength, the heart is really weak and laboring. In other cases, where the heart's action is at one time fast at another slow and much influenced by fatigue, where there is functional disease super-added to the organic. Great attention to the general health, with rest, will get rid of the added marked functional disturbance; and occasional doses of bromide added to digitalis, if this be not otherwise contra-indicated. A course of cannabis

indica or of arsenic will show most results. Where there is cardiac uneasiness and pain iodides usually do good, as well as the wearing of a plaster. But nitro-glycerine is the best remedy. Two cases are cited in detail illustrating in a marked degree the benefits of treatment.

The condition of the urine requires constant attention. Scanty urine full of lithates, of higher specific gravity than normal, will go hand in hand with cardiac pains, with headache and with dyspnœa. Diuretics are most valuable in relieving pulmonary distress and other symptoms, and none better than caffeine, two-fifth grain doses of the citrate every third hour. For the dyspeptic symptoms purgatives are the proper remedy. "Purgatives are not given as often as they ought to be in valvular disease of the heart."

None of the new remedies are so valuable as digitalis. "I hold caffeine, strophanthus and adonidine to be the best substitutes." Adonidine (1-10 to 1-5 gr. doses three times a day) yields better results in functional than in valvular cases. So does strophanthus, which Dr. DaCosta has often seen strikingly influence irregularity and dyspnœa. As a diuretic it is inferior both to digitalis and to caffeine. Chloride of barium is both a general and a cardiac tonic, a remedy that increases the tone in the bloodvessels, a fairly good diuretic, and one that can be taken for a long time without disordering the stomach. The dose is 1-10 grain in pill, three or four times daily; a rather larger dose is, however, admissable. In very decided amounts it is apt to produce diarrhœa. Having many incompatibles it had best not be given in combinations.

INFECTIOUS JAUNDICE.

Under this title Vassilieff contributes to a Russian journal (quoted in the *Lancet*, Dec. 1st, 1888) the results of his observations of eleven cases of this morbid condition made in 1883 in the Alexandrovski Military Hospital. The main characteristics are as follows: Usually sporadic; initial fever followed by enlargement of the liver and spleen, jaundice and renal complications; termination usually favorable. Some cases began with

a chill, followed by nausea and vomiting, after which there were general debility, pains in joints and muscles, especially those of the lower extremity, great thirst, disturbed sleep and delirium, high temperature, pulse soft and rapid, tongue moist and slightly coated, skin hot and dry. At the beginning the liver and spleen are enlarged and tender. Albumen and casts were found in the urine, and, when there was jaundice, bile pigment. The lungs sometimes were affected with bronchitis, and in two cases pleurisy occurred. At the outset there was constipation, but later on the bowels were somewhat relaxed. Frequent epistaxis. Herpes was occasionally present. No micro-organisms could be detected in the blood. At the outset there was great prostration, but that soon passed away. Temperature began to fall about the eighth day. Convalescence was slow. In a fatal case observed by Vassilieff, blood was found extravasated in the serous and mucous membranes and sloughing of the mucous membrane of the pharynx.

Fiedler* reports thirteen cases. He considers this disease, first described by Weil in 1886 and known in Germany as Weil's disease, as acute and infectious, and distinct from any recognized disease. Its clinical features are identical with those above enumerated. The course of the disease is usually eight to ten days, and defervescence is gradual. Herpes and erythema have been observed. The prognosis is good. Men are more frequently attacked than women. Nine out of twelve of his patients were butchers.

Schaper† reports a case occurring in a soldier aged 22, in which, after the usual symptoms had occurred, a relapse set in on the eighteenth day, with elevation of temperature (103.4°F.) reappearance of the jaundice, and a rigor. These symptoms subsided in a few days and recovery ensued.

Hirchner‡ observed an epidemic of such cases at Breslau amongst the soldiers in garrison there. Between the 30th July and the 18th August eight men were attacked. No cases were

* *Revue des Sciences Médicales*, 15th October, 1888, p. 527.

† *Deutsche Militärärztl. Zeitschr.*, No. 5, p. 302, 1888.

‡ *Ibidem*, p. 103.

fatal. No general cause could be discovered. In all of these the onset was sudden, with an initial chill, headache and prostration. The temperature reached its acme ($103\frac{1}{2}^{\circ}\text{F.}$) in 24 hours, and began to decline in one or two days, again rising, but never so high as in the primary fever. Parotiditis was present in one case. The jaundice began to appear when the fever was subsiding, and was intense, the urine being tinged and the *fæces* devoid of coloring matter. Albuminuria was present in but one case. Cerebral manifestations were marked. The author regards the disease as infectious, and wishes it to be called "indigenous yellow fever."

Hueber* reports four cases of his own and three collected by Dr. Lebsanft. The subjects of the disease are mainly recruits of vigorous constitution, and the symptoms occur in the hot season, resembling those already described. Hueber points out a special diagnostic sign, which he regards as characteristic, acute inflammation of the pharyngeal mucous membrane, as well as that of the bronchi, intestinal and urinary tract, which shows itself by epistaxis, bloody expectoration, *melæna*, *hæmatemesis*, and *hæmaturia*. The post-mortem appearances recorded by Vassilieff support this observation. Weil's disease cannot be included in the category of any recognized bilious disease, nor can the opinion of Weil be entertained that it is an abdominal typhus complicated with jaundice and nephritis. It is a general infectious disease, produced probably by the action of a special microbe.

PURULENT PERICARDITIS.

At a meeting of the Clinical Society of London, Dr. Dickinson related the history of a case of purulent pericarditis successfully treated by aspiration and drainage.† A boy, aged 10, suffered at first from symptoms regarded as pyæmic. A large gluteal abscess was followed by signs of pleural effusion and œdema of the face and chest. Aspiration of the pleura, though the means of withdrawing a considerable quantity of serum, relieved but slightly and temporarily the dyspnoea, blueness, and

* *Ibidem*, No. 4, p. 165, 1888.

† *British Medical Journal*, Dec. 1st, 1888.

œdema. The pericardium was then aspirated by Mr. Rouse and an ounce of creamy pus withdrawn. Eight days later twelve ounces of a similar fluid were withdrawn, and at the end of a week nineteen ounces. The place selected for the puncture was on the right side, close to the edge of the sternum, in the fifth interspace. The heart, before each of these operations, had been drawn to the left by a preceding evacuation of the pleura. A week later it became evident that the sac of the pericardium was again full. An incision was therefore made where the punctures had been and a tube inserted. Recovery eventually occurred after some temporary drawbacks and three subsequent aspirations of the pleura. In three months there was no remnant of the pericardial puncture except a small cicatrix, which moved with each beat of the heart. A remarkable fact in the history of the case—one, however, not unprecedented in similar circumstances—was the nearly total absence of precordial friction, which was recognized but on one occasion.

Dr. Dickinson's is now the third published case that has recovered, the two others being those of Rosenstein and S. West.

PLEURISY.

Hagen-dorn* is of opinion that sudden death occurring in the course of a pleurisy cannot be attributed to compression of the inferior vena cava. Several clinical observations have convinced him that the blood is stagnant in the healthy lung during the short and feeble expirations, whilst it flows into the lung and right heart in strong inspirations. Cyanosis and feebleness of pulse is the result. The left heart suffers from these respiratory changes; expiration does not favor its function, and expiration rendered more energetic than usual can go so far as to stop the contraction of the heart. After puncture, the diaphragm contracts more energetically and aids in increasing the negative pressure of inspiration in such a way that the compressed lung and the heart do not resume their normal position. Sudden death in pleurisy may be attributed in such cases to a stoppage of the heart, caused by the increase of the negative pressure brought about in the thorax by inspiration.

* *Revue des Sciences Médicales*, 15 Octobre, 1888.

Brain Symptoms in Purulent Pleurisy.—Cérenville, in a Swiss journal (quoted by the *Revue des Sciences Médicales*, 15 Oct., 1888), contributes an article on “Des Manifestations Encéphaliques de la Pleurésie Purulente,” in which two principal forms of such symptoms are described, occurring separately, consecutively or simultaneously: (1) The epileptoid form. (2) The hemiplegic form. The author cites six cases of his own and fifteen which he has collected from the records of others. In purulent pleurisy dilatation of the pupils is the rule. There is no constant relation between the side affected and the limbs, which undergo convulsive movements. The epileptic attacks can give rise to capillary retinal hemorrhages; in other cases, amblyopia is a result, or amaurosis or subjective phenomena pointing to retinal exaltation. The constant cause of these manifestations is the contact of the pleura with the fluid of an injection or with a foreign body. They occur at a late stage of the disease, exceptionally before the fourth week after operation. The immediate cause is a reflex stimulation starting from the pleura and transmitting itself to the vasomotor centres. The author is disposed to regard as the starting points of this influence the minute branches of nerves developed in the fleshy vegetations of the pleural surface. Of his 21 cases, six ended fatally, and of the latter, four were due to cardiac lesions. Even if there are no premonitory signs of encephalic manifestations, yet there are certain clinical phenomena not unworthy of notice.

1. A persistent tendency to inequality of the pupils.
2. A bright blush on the cheek of the side on which the pleurisy exists.
3. The presence of blood in the liquid injected.
4. Pain felt the moment the tube or sound touches the pleural surface.

QUARTERLY RETROSPECT OF OBSTETRICS.

PREPARED BY J. C. CAMERON, M.D.,

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Puerperal Auto-infection.—Döderlein of Leipsic read an interesting paper before the German Gynæcological Association in May last (*Der Frauenarzt*) showing how cases of so-called *auto-infection* sometimes occur. In April, 1887, the patient, aged 37, while pregnant, was attacked with erysipelas of the skin, starting from a wound on the finger. She aborted shortly afterwards and was attacked subsequently with pneumonia and pleurisy. In December following she applied at the Leipsic polyclinic, saying that she had been bleeding for two weeks, and an examination showed that she was then about six months pregnant. The loss of blood became so great that the induction of premature labor was decided upon ; the operation was performed with the usual antiseptic precautions. Before operating there was no fever, but immediately afterwards fever set in and continued till the fifteenth day, when she died. There were no evidences of endometritis or perimetritis, but the erysipelas-streptococcus was found in the lochia. The joints were swollen and painful till two days before death. The autopsy showed absence of septic appearances in the uterus, ovaries and peritoneum ; but there was recent leptomeningitis, and erysipelas-streptococci were found there and in the joints. Döderlein considers that the fatal attack of internal erysipelas was caused by germs which had remained latent since the previous abortion and had been rendered active by the premature labor. It is well known that micro-organisms of different kinds are commonly found in the vagina (even *staphylococci*, according to Winter). It is quite possible, therefore, for a patient to be infected by the germs she harbors in her vagina. It is incorrect and misleading, however, to cite such cases as examples of auto-infection. By *auto-infection* we mean that the infecting poison is not introduced from without, but is developed *de novo* in the patient's own body. Germs which have found their way into the vagina and develop there are not the *de novo* products of the patient's own body.

any more than they would be if growing in the mouth, nose or respiratory passages. It must be remembered that the vagina is merely one of the external organs of generation, and that unless cleanliness is strictly observed it is apt to receive all sorts of noxious matters from without, supplying the heat and moisture requisite for germ growth and multiplication. The use of the term *auto-infection* in such cases as the one reported is a play upon words, as dangerous as it is disingenuous, for it is liable to confuse our ideas and divert our attention from the essential point that when septic infection occurs, the infecting germ has been introduced from without, not generated within. Doederlein's case goes far to strengthen the position of those who insist upon thorough disinfection of the vagina early in the second stage of labor.

Treatment of Sore Nipples.—Dr. Auvard discusses this question at some length (*Gazette Hebdomadaire*) and describes the treatment he employs in his own service at the *Maternité de la Charité*. As a prophylactic he recommends, during the last month of gestation, daily traction and manipulation of the nipple, followed by friction of the whole breast with alcohol. During the last fortnight he directs the nipple to be drawn out daily by means of a glass nipple-shield fitted with two rubber tubes. The shorter tube is immersed in a small vessel of alcohol; the longer one is placed in the mother's mouth. Suction upon the longer tube draws a little alcohol into the shield; if the small tube is then compressed by the fingers while suction is continued, the nipple will be drawn out and distended while at the same time it is bathed with the alcohol in the shield. The nipple is thus toughened by contact with alcohol while it is being drawn out. He insists upon special care being taken to avoid excoriation and ulceration during the early days of nursing. Sores are then always caused by the child biting and wounding a sensitive, depressed, or ill-formed nipple. The early use of a shield is the best way of preventing such traumatisms. The objection to the ordinary form of shield is that nursing is thereby made more difficult and fatiguing: the child having to pull harder and longer than without the shield, becomes tired, and refuses to nurse or

does not get a sufficient quantity of nourishment. Auvard gets over this difficulty by adjusting a rubber tube to the shield so that the mother may do some of the suction and thus make nursing easier for the child. He uses the nipple-shield for the first fifteen days of nursing, and then gradually discontinues it as the nipple grows less sensitive and tender. If sores or fissures appear they must be treated at once (1) to alleviate the pain of nursing, (2) to prevent access of entrance of germs, (3) to secure prompt healing. Pain is relieved by applying a cocaine solution to the fissure or sore and permitting nursing only through a shield. The bitter taste of the cocaine is not objectionable when the shield is used. Germs are excluded by keeping the breast covered with lint moistened with some antiseptic liquid, as alcohol or a four per cent. solution of boracic acid. Moist dressings seem to succeed better than dry. Iodoform is not usually of much service; alcohol is better, for it hardens while it disinfects. To secure rapid healing the nipple should be kept as much as possible at rest. Complete rest for thirty-six hours will heal most ulcerations. The shield should be used till the nipple becomes harder and less sensitive.

Treatment of Parenchymatous and Phlegmonous Mastitis.—Some four years ago Dr. Loukchévitch published in the *Wratsch* the good results he obtained in the treatment of acute blenorhagic epididymitis with clay dressings. M. Maizel has recently (*Gazette de Gynécologie*) applied the same idea successfully to the treatment of phlegmonous and parenchymatous mastitis. He finds that these dressings relieve pain rapidly, diminish the heat of the parts, and prevent suppuration if applied early. If an abscess already exists, it must be opened and cleansed; the clay dressings are then applied and it is found that cicatrization is favored, and other indurations which have not supplicated speedily resolve. He finds the clay dressing more effectual and less painful than the starch bandage (Kiwisch) or collodion applications (Latour, Sprengel). It may also be used with benefit to check the secretion of milk when lactation is for any reason to be stopped. Maizel's method is as follows: Take a sufficient quantity of white sculptor's clay, work it up sufficiently and then

mould it on a piece of calico into a shape large enough to envelop the breast, leaving a hole in the centre for the nipple. Wash the breast carefully, cover it with soft gauze or lint, apply the moulded clay and fix the dressing with a bandage. The dressing is changed twice daily. The action of the clay is two-fold : (1) It absorbs heat and acts as a refrigerant to a certain extent (like an ice-bag) ; (2) it exercises a compression which is gentle, uniform and permanent, and which favors the resolution of inflammatory products.

Paralysis of the Sciatic from Compression during Labor.—Dr. Vinay (*Archives de Tocologie*) relates the following case, remarkable for its rarity : The patient, aged 32, II para, began labor on the morning of the 5th April, 1887 ; the membranes ruptured on the 7th, but some hours elapsed before the head came down and rotated with the occiput to the front and left. Labor was finally terminated with forceps without much difficulty. The following day the patient could not stir her right foot. On April 15th the foot was drawn down, and she could neither flex it nor turn it to either side. When she flexed her right thigh upon the abdomen it rotated outwards. The *tensor vaginæ femoris* did not seem to act. Sensibility was not diminished. A course of massage and faradisation caused the paralysis to disappear by the 12th June. Paralyzes from pressure are unilateral and limited to the distribution of the affected nerve, thus differing from those produced by albuminuria and other constitutional causes.

Fracture of the Symphysis Pubis during a Forceps Operation.—M. Faux describes an unusual case (*Bulletin de la Société Obstetricale*) where the symphysis was fractured during extraction with the Tarnier forceps. The patient was a primipara, 25 years of age, with a pelvis somewhat narrowed at the brim, in the conjugate diameter. Labor lasted forty-eight hours, forceps were applied and the head slowly and carefully brought down. Crepitus was felt as the head came down upon the perineum, and again as it emerged from the vulva. The child was dead, its head was of normal size, and bore no marks of violence. On examination, the symphysis was found to be frac-

tured and the subpubic tissues to be bruised, swollen and œdematous. The patient recovered perfectly.

Imperforate Hymen and Pregnancy.—Zinsstag of Bâle publishes a case (*Gazette de Gynécologie*) of imperforate hymen, dilatation of the urethra, and pregnancy. When the patient, aged 29, was admitted into the Bâle obstetrical clinic, the hymen was found to be thick and imperforate, the urethra so much dilated that the finger could be passed into the bladder, through posterior wall of which the foetal head could be felt presenting at the brim of the pelvis. The hymen was incised, the vagina was normal, and labor terminated without special difficulty. The patient menstruated regularly from the age of sixteen. After marriage, coitus took place per urethram. There was no sign of fistulous communication between the urethra and vagina, so that it was impossible to decide how the seminal fluid found its way to the uterus—whether through a tiny opening in the hymen or through a small vesico-vaginal or urethro-vaginal fistula.

Physiology of the Third Stage of Labor.—Dr. Helme recently read a paper on this subject before the Edinburgh Obstetrical Society (*Edinburgh Medical Journal*) which is of considerable value from a clinical point of view. The mechanism of the separation and expulsion of the placenta has long been a subject of dispute, and the two rival theories are diametrically opposed to one another. According to one, the placenta is separated by uterine contraction; according to the other, by uterine relaxation. According to one, the placenta is detached and expelled by and during a pain; according to the other, it is detached after a pain and expelled by and during a subsequent one. Dr. Helme's patient, aged 35, a VIII para, was delivered of twins. The first child breathed and cried loudly before the cord was tied, thus aspirating the foetal portion of the placenta and making it "practically a bloodless structure," as Dr. Berry Hart calls it. The second child, born three hours and a half later, did not breathe before the cord was tied, so that its placenta was not aspirated, but remained gorged with blood. The placenta of the first child was situated high up near the fundus; that of the second was lower down. After the birth of the second child

the uterus relaxed and became flabby and soft; the fundus reached midway between the umbilicus and the xiphoid cartilage, and some hemorrhage took place. The hand was passed up into the uterine cavity and both placentæ were felt attached to the uterine wall. By external manipulation a strong uterine contraction was excited, during which the lower-lying placenta was detached and expelled. The uterus again relaxed and free hemorrhage took place. The hand was again passed into the uterine cavity and the remaining placenta was found to be partially detached. To prevent further loss of blood it was quickly peeled off and extracted.

In this case there was a large flabby uterus containing two placentæ, one gorged with blood situated high up near the fundus, the other small and bloodless situated lower down, neither being morbidly adherent to the uterine wall. Very considerable relaxation occurred without detaching either placenta; a strong pain suddenly came, separated and expelled the lower lying placenta, and partially detached the other. Relaxation again occurred without completing the separation, and finally to check hemorrhage the placentæ had to be removed artificially. Several points seem to be clear in this case:

(1) *Uterine relaxation* did not detach either placenta.

(2) *Uterine contraction* detached one placenta completely and the other partially.

(3) The large, bulky, engorged placenta was more easily detached than the small bloodless one.

(4) The lower-lying placenta was detached first.

Dr. Berry Hart's theory that the placenta is separated during uterine relaxation is not borne out by this case. It seems clear, too, that the practice of leaving the placental end of the cord untied in order that the placenta may be reduced in size by bleeding, retards rather than favors its separation. Uterine action is more likely to be effective if the placental mass is relatively large; when the contractile power of the uterus is feeble, sufficient pressure is not brought to bear upon a small bloodless placenta to separate it from its attachments.

The Bacteriology of the Lochia.—D. Von Ott of St. Peters-

burg (*Archiv f. Gyn.*) concludes a paper on this subject with the following observations :—

(1) In the lochia of healthy puerperal women, micro-organisms are not found either in the uterine cavity or in the upper part of the vagina.

(2) Normal lochial fluid is quite harmless.

(3) If micro-organisms appear in the lochia and cause puerperal troubles, they must have been introduced from without—there has been infection.

He explains the fact that a vagina which contains innumerable micro-organisms before labor becomes free from them after labor, as follows: the foetus during birth dilates the whole parturient canal to such an extent that all folds and irregularities disappear and the vagina is in a manner wiped clean by the foetus as it passes through; the gush of liquor amnii which immediately follows the birth of the child helps and supplements this cleansing process.

E. F. Czerniewski recently reported to the St. Petersburg Obstetrical Society the results of his investigations on the relations between micro-organisms and puerperal diseases (*Centralblatt f. Gyn.*) His conclusions are:

(1) In the lochia of healthy puerperal women micro-organisms are very rarely found.

(2) The lochia of healthy puerperal women has neither pyogenic nor phlogogenic properties.

(3) In the great majority of cases, streptococci can be found in the discharges from the uterine cavity of women suffering from puerperal troubles, which micro-organisms are undoubtedly the cause of the disease.

(4) In fatal cases of puerperal disease (lymphatic form of septicæmia) streptococci develop in cultures from the lochia as well as after death from the general fluids and organs.

(5) Fatal cases of puerperal septicæmia are caused by the entrance of streptococci through the general passages.

(6) The streptococci of mild and severe cases are identical.

(7) The streptococci found in puerperal cases are able to produce suppuration or erysipelatous inflammation of the skin.

(8) Disease of the organism caused by streptococci manifests itself in degeneration of parenchymatous organs and hyperæmia of serous membranes with more or less exudation.

Leukæmia and Pregnancy.—In September 1887, I read a paper on this subject before the Washington International Congress and reported the first authentic case of pregnancy occurring in a woman already leukæmic. Shortly afterwards, Dr. J. L. Greene of Morgantown, Indiana, published two cases, only one of which, however, can be accepted as undoubtedly leukæmic. Quite recently Dr. Sænger of Leipsic has published a third case (*Archiv. f. Gyn.*, Bd. xxxiii, Hft. 2) and has at the same time written up the literature of the subject thoroughly and compared the three cases together. His article is the most complete yet published, and is well worthy careful study by those interested in the subject. His patient when first seen was between two and three months pregnant; there was enlargement of the spleen and increase in the number of white corpuscles, the W:R being 1:15. There was no hereditary influence made out, no history of malaria or menstrual disorders, and leukæmia had unquestionably preceded pregnancy. As gestation advanced, the spleen rapidly enlarged, till at last she suffered so much from sleeplessness and abdominal distension that premature labor was artificially induced. Labor terminated without hemorrhage and the patient made a good recovery, her leukæmia not seeming to be materially affected by the pregnancy. The child was living and well developed, showed no leukæmic symptoms, and at last accounts was thriving well. The examination of the maternal, fœtal and placental blood gave results similar to those obtained in my case. From an examination of the three cases, Sænger concludes that leukæmia is not caused by menstrual or ovarian troubles, does not prevent conception, does not predispose to hemorrhage before, during or after labor, and is not much influenced in its ultimate course by the intercurrent of gestation. Pregnancy affects leukæmia and pernicious anæmia quite differently; in the former there is improvement in both subjective and objective symptoms after the conclusion of labor, in the latter there is rapid and steady increase in their gravity. Sænger

also reports a case of leukæmia in the foetus before birth, and reviews the work of Jakesch and Klebs upon general dropsy of the placenta and the new-born child. On comparing these two classes of cases, it is quite evident that

(1) A leukæmic mother may bear a healthy child.

(2) A healthy mother may bear a leukæmic child.

This affords conclusive proof that the maternal and foetal circulations are distinct, and that leucocytes do not pass from one to the other. Sænger pleads for a careful examination of the placenta in subsequent cases which may be observed, for leukæmia offers the one possible chance of comparing together in the same placenta two different kinds of blood, that of the leukæmic mother and the healthy child.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

CASES FROM THE GYNÆCOLOGICAL CLINIC OF DR. WM. GARDNER.

(Reported by J. M. Potts, M.D.)

CASE I.—*Vesico-Vaginal Fistula; Operation; Recovery.*

E. S., aged 25, was admitted to hospital August 29th, 1888, complaining of inability to hold her urine. Menstruation had been regular till two and a half years ago. Since that time it had been scanty, irregular and accompanied by pain. For the last six months menstruation had been absent; slight leucorrhœa. Two pregnancies to full term the last two and a half years. This last labor lasted forty-eight hours, and was then terminated by forceps. Since that time she had been unable to retain her urine. Examination showed a large vesico-vaginal fistula and pathological stenosis of the cervix.

On Sept. 19th, patient was etherized and Dr. Gardner proceeded to operate. The anterior vaginal wall was destroyed to such an extent that the posterior cervical wall had to be used as a flap, thus leaving the os inside the bladder. Fourteen wire sutures were put in, a soft rubber catheter left in the urethra, and the vagina packed with iodoform gauze. Convalescence was good. A mild cystitis developed, which was treated by washing out bladder twice daily with a weak carbolic solution

and the administration internally of benzoic acid gr. x and bi-borate of soda gr. xv in two ounces of water after meals. On the 28th the sutures were removed and union found to be complete.

Oct. 1st.—The catheter was removed and the bladder washed out only once daily. At first micturition was rather frequent, but by the 5th she could retain urine for four or five hours.

Oct. 9th.—The carbolic injections and the benzoic acid were discontinued.

Oct. 11th.—Ordered quinine sulph. gr. iss and acid phos. dil. ℞ x t.i.d.

Oct. 17th.—Began to wash out bladder once daily with solution argent. nitratis gr. i ad ʒi.

Oct. 22nd.—Discharged cured.

CASE II.—*Pneumonia (Puerperal) running its course with subnormal temperature, absence of cough, pain and expectoration.*

Mrs. B., aged 23, was brought to the hospital in the ambulance from the steamship Pomeranian on November 17th, 1888. The passage out was very rough, and patient was sea-sick from the time she left England till the thirteenth day out (Nov. 10th), when she was confined prematurely (six months). Labor, though of short duration (six hours), was severe; there was considerable post-partum hemorrhage and retention of part of the placenta. The ship surgeon tried to remove it, but failed; he again tried on the 13th, with no better result.

Past history—Patient has had no severe illness, but has always been delicate.

Family history—Father died of phthisis; otherwise good.

Condition on admission—Patient was a small, delicate-looking woman; complained of no pain, but felt very weak; lochia scanty and slightly offensive; involution going on well; eyes sunken; tongue coated; surface of body cold; temperature 96.5°; pulse 120, small and very weak; body covered with an erythematous eruption; vomited on the slightest exertion; bowels moving rather freely.

Nov. 18th.—Dr. Gardner removed the retained pieces of pla-

centa with finger and curette and washed out the uterus ; quite a large amount of placenta was taken away.

Nov. 20th.—Very low ; temperature still subnormal ; pulse very weak and fast ; vomiting and diarrhœa. Ordered brandy (̄iv) during the day and cocaine hydrochloratis gr. 1-6 every three hours.

Nov. 21st.—Diarrhœa worse ; vomiting of a coffee-ground substance nearly incessant. The brandy was stopped and champagne ordered. Lochia stopped to-day.

Nov. 22nd.—Condition a little improved ; there had been no vomiting since the champagne was ordered, although the diarrhœa is still bad ; temperature subnormal and pulse 130, weak and small. Ordered a small amount of peptonized milk.

Nov. 23rd.—Diarrhœa worse ; the vomiting had not returned ; temperature $96\frac{1}{2}$; patient very weak.

Nov. 24th.—Condition much the same ; stopped the champagne and ordered bismuth subnit. gr. xxx and pulv. opii gr. 1-6 every two hours till diarrhœa was checked.

Nov. 25th.—Diarrhœa, although not stopped, was not so severe ; discontinued the bismuth and opium.

Nov. 26th.—The diarrhœa was worse ; a little vomiting ; temperature subnormal, but pulse better. Ordered sparkling Burgundy (Chambertin) ̄i every two hours.

Nov. 27th.—Condition was unchanged,

Nov. 28th.—Erysipelas started in the nose ; condition otherwise much the same. Removed to infectious wards ; while there, although the erysipelas did not extend, she gradually got worse, and died on the evening of the 30th.

Dr. Lafleur made a post-mortem examination and reports as follows : " Acute lobar pneumonia of right lung, lower lobe. Fatty degeneration of heart-muscle and kidneys. Fatty infiltration of liver. Subinvolution of uterus and a sloughing patch on the placental site."

Although the pneumonia had evidently developed after admission to hospital, the temperature was always subnormal ; there was no pain, cough, expectoration, or any symptom that would lead to suspicion of any lung trouble.

Reviews and Notices of Books.

Anæsthetics—their Uses and Administration. By DUDLEY WILMOT BUXTON, M.D., B.S., M.R.C.P., Administrator of Anæsthetics in University College Hospital, the Hospital for Women, Soho Square, and the Dental Hospital of London. London: H. K. Lewis, 136 Gower Street.

After a brief and interesting account of the history of anæsthesia from early times, the author describes the preparation of a patient for an anæsthetic. He enters very fully into the circumstances and conditions which should guide us in determining what anæsthetic should be employed. If the advice in the following sentence was universally followed, we feel confident that the large death list directly due to anæsthesia would be greatly diminished: "Persons of early adult and adult life should have ether given them, provided always they are free from pulmonary affections and renal disease." This advice is especially appropriate for the author's own countrymen. The A.C.E. mixture is recommended for asthmatics and those suffering from chronic cough and emphysema. This mixture is not, however, as safe as is commonly believed. It is not at all infrequent to have alarming symptoms attend its administration.

No satisfactory explanation has as yet been advanced to account for the suppression of urine that occurs in ether anæsthesia when the kidneys are much damaged. Arterial changes contraindicate the employment of ether on account of the danger of rupture from the increased blood-pressure. Hence in old people with diseased vessels chloroform is preferable to ether. The choice of an anæsthetic in people with organic disease of the heart is frequently a matter of difficulty. It is to be decided mainly by the state of the heart muscle. If compensation is ruptured, especially in mitral disease, both ether and chloroform are dangerous—the former from throwing additional work on the heart through water logging the lungs; the latter owing to its directly depressant action on the heart. In such a dilemma the A.C.E. mixture should be administered.

Where it is necessary to use the cautery, ether should not be

employed on account of the inflammability of its vapor. This precaution is especially incumbent in operations about the jaws, when it is not possible to use an inhaler.

In operations on the brain, it is recommended to use chloroform instead of ether, as hyperæmia of the brain is troublesome when the latter is employed.

With the exceptions of the states and conditions noted, ether is absolutely the safest anæsthetic. The fact of chloroform acting quicker and more pleasantly should not for a moment enter into consideration when we are solving to ourselves the question, What anæsthetic should be employed?

The pharmacology of the different anæsthetics is fully described, and that in a manner which shows that the author is both "practical" and scientific. The action and mode of using cocaine as a local anæsthetic is also entered into. A chapter on the medico-legal aspects of the administration of anæsthetics concludes this useful work. It is a volume which should be in the hands of every man who is desirous of becoming acquainted with the latest knowledge on anæsthetics. The work is one of Lewis's practical series, and is a credit to both author and publisher.

Hunterian Lectures on Tension as met with in Surgical Practice, Inflammation of Bone, and on Cranial and Intracranial Injuries. Delivered before the Royal College of Surgeons of England, June, 1888. By THOMAS BRYANT, F.R.C.S., &c. London: J. & A. Churchill, 11 New Burlington Street. 1888.

These are three interesting lectures collected together in a neat octavo volume of one hundred and fifty pages. They have already appeared separately, but must be read together to be appreciated. The first and second lectures treat almost entirely of "tension" in the soft parts and in bone, and are made eminently practical by reports of cases bearing on the subject. The third lecture is an admirable contribution to "Brain Surgery," dealing especially with the ever important subjects of concussion and compression, and the proper course to be adopted in the

various cranial and intracranial injuries. Where the inflammatory action becomes great in such cases, Mr. Bryant strongly advocates bleeding from the jugular vein or the arm, having himself saved many lives by this treatment. In the more chronic cases, mercury taken internally is strongly recommended. At the end of each lecture the author summarises the whole in a number of practical conclusions. Altogether the lectures are well worthy of perusal by the general practitioner as well as by the practical surgeon.

The Vest-Pocket Anatomist. By C. HENRI LEONARD, A.M., M.D. Fourteenth revised edition. The Illustrated Medical Journal Co., Detroit.

Although this work has reached its fourteenth edition we cannot recommend it. It is simply a *cram*-book for lazy students, and will never give anyone a proper view of anatomy. The text is of the slimmest possible character, and is intended to explain the numerous illustrations which are introduced from Gray's Anatomy. Although these sort of books are sometimes useful to refresh the memories of students going up for examination, they do much harm by inducing indolent and careless students to neglect the larger and more scientific works. This encourages a tendency to superficiality and want of thoroughness which is so characteristic of much of the work of the present day. If medical students were trained to be more thorough we should see much less of the crude generalizations and hasty conclusions which mark the majority of the articles published in the medical journals on this side of the Atlantic.

Section-cutting and Staining. By W. S. COLMAN, M.B., Lond. London: H. K. Lewis, 136 Gower Street.

This little book at once disarms criticism, and for the very good reason that in the preface it is stated it is not intended "as an exhaustive account of different histological methods, but as a practical guide for those who are beginning to work at the subject." We have carefully read the entire book and believe it quite fulfils the purpose for which it is written. In it reference

is made to other more voluminous standard practical works, but as it contains many of the most useful new methods not contained in the former, it may be looked upon to some extent as supplementary to them, and in fact necessary to render them more complete. For any one commencing histological work it contains all the necessary instruction, and we have no hesitation in recommending it to them.

Elements of Practical Medicine. By A. H. CARTER, M.D., Physician to the Queen's Hospital, Birmingham, &c. Fifth edition. London: H. K. Lewis, 136 Gower Street.

The fact of Dr. Carter's work having reached a fifth edition is a proof that it is appreciated by both student and practitioner. Although only a manual dealing with a vast subject, it deals with its matter in such a way as to present the essentials of the principles underlying the nature and treatment of disease. In this very important particular it differs from the other manuals and short treatises on this subject that we are acquainted with.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, Nov. 16th, 1888.

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

Exophthalmic Goitre.—DR. ARMSTRONG presented a young woman, aged 24, suffering from Basedow's disease, and said: In the spring of 1888 I treated her for chronic pharyngitis and rhinitis. In July she went to the country for a few weeks. On returning from the country she first came to my office on the 27th of September. I at once noticed the prominence of the eyeballs, found the pulse beating at the rate of 136 per minute, and distinct, though moderate, enlargement of both lobes of the thyroid gland, especially the right lobe. On examining the heart a systolic blowing murmur was heard at the base, also hæmic murmur over the great vessels of the neck. Any exertion, such as climbing stairs, caused very great dyspnoea. She has not menstruated since 1st June last; is not pregnant, at least there

is no evidence of pregnancy, although patient was married in July. The eyelids follow the movements of the eyeball. I am giving her iron and quinine with belladonna for her anæmic state and applying the constant current over the sympathetic nerves in the neck twice a week. The pulse is now reduced to 96 per minute. How much of the improvement is due to the galvanism of the sympathetic and how much to the medicinal treatment I am not prepared to say. Last summer I was able to reduce the rate of the heart-beat in a marked case of exophthalmic goitre from 140 to 88, and there was at the same time a wonderful improvement in the patient's general condition. When treatment began she could hardly walk a block without resting, while in the autumn she could walk a couple of miles at a very fair rate without over much fatigue. It is only just to add, however, that I have quite recently heard indirectly that this patient has relapsed again, and is nearly, if not quite, as bad as ever. The case was an aggravated one, and of long standing before the treatment was begun.

DR. LAPHORN SMITH had seen as many as five cases of goitre. He now treats all such cases with the continuous current of 20 milliamperes, and finds that the cases are markedly improved, though they are not completely cured.

DR. MAJOR asked if nasal symptoms preceded the exophthalmos. He found, as a rule, that exophthalmic goitre was preceded by not only nasal symptoms but also severe palpitation of the heart and marked general debility. Sometimes, however, its onset is quite sudden. It seems to be very prevalent among the Jews in Germany.

DR. TRENHOLME referred to case seen by him in consultation with Dr. Ross, where the exophthalmos was very marked in a woman 50 years of age. His treatment usually consisted in improving the general health by tonics and change of life, etc., and the administration of phosphate of potash.

Hypertrophic Cirrhosis of the Liver.—DR. LAFLEUR exhibited the liver and stomach from a case of hypertrophic cirrhosis. The liver, which weighed 8 lbs. 10 ozs., was of a bright yellow color, and very firm and elastic. The capsule was thickened,

and there were a few recent adhesions between its upper surface and the diaphragm. The anterior border was thick and rounded. On section, the organ was seen to be universally bile-stained; the bile-ducts appeared to be enlarged, and from them there exuded a light yellow bile. The cut surface was marked by little elevations which were the individual lobules raised above the general surface and surrounded by depressed bands of fibrous tissue. Under the microscope these bands were found to be composed of enucleated fibrous tissue, from which finer strands passed into the lobule around each of its cells, constituting the variety known as "unicellular cirrhosis." Many of the hepatic cells were completely atrophied, while others showed marked fatty degeneration. There was no evidence of any increase in the number of bile-capillaries. The gall-bladder was empty and the bile-ducts patent. The contents of the large intestine were clay-colored, those of the small intestine of a light yellow color. The mucous membrane of the stomach, which was very thick, was thrown into deep folds, had a soft, velvety appearance, and was covered with an excess of mucus. In the kidneys, which were bile-stained and dark in color, the glomeruli and tubular epithelium were found to be swollen and œdematous. All the tissues of the body were bile-stained, the skin and mucous membranes intensely so.

DR. ROSS, under whom the patient was admitted to the hospital, stated that the history was typical of the disease. The woman, aged about 35, was a drunkard, and had suffered for years from alcoholic dyspepsia and bleeding hemorrhoids. The jaundice developed very rapidly—in a few weeks. When admitted to hospital she had decided jaundice, which rapidly deepened, was febrile, and under considerable nervous excitement, ascites was marked, the veins on the abdominal walls were enlarged, and the liver could be felt to be greatly enlarged.

Actinomyces in a Bull.—DR. LAFLEUR exhibited the brain and skull of a bull in a case of actinomyces. The animal was a two-year-old bull, and had been suffering for a few days from some obscure nervous derangement. He was reported to have been very irritable, and had behaved strangely in a herd of

cattle. Two or three days before his death he was noticed to be unsteady on his legs and walked with difficulty. As he was becoming quite unmanageable and useless, he was killed. A diagnosis of some form of cerebral tumor or abscess was made. On examination, the upper surface of the cerebral hemispheres was found crushed and covered with clot, the result of the method adopted for killing the animal; otherwise this part of the brain was normal. On examining the cerebellum, the left lobe was found to be enlarged, very firm, covered with knob-like projections, and firmly adherent to the occipital and temporal bones. The right lobe was encroached upon and flattened. A portion of the occipital bone with the left condyle was removed with the brain. The new growth in the cerebellum was found to be firm and elastic. The cut surface showed more or less dense fibrous tissue studded with minute bright yellow specks, which were most abundant near the surface of the tumor. The knob-like projections contained a large number of these yellow points. There was no ulceration visible. The ethmoid and sphenoid bones and the temporal bone of the left side were invaded by the new growth, the sinuses being filled with, and the cancellated tissue replaced by, a soft, spongy, gelatinous substance dotted over with the above-mentioned yellow points. In the temporal bone one of the deposits had softened into thick creamy pus. The external auditory meatus was lined with the same gelatinous material. On dividing the skull longitudinally in the median line, a red, strawberry-like nodule, studded with small yellowish grains, was found occupying the orifice of the Eustachian tube at the most remote part of the pharynx. This was found to be continuous with the diseased growths in the ear and in the bones of the skull. No disease was found in the upper and the lower maxillary bones. On microscopic examination, the small yellow granules both in the cerebellar growth and in that of the bones were found to consist of more or less regular star-shaped groups of the actinomyces fungus. In the cerebellum there was a large amount of recent small-celled inflammatory granulation tissue about these groups of fungi.

Epithelioma of the Uterus.—DR. LAFLEUR showed a uterus

removed by Dr. Wm. Gardner for malignant disease of the cervix. The growth was limited to the vaginal portion of the cervix, which presented a small fungating mass of granulations showing epithelial infiltration.

DR. GARDNER said this case was of particular interest, as malignant disease of the cervix was rare in a patient so young. She was but 24 years of age, had been married five years, and was twice pregnant to full term. She had suffered from hemorrhages and other uterine symptoms since last May. He first scraped away the diseased portion and then cauterized. The growth presented the characteristic fungoid appearance, and was easily removed by the curette. After ascertaining the nature of the disease he decided on removal of the uterus, and, of course, the appendages also. The uterus was extirpated by the vaginal method, and the ovaries were found to be decidedly enlarged. This is the ninth day since the operation, and the patient's recovery so far has been rapid and uneventful. The chief interest of the case was the early age of the patient.

Suppurating Appendicitis with Pyæmia and Stricture.—DR. LAFLEUR exhibited for Dr. Bell the organs from a case of stricture of the urethra complicated by suppurative appendicitis and pyæmia. The stricture was single, annular and symmetrical, situated in the bulbous portion of the urethra. There were marks of old false passages around it, and a more recent one on the right side of the urethra which showed slight inflammatory reaction. The muscular wall of the bladder was hypertrophied and the mucous membrane thickened and pigmented. The abdomen contained fifty ounces of turbid yellowish fluid containing flakes of lymph, and there was lymph deposited both on the parietal and on the visceral peritoneum. The peritoneal inflammation was most intense about the liver, which was its starting point. The liver itself was honeycombed with abscess cavities of various sizes, formed by fusion of numerous suppurating foci, filled with thick offensive, greenish-yellow pus. The infection had spread to both pleural cavities, producing on the right side a sero-purulent pleuritis, and on the left a localized adhesion to the pericardium, which in its turn had become inflamed, a complete recent plastic

pericarditis resulting. The appendix was situated beneath the cæcum, and at first appeared normal, but on dissecting it out there was evidence of inflammatory thickening around it, and when slit open it was found to be filled with pus and its mucous membrane ulcerated and deeply pigmented. No foreign body could be detected in its lumen. The infection had been carried to the liver through some small radicle of the portal vein involved in the suppuration about the appendix.

DR. RODDICK asked why Dr. Lafleur regarded the appendix as the centre of origin for the pyæmia. If the origin of the pyæmia was in the prostate, an early perineal section might have been of great service.

DR. GEO. ROSS said the case was of medical interest, as cases of pyæmia of uncertain origin are not rare. He was sorry the history of the case was so unsatisfactory, but from the results of the post-mortem he did not think the source of the pyæmia to be in the urinary tract. In life the evidences of peritonitis were not at all marked.

Suppurating Cystic Ovary.—DR. TRENHOLME exhibited an ovarian tumor removed from a child 14 years of age, which weighed 14 to 15 lbs. It grew very rapidly, not three months since it was first noticed. The operation was of unusual difficulty owing to numerous and dense adhesions. Although there was a rise of temperature after the operation (100° – 103°) the patient was now rapidly recovering.

Fibroid Tumor of the Thyroid.—DR. ARMSTRONG presented the enlarged right lobe of a thyroid gland which he had removed ten days previously from the neck of a little boy $3\frac{1}{2}$ years old. The mother stated that that side of his neck was large at birth. It had grown slowly until six weeks before it was removed, when the increase in size became suddenly quite rapid, and reached the size of a large orange. Breathing during rest was not interfered with, but became difficult on active exertion. The growth was slowly shelled out, each vessel being tied twice before dividing. There was scarcely any hemorrhage at all. Recovery perfect and without an unfavorable symptom. The stitches were removed on the seventh day, and union was complete.

DR. LAFLEUR prepared and examined a section, and found the growth to be of the nature of a hypertrophy.

DR. SHEPHERD said he had removed a similar tumor from a child. The growth was connected to the gland by a small isthmus. It seemed like a supernumerary thyroid.

Sarcoma of the Nares.—DR. MAJOR exhibited a specimen from a case of spindle-celled sarcoma of the nose. The tumor occurred on the left side and showed externally. It was attached by a pedicle and was removed by a cold wire snare. The point of origin was destroyed by the galvano-cautery. The intention was to punch out the seat of origin, but as all trace of the site was lost, it was deemed best to defer doing so, awaiting recurrence. Meantime the case is under observation. The growth developed very rapidly and attained the size of a small pigeon's egg in six weeks. Dr. Lafleur made the microscopic examination of the specimen. The patient was referred to Dr. Major by Dr. Phelan of Napanee, Ont.

Some Cases of Retropharyngeal Abscess in Children.—DR. A. D. BLACKADER read a paper on this subject.

Discussion.—DR. HINGSTON did not think these cases were rare. He had met with a great many in his practice. He always opened by means of a concealed bistoury. He did not think an anæsthetic was necessary or advisable, as where you can introduce your finger you can use an instrument, and there is less danger of the contents of the abscess finding its way into the trachea when no anæsthetic is given. He could not regard the practice of pressing out the pus from an abscess cavity as good surgery.

DR. MAJOR had met with three or four cases. He opened the cavity by a vertical incision, and the wound usually healed up in four or five days. In none of his cases were the children robust. The affection seems peculiar to children of a strumous diathesis.

DR. RODDICK referred to a case of a child three months old in the hospital in which the most alarming symptoms were present. Very difficult breathing and signs of pressure on the vessels of the neck. All these symptoms were immediately relieved by

opening the abscess. The pus was reached by a director, the opening enlarged, and a drainage-tube introduced. The commonest cause in adults is necrosis of the cervical vertebræ. Death has resulted from opening these abscesses without providing support for the necrosed vertebra owing to pressure on the spinal cord. If the abscess point in the neck, it is always safer and easier to open at the side.

DR. SHEPHERD said the treatment and prognosis of these abscesses depend on whether they are localized or diffuse. According to his experience, most of these abscesses can be opened from the side of the neck.

DR. ROSS said a recent case of his illustrated the difficulty of diagnosis referred to by the reader of the paper. The child was able to swallow, but had a number of convulsions, and was evidently in considerable pain, but no cause could be made out. He examined the throat at his first visit, but was not able to do so thoroughly, and overlooked the abscess. After the abscess burst, the convulsions and other symptoms ceased. He could recall another case where there was a strumous family history, and where the child subsequently died from hydrocephalus.

DR. TRENHOLME had opened these abscesses by incision behind the mastoid muscle.

DR. BLACKADER, in reply, stated that as he always opens these abscess cavities high up to prevent entrance of fluids, he found it advantageous to use pressure to evacuate the pus. To prevent the serious accident of allowing pus to enter the trachea he usually operated with the patient prone on a table with the head over the side.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 20th, 1888.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. THOS. E. SATTERTHWAITHE read a paper entitled, *A New Study of Lobar Pneumonia, with Deductions from an Analysis of Fifty-six Fatal Cases.* Epidemic pneumonia, he said, does not prevail to any great extent at the present time, yet a certain number of facts sustain the theory that the disease is occasion-

ally epidemic. His paper treated of lobar pneumonia in its primary and secondary forms; the first form he called acute lobar pneumonia, and the other, secondary pneumonia. But to avoid obscurity he mentioned the principal types of pneumonia, which are acute lobar pneumonia, secondary lobar pneumonia, embolic lobar pneumonia, bronchial lobular pneumonia, and the interstitial pneumonia of heart disease. Acute lobar or croupous pneumonia is the most common form. In one hundred fatal cases, taken from his hospital and private records, the several varieties were represented as follows: Acute lobar, 36 per cent.; secondary lobar, 19 per cent.; bronchial-lobular, 20 per cent.; interstitial of heart disease, 7 per cent. He has found it most common in males. It is for the most part a disease of middle life, and occurs almost altogether in northern and middle latitudes. When it originates in one lung it usually selects the right, and in his cases commenced in a lower lobe. In the stage of engorgement the whole lung tissue is increased in volume, infiltrated with a serous fluid, with more or less transudation of blood from the vessels. In the second stage, or stage of red hepatization, the lung is of a deep red color, unyielding to the touch, and difficult to distinguish from an inflamed liver. It contains little, if any, air, and almost no fluid. Its cut surface has a granular and dull aspect, each speck corresponding to an air vesicle or cut bronchiole filled with a firm pellet consisting of blood cells and epithelium mixed with fibrine, which hold all firmly together. In the third stage, that of gray hepatization, the reddish tint yield to a dirty gray, at first tinged with brown, and then with yellow; the tissue is softer, and on pressure exudes a small amount of fluid; the walls of the blood-vessels are studded with leucocytes; in many cases there is dark pigmentation of the interlobular spaces. The lung may weigh sixty ounces.

In Dr. Satterthwaite's experience the order of the symptoms is as follows: (1) Pain, prostration, and cough; (2) a severe chill; (3) nausea; (4) rise of temperature. Chilly sensations may take the place of a severe chill. Within a few hours the temperature commonly reaches 103° or 104°. An early sign,

though seldom the earliest, is fine crepitation heard only during inspiration. Occasionally this sign lasts the full course of the disease. As soon as the second stage begins there is dulness on percussion, with bronchial breathing and bronchophony, and also increased vocal fremitus. In the fourth stage, that of resolution, returning crepitant r le is heard. The author is inclined to think that the locality of the affection, whether in the upper or lower lobe, does not influence the production of cough or affect its character. In old people cough may be absent. The expectoration is peculiarly tenacious and variously colored. The characteristic prune-juice color is sometimes absent, and is replaced by a red, black or green color; or the expectoration may be colorless. The characteristic sputum of pneumonia has three qualities—color, consistence, and coalescence. It may appear on the first day, or not until the third or fourth. It is not always present, and may occur occasionally when no pneumonia exists, as in nasal or pharyngeal catarrh with hemorrhage, or in acute laryngitis. Diarrh ea is often present, and so are nausea and vomiting. The urine is often scanty. Albuminuria is common, and is usually most marked at the height of the disease. There was kidney trouble in 41 per cent. of his cases; in 5 per cent. of these chronic kidney trouble of long standing existed; in only 8 per cent. was it shown by clinical and post-mortem evidence that there was no urinary implication. The greatest danger occurs in an exacerbation of an old kidney affection. Little has been added to our knowledge of the clinical aspects of pneumonia since the studies of Laennec. In the stage of engorgement we may expect to find dulness, but we do not. Grisolle found in this stage loss of elasticity in the chest walls, especially when percussed in the supra- and infra-spinous foss e. The crepitant r le was regarded by Laennec as the first pathognomonic sign. It is produced by fluid matter passing into the vesicles of the lung. In some seasons it is rarely heard; in old people it may be replaced by a coarse crepitant r le. Fine crepitation may be heard in other types of pneumonia, in pulmonary phthisis and syphilis, and even in bronchitis. Prolonged expiration precedes tubular or bronchial breathing. Broncho-

phony and metallic voice, when considerable area of dulness exists, are also signs. Pain is most frequent in the region of the nipple; next, at the base of the lung. It may be felt at any part of the chest. It is due to pleurisy. The pulse is usually 100 or more, and may reach 160. Jaundice is not very infrequent, delirium is common. Coma occurred in three per cent. of his cases; it is often uræmic. At first the respiration rises from 22 to 36 per minute, but within two days it may reach 40, 50, or 60. Inflammation of the lower lobe seems to produce more oppression than inflammation of the upper. In children the temperature reaches a greater height than in adults. It rises one or two degrees at night, and falls in the morning. The highest temperature in his case was 108° , the lowest 100.2° ; ten cases the highest average temperature was 104.3° . The crisis usually occurs between the fifth and seventh days. Unless there are unusual complications or sequelæ it never occurs later than the fourteenth. The immediate cause of death is usually heart failure from prolonged and exhaustive work, or from the influence of poisoned blood on the nerve centres.

In speaking of the etiology, Dr. Satterthwaite quoted Sturges's opinion that it was produced by cold, dry, penetrating winds; some later writers, however, think cold an infrequent cause. Twenty-two per cent. of his own cases were ascribed to exposure to cold. The disease seldom occurs during the warmer months. Occupation has little bearing on the causation. Regarding the influence of micro-organisms, it would be necessary, to prove that they are a cause, to show that a pure culture inoculated in the blood remote from the lungs would produce lobar pneumonia; but experiments have almost always failed in this respect, and when the lung itself has been inoculated, lobular (not lobar) pneumonia has commonly resulted. The pleura is always involved except in the rare instances when the inflammation remains central. A comparatively frequent complication is pericarditis; a more important complication is disease of the kidneys. The spleen is apt to be enlarged, and there is catarrh of the intestinal tract. True abscess of the lung is rare. Gangrene was noted in his cases. He does not believe phthisis could ever

develop from acute lobar pneumonia. The question of mortality, he said, has given rise to much dispute, largely because of indefinite statistics. Its discussion, to be of value, requires a knowledge of the variety; the patient's age; the general character of the attack. At some seasons the mortality is greater than at others, notwithstanding the same general treatment. Statistics before the middle of the present century give a mortality of from 16 to 55 per cent. Just before the middle of this century Skoda published statistics tending to prove that pneumonia is a self-limited disease. About 1842 Fleischmann, a homœopath, had a mortality of less than 6 per cent., which set other physicians thinking, and gradually led to less heroic treatment. The fact that the mortality varies in the hands of the same physicians shows that each case stands by itself. Dr. Satterthwaite's own experience shows that the expectant plan of treatment is best. The causes of death show what should be the direction of treatment. It should not be the reduction of temperature so much as the sustaining of the heart and obviating renal complications. The author has been led to believe by post-mortem studies that antipyretics not only weaken the heart's action, but also have some unfavorable action on the kidneys. Every case of acute lobar pneumonia should be treated by itself, and the indications met as they arise. He has often seen benefit from copious repeated cuppings in sthenic cases. In less vigorous persons relief often follows cold water applications. In defective hepatic action relief has come from large doses of mercurials. In weak heart patients have been carried through with alcoholic stimulants. In renal complications marked relief of pulmonary symptoms has followed remedies directed chiefly to the kidneys.

The author then passed to the consideration of secondary lobar pneumonia. This subdivision had been recognized by the old French school. His views of it are based upon nineteen of his recorded cases. Without committing himself to an opinion as to their etiological value, he has found the antecedent conditions as follows: Nephritis in 5; alcoholism in 2; phthisis in 2; burns in 2; rheumatism in 1; fracture of the ribs in 1; hypertrophy of the heart in 1; pleurisy with effusion in 1; pericar-

dial effusion in 1. Contemporaneous affections were present as follows: Abdominal dropsy in 1; pericardial effusion in 1; gangrene of the extremities in 1; aneurism of the aorta in 1; bronchitis in 2; syphilis in 2; endocarditis in 2; hydrothorax in 1. Cases in which there was a suspicion of phthisis or syphilis were not included. Secondary pneumonia is usually insidious. Chill is frequently absent, and when present is not severe. Difficulty in breathing may not be marked. The crepitant râle is heard as a rule. The temperature rises rapidly, as in acute lobar pneumonia, but averages somewhat lower in range. The pulse often rises sharply at the outset, but averages lower than in the acute form. Bronchial breathing and dulness may be the most decided symptoms, and in his experience they have been the most common. The expectoration is apt to be scanty and afford little help in diagnosis. Renal symptoms are likely to be more prominent than in the acute disease. There is a decided tendency to suppuration. The duration is about the same as in acute pneumonia, but the crisis is likely to come earlier. The causes of death are about as in acute lobar pneumonia, and indicate the treatment.—*Medical and Surgical Reporter.*

Correspondence.

MUNICH, Dec. 10th, 1888.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

DEAR SIRS,—In availing myself of your gracious permission to send anything I thought would be of general interest, I cannot help thinking that the actual working of a German medical school can be well seen in a place like Munich, where strangers are the exception and not the rule. The school is a very large one, there having been actually more students in attendance during the previous summer, than at Berlin. How thirteen hundred and odd medical students could possibly be educated in a city of two hundred thousand would seem a difficult problem, but the amount of clinical and pathological material available here is simply astonishing. Besides a maternity hospital, an eye hospital, and one for children, there are two large general hospitals, the largest having about seven

hundred beds. In connection with the pathological institute about one thousand autopsies are held every year. In this way the amount of objective teaching done compares favorably with that in much larger cities.

A recent event of special interest was the celebration of Professor Pettenkofer's seventieth birthday. The festivities began a week ago and are not quite finished yet. I had, of course, like everyone else, heard of a Pettenkofer, as the inventor of a very complicated test for bile acids, which I could never get to work properly; and I had also heard of a Pettenkofer who had a theory about something or other which theory I could never understand, much less believe in. I confessed to be surprised on learning that these twain were one Pettenkofer; but no one not living in Munich would appreciate the enormous influence he possesses in sanitary affairs. He planned and carried out a series of sanitary reforms which transformed Munich from being about the most unhealthy city in Europe into one of the healthiest, typhoid fever being now happily so rare here that the professors are often at a loss for a case to show to the class. He refused to accept the chair of Hygiene at Vienna, and even declined to accept the directorship of the Reich's Gesundheits Amt. in Berlin, preferring to remain in Munich, which city, in consequence, is never tired of showing its gratitude to him. On his seventieth birthday he was, among other events, honored by a deputation consisting of the Mayor and Corporation, who presented him with a formal address, and in the evening a grand dinner in his honor was given by the city, at which everyone of note in the official world here was present. The people here when they find a man whom they delight to honor take certainly care to do it frequently enough. A professor can be *fêted*, for instance, at his fiftieth, sixtieth, and seventieth birthdays respectively, and, after that, still more frequently, say every five years or so as he gets older and more and more of a curiosity. But in the intervals as well they can amuse themselves by finding out other occasions suitable for festivities, such as the twenty-fifth anniversary of his obtaining a professor-

ship, etc., or even his silver wedding, if nothing more appropriate chances to fall due in that year.

When, a few years ago, bacteriology suddenly assumed such importance in relation to hygiene, no one could reasonably expect that Professor Pettenkofer would, at his advanced age, actively interest himself in this subject, and it is only natural that, under the circumstances, while Koch is having his innings Pettenkofer should assume the rôle of leader of "Her Majesty's loyal opposition." Accordingly his attitude towards the Berlin school has from the outset been that of a critic, and no doubt his great ability and energy have done much towards preventing the premature acceptance of doctrines whose truth was not clearly demonstrated.

While, however, this passive and critical opposition has been productive of the best results, some of his too ardent followers have done themselves more harm than good by setting up an active and aggressive opposition. For instance, when a harmless and inoffensive bacillus, which had always been quite content to get along in a small way in the larger intestine, was suddenly dragged forth and made to pose as the opposition's candidate for the seat (or rather stool) of Asiatic cholera the result was disastrous.

One of the most interesting things in connection with the hospital here, and one which is not as generally known as it should be, is the clinical institute. This is a roomy, two-story building, forming a wing to the medical wards. It was built under the direction of Professor Ziemssen about six years ago, and it is intended to afford every opportunity for carrying out the scientific study of medical cases. It comprises, besides a large lecture room and several laboratories for microscopical original work, a large and well equipped laboratory exclusively devoted to clinical chemistry, a bacteriological laboratory, and a complete reference library.

There are two other rooms for electrical apparatus with which, (as well as with every other conceivable necessary appliance), the institute is replete. The outdoor medical clinic is also held in this building, which makes this clinic one of the most fruitful

in higher scientific results, instead of being merely one where students see a large number of cases or, still worse, witness "routine practice."

Professor Ziemssen, of course, reigns supreme here. There is, at present, only one regular assistant, the intention being more to afford every opportunity for original work than for the ordinary instruction of students. Considering that the institute alone has a yearly grant of three thousand dollars, one might perhaps expect something more systematic. The success of this clinical institute has led to the building of a similar one in connection with the surgical clinic.

During a trip to Switzerland I was shocked to find that our old friend Baedeker (usually so painfully explicit) cautions the unwary traveller (p. 21) against drinking water without first qualifying it with wine or spirits, and further states that milk is much *safer* when brandy has been added to it. From what I saw of the average tourist it did not strike me that he needed a Baedeker to tell him to add brandy to the above mentioned fluids. What he really does need is that some one should hint that brandy is "less injurious" when a little water or milk has been added to it. Baedeker also recommends the following panacea for the healing of wounds: "Half ounce of white wax, half ounce of tallow, three-quarters of an ounce of olive oil, and one and a half drachms of vinegar of lead rubbed together." To one who has never written a guide book this sounds just a trifle complicated; it savors further of the middle ages, and one is inclined to wonder why he did not add "the hair and back teeth of a tourist who has been killed by falling down a precipice" while he was about it, but probably the Baedeker of the future will contain a treatise on antiseptic surgery and ptomaines. I had intended to write something about the teaching of pathology here and in England, but as this letter has already become so long I will reserve it for another occasion, always supposing that the present letter does not act too powerfully as a cardiac depressant.

W. G. J.

A CASE IN PRACTICE.

By C. J. EDGAR, M.D., INVERNESS, P.Q.

Mrs. M., aged 35, consulted me October 10th, 1887, for an enlargement of the abdomen, accompanied with metrorrhagia and failure of the general health. Had been married five years; had one child four years ago, but none since. Menses had not been regular for some time, but she had not noticed the lump until about four months previously. On external examination, found clothes drenched with a bloody discharge and the uterus about the size of a child's head, nodulated and irregular in shape. On internal examination, uterus large, retroverted, freely movable, and a large, hard mass distinctly felt in its posterior wall. Diagnosed fibro-myomata, and prescribed fluid ext. ergot 10 m., potass. iodid. 10 grs., and a tonic mixture, t.i.d. Tumor continued to grow rapidly, and metrorrhagia continued as profuse as before for a week, when both ergot and potass. iodid. were doubled in dose, which seemed to arrest the growth of the tumor and diminish the discharge. A week later grasping pains were felt occasionally in the uterus, and the tumor had distinctly decreased in size.

Nov. 17.—Her husband came during my absence to request my attendance at once. On my return two hours later I found the woman in bed, very pale and excited. A bundle was produced from under the bed, in which, wrapped up carefully, was our fibroid complete, enucleated and discharged entire; weight 14 ounces. It is a good specimen of the fibro-myomata, composed almost entirely of fibrous tissue and very hard. The woman confessed that, getting tired of her slow improvement, she had taken, at one dose, a tablespoonful (3iiss) of the fluid extract ergot, with the result of bringing on tremendous labor pains and the discharge of the fibroid. The uterus was contracted firmly to its normal size, and was perfectly regular in shape.

In a few days she resumed her household duties, and continued perfectly well for six months, when she returned complaining of another tumor in the same place. This time, however, we let things alone, and on November 12th, 1888, I had the pleasure of delivering her of a fine ten-pound girl. Labor was rapid and easy, and the uterus seems to be perfectly healthy and normal.

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MUNIFICENT DONATION.

By the will of the late Alexander Murray of this city, the Montreal General Hospital will come into possession of the princely sum of \$750,000. Next to the great donation of \$1,000,000 made by Sir Donald A. Smith and Sir George Stephen for the founding of the Royal Victoria Hospital of this city, that of Mr. Murray's is the largest ever made in Canada for any similar purpose.

THE EXCESSIVE DIDACTIC WORK DEMANDED OF STUDENTS BY THE CANADIAN LICENSING BODIES.

We are pleased to see a number of our contemporaries seriously discussing the present regulations of the different licensing boards. All agree that in demanding two full didactic courses of nearly all branches, a large amount of unnecessary work is thrown on the students. Some call for an immediate change in these requirements, while others maintain that it would be premature to interfere to any extent at the present time. We are strongly of the opinion that the sooner the proposed changes come the better for the profession. We fail to see what dangers lurk in their immediate adoption. Owing to the demands of the different Provincial Boards, medical students in Canada are seriously handicapped as compared with their brethren in England and the continent of Europe. So much time has to be devoted to listening to didactic lectures, that little is left for laboratory work. As a proof of this we would point to the paucity of

laboratories in Canadian medical schools. With the exception of chemical laboratories, a large percentage of our schools are utterly destitute in this respect. We have twelve medical schools in Canada, and of this number we believe that not more than one or two can lay any claim to being thoroughly equipped with the means of imparting more than an hearsay acquaintance with the scientific branches of our profession. Those schools which are provided with these essentials find their usefulness greatly curtailed owing to so much of the students' time being occupied in listening to lectures. The result is that the training of the senses is in a great measure neglected. It has been well said that the training of the five senses keeps us sane. The excessive didactic work interferes also with the clinical teaching. The great importance of the latter is, of course, universally admitted. The requirements of the boards, however, are of such an exacting nature that it is utterly impossible for students to make the most of the clinical advantages presented to them. Except during the summer sessions, they cannot attend the outdoor work of the hospitals, and they are therefore deprived of an important aid to the ward-teaching.

The advantages that would accrue to the student from such a change in the curriculum as would enable him to devote more time to the laboratory and hospital and less to the lecture-room, would be very great indeed. We cannot understand how it is possible for any enlightened medical practitioner to entertain a contrary opinion. Admitting the equal importance of lecture, laboratory, and clinical teaching, why should the former have such a marked pre-eminence over the two latter? We sincerely hope that this question will not be allowed to rest until our medical law-makers are thoroughly aroused to its importance. In the different Provincial Medical Boards there are many able and progressive men. They never had a better opportunity than the present to be of use in their day and generation.

CALOMEL AS A DIURETIC.

Ignatjew (*St. Petersburger Med. Woch.*) gives an account of his experience of the administration of calomel in forty-eight

cases of dropsy. He found, as others have found, that it is only in dropsy of cardiac origin that this agent is to be relied upon to produce diuresis. Its diuretic action in these cases is first noticed usually from two to four days after it is given, and lasts from three to five days, exceptionally two to three weeks. In eight of the forty-eight cases stomatitis and diarrhoea set in. In only one instance did the stomatitis prove troublesome. He looks upon a combination with small doses of opium (gr. 1-6) as in a measure preventive of the diarrhoea and stomatitis. For the prevention of the latter, nothing is, however, equal to the frequent washings of the mouth and especially the gums with an antiseptic solution. He recommends doses of from two to three grains four times in the twenty-four hours. Sygmographic tracings of the pulse did not show any change from the normal. As far as we are able to judge at present, the action of calomel is solely on the epithelial structures of the kidneys.

THE UNTOWARD EFFECTS OF ANTIPYRIN.

Recent experience tends to prove that occasionally very unpleasant and even serious effects follow the use of antipyrin when administered either for its antipyretic or analgesic action. In the January number of *Heitler's Centralblatt für Therapie* there is a reference to a paper by Prof. Drasche of Vienna on this subject. He has found nausea and even vomiting not infrequently. These symptoms are especially frequent in women, and occur occasionally when the drug is given by the rectum, showing that it induces vomiting either reflexly or directly by being eliminated by the mucous membrane of the stomach.

Skin rashes are not uncommon, the most frequent form being miliaria alba. Petechial spots have been noticed, especially where the drug has been employed as an antipyretic in typhoid fever.

In typhoid, pneumonia and tuberculosis, profuse sweating is frequently seen. This symptom is not of serious import unless attended by a marked fall in the blood pressure. Drasche has observed marked collapse in several cases from even moderate doses.

Isr ael observed convulsions in two cases and deep coma in the case of a girl 11 years of age. Temporary albuminuria and decrease in the quantity of urine have been noted by several observers. Among minor symptoms may be mentioned sneezing, œdema of the eyelids, restlessness, retention of the urine, etc. Undoubtedly the most important of all these symptoms mentioned is the lowered blood pressure and the coma and convulsions. Fortunately such effects are rare indeed, but it is necessary to be always on our guard, especially when prescribing it in typhoid, as much harm may result from its indiscriminate employment in this and other febrile diseases. Neither the dose or condition of the patient are certain guides,—individual susceptibility is very various and cannot be estimated. In children its administration should be especially watched, as in them the danger of serious nervous symptoms are more frequent.

THE PATHOLOGY OF CHRONIC ALCOHOLISM.

The extremely interesting discussion at the Pathological Society of London on the demonstrable changes brought about by alcohol on the various organs of the body, has terminated. The discussion was introduced in an able manner by Dr. Payne. Drs. Buzzard, Savage, Hadden, Sharkey, Ormerod and others contributed valuable information. The frequency of changes in the liver and peripheral nervous system, as compared to all other organs and tissues, was especially insisted on by nearly all the speakers. The interstitial origin of the hepatic changes found nearly general acceptance, while there was considerable diversity of opinion as to whether the peripheral neuritis had a parenchymatous or interstitial beginning. The infrequency of central nervous changes was prominently brought forward. The discussion will well repay a close and careful study.

COMPRESSED TABLET TRITURATES.

During the past decade the improvement in our methods of the administration of drugs has been great indeed. The most recent, and we believe the most important, improvement of all is the use of the tablet triturates, introduced by John Wyeth and Brother. In this form we have for some time prescribed

a number of the more powerful alkaloids and such agents as aconite, arsenic, etc., and with the most satisfactory results. Our experience has been such as to warrant a complete faith in the reliability of these preparations. The certainty of the physiological effects following the use of the more powerful agents when given by the stomach in this form closely approaches that of the same agents when given hypodermically. This is to be attributed to their rapid disintegration and absorption. It may be said that in tablet triturates we have a mode of administering drugs by the stomach, possessing nearly all the advantages, with none of the disadvantages, of hypodermic medication. The recent list of triturates issued by John Wyeth and Brother includes all the leading medicinal agents at present employed.

—The Government of this Province propose to amend the Act respecting lunatic asylums. The phraseology of the proposed bill is of such character that we find it impossible to make out its meaning. It is to be hoped that the contemplated changes will be an improvement on the present state of matters. They cannot well be a backward step, for nothing can be much worse than the methods of managing the insane in this province.

—The profound disturbance of metabolism after an epileptic storm is shown by the researches of Rivano, who found, as the result of the examination of the urine in six epileptics, a mean increase of urea to the extent of nine per cent. The phosphoric acid was increased to thirty-three per cent. Even in attacks of *petit mal* there was a distinct increase in the urea and phosphoric acid.

—The Société de Médecine Legale of Paris have passed the following wise resolution: "We hope that public exhibitions of hypnotism will be forbidden by law, owing to the numerous accidents they produce in innocent persons, which compel them to seek medical treatment for months." We hope that a similar law will be enacted in Canada. No country stands in greater need of it. Our lay press will have to be educated beyond their present scientific standard before we can expect

any such legislation. Montreal is yearly visited by rapacious charlatans who make money by public exhibitions of people in the hypnotic state.

—The treatment of ascites by faradization of the muscles of the abdomen is said to be frequently successful. A sufficient strength of current to bring about distinct muscular contraction is recommended. One pole can be placed over the lumbar spine, or probably over an indifferent place, while the other is to be passed over the abdomen. From one to three sittings daily of ten minutes' duration are considered necessary.

—In a recent paper in the *London Lancet*, Drs. Winkler and Ballaan contend that instrumental delivery of the child is in a few cases the direct cause of idiocy. Dr. Langdon Down points out the fallacy of the above conclusion. In his experience of idiocy, he found that in only three per cent. were the forceps employed. In only a small fractional percentage could he arrive at the conclusion that the use of the forceps was the principal cause of the calamity. In every case of idiocy where they had been employed, the friends of the child believed that the instruments alone was the cause of the disaster, while in the great majority of the cases he was able to find in the family history a sufficient cause.

NEW LIGHT ON AN OLD SUBJECT.—In view of the approaching Carnival the following extract from Mr. J. E. Muddock's Guide to Davos Platz may not prove altogether uninteresting or uninteresting: "In addition to the pedestrian and sleighing excursions, the visitor will be able to find amusement in the Canadian exercise of *Tobogging*. The toboggan consists of a small wooden sleigh, the seat being composed of bars of wood. Seating yourself on this, you glide swiftly down a suitable snow slope, steering the sleigh with your heels, which project forward, or by means of two small sticks trailed behind. The latter method, however, is difficult and requires practice. The exercise is most enjoyable and exhilarating. It will be interesting to state that the word 'Tobogging' was introduced by the Gaelic speaking emigrants to Canada. It is

composed of the Celtic or Gaelic 'tob'—a surprise, and especially a pleasant surprise; and of 'bogadar'—a rapid motion, a shaking, a sliding; whence 'tobogging,' the rapid and pleasant descent down an ice or snow path."

Medical Items.

—A recent writer contends that the use of tobacco is a preventive of diphtheria.

—Dr. Osler will deliver an address on the 3rd of April next, before the Society of the Alumni of Bellevue Hospital.

—Dr. S. Weir Mitchell has been appointed Lecturer on Diseases of the Nervous System in the Philadelphia Polyclinic.

—Dr. Leopold Wittelshöfer, the founder and until within a few weeks the editor of the *Wiener Medizinische Wochenschrift*, is dead.

—The *Canadian Practitioner* has made its appearance as a fortnightly journal. We wish our enterprising contemporary every success.

—A prize of \$2,500 has been offered by the Empress Augusta of Germany for the best model of a portable military hospital. All countries are invited to exhibit.

—Dr. Tyson has been appointed to the chair of Clinical Medicine in the University of Pennsylvania, rendered vacant by the appointment of Dr. Osler to the Professorship of Medicine in the Johns Hopkins University.

—We regret to have to chronicle the death of a very promising young practitioner, Dr. G. A. Dearden, in Victoria, B.C. He was in partnership with Dr. McSwain until the latter had to leave Victoria for his health; the whole of the very extensive practice of the firm falling on his shoulders proved too much for his strength. The immediate cause of death is said to have been cerebral congestion.

LITERARY.

—Seven hundred and twenty-eight is the record in numbers of the articles printed during 1888 in the *Archives of Gynecology* on the special subjects of its title. It is the aim of the editors

to publish all current thought in these departments of medical knowledge. The publishers, Leonard & Co., 141 Broadway, New York, do not send sample copies, but if you are not pleased with the first number it may be returned and the order erased. Subscription, \$3.00 per annum. Payment is not asked till end of the year.

—Messrs. J. B. Lippincott Company announce to the profession the publication of a Cyclopædia of the Diseases of Children, Medical and Surgical, by American, British, and Canadian authors, edited by John M. Keating, M.D., in four imperial octavo volumes; to be sold by subscription only. The first volume will be issued early in April, and the subsequent volumes at short intervals. A thorough knowledge of the diseases of children is a matter of the greatest importance to most physicians, and as this is the only work of the kind that has been published in English, it will be invaluable as a textbook and work of reference for the busy practitioner.

Publisher's Department.

UTERINE STYPTIC.—John Adderley, M.D., Skibbereen, County Cork, Ireland, says: "It gives me great pleasure to add my testimony to the great value of S. H. Kennedy's Extract of *Pinus Canadensis*, which I consider a most valuable uterine styptic, seeming not only to possess the power of arresting uterine hemorrhage, but also to produce a healthy action of the parts. I used it with a patient who had been suffering for a number of years from menorrhagia, depending upon ulceration of the os and cervix uteri, with whom I had tried all other remedies for menorrhagia, lasting during a period of five months almost without intermission. Extract of *Pinus Canadensis* applied to the os uteri on cotton wool, and also used as a lotion, arrested the hemorrhage immediately, and the Aletris Cordial, which was taken internally, helped to invigorate the system and promote a cure which I had at one time considered incurable. I should not wish to be without these remedies in similar cases, and shall continue the use of them in my practice, as I consider they gave most satisfactory results."