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ORIGINAL ARTICLES.

SICK AND WOUNDED IN WAR AND HOW THEY ARE CARED FOR.

BY SURGEON MAJOR WILLIAM NATTRESS, M. D. ; M. R. C. S., Eng.,

Medical Officer, Stanley Barracks, Toronto.*

Like all other departments or branches of the army, the medical service as it exists to-day, in England, is the outcome of a gradual process of evolution. "It costs more to cure a soldier than to levy a recruit." This quotation expresses the sentiment of the 15th and early part of the 16th centuries. Officers and soldiers of adventure with means could usually secure help, but the poorer soldiers when severely wounded were given a small gratuity and left to find their way home as best they might.

At the close of the last century there really existed no special arrangement for the removal of the wounded. On the battle fields of earlier days thousands of lives were lost for want of help. During the campaigns of Marlborough it was generally considered effeminate to be ill. From even such crude notions progress was slow, not from lack of enthusiasm, of courage or of skill on the part of the Army surgeon, but rather owing to the fact that little attention was given for a long time by the authorities to rescuing and succoring the sick or those wounded in battle. And again, the one great object naturally of the commander-in-chief then as now, was to overcome the enemy, and to accomplish this every available man must be kept on the fighting strength and no one allowed to go to the aid of his luckless mate. When a man fell wounded, if the troops were actively engaged, he remained unheeded on the ground until the fighting was over. Apropos of this apparently cold blooded action on the part of Commanders-in-chief, it might be mentioned that when one fell wounded there was a tendency for two or three or more to fall back to help him. Naturally such unsteadiness

*Read before the Canadian Military Institute, Toronto, March 26th, 1900.

was quite inconsistent with a proper support of the fighting line and could not be tolerated, hence with the advancement of more humanitarian views it] became evident that some special arrangement for the care of the wounded was necessary in order both to save life and to improve the morale of the men when in action. To-day an English army in the field has every facility for the removal of the wounded and their after care and treatment, by a separate and distinct branch of the service called the Royal Army Medical Corps. To trace the successive improvements that have been made in the organization and equipment of this corps is not the object of this paper.

I propose giving you somewhat in detail the organization as it exists to-day and showing you how complete and perfect are now the arrangements for looking after the sick and wounded and how much more thoroughly the work is done than formerly, not only in the prompt attention to the wounded on the field and their hasty removal from the scene of conflict but also as to the surgical care of wounds and the sanitary supervision exercised at ports of entrance of the forces and on the tented field. By referring to the diagram before you, you will see at a glance the constitution of an army corps and its medical equipment. An English army corps comprises from 40,000 men upwards. It consists of three divisions of infantry with divisional details and a cavalry division. In addition to these, there are at the command of the General Officer Commanding the "corps troops," which comprise a representation of each branch of the service.

A division consists of two brigades of infantry, the brigades being each composed of four battalions, which have 1,000 bayonets, i. e., eight companies of 125 men each. In rear of these are the divisional details consisting of three batteries of field artillery; one company of Royal engineers; one ammunition column, and one squadron of cavalry. There are three companies of the army service corps, one with each brigade and one with the divisional details, also a bearer company and a field hospital with each brigade and a reserve field hospital on the Divisional Staff.

The cavalry division consists of two brigades of three regiments, each regiment being composed of 666 sabres and is further divided into four squadrons. The divisional details with a cavalry division consist of:—one battalion of mounted infantry, two batteries of royal horse artillery, one ammunition column, and three companies of the army service corps—one with each brigade and one with the divisional details together with two bearer companies and three field hospitals, one of the latter being with the Divisional Staff.

The "corps troops" consist of:—one regiment of cavalry, one battalion of infantry, one ammunition column, two batteries of royal horse artillery, three batteries of field artillery and two companies of royal engineers (one being a pontoon and railway troop and the other a balloon and telegraph corps). With the corps troops there are also three companies of the army service corps, two of which are bakery companies, and one reserve field hospital.

Let us see now what are the arrangements for the preservation of the health and the medical and surgical care of so vast a body of men suddenly thrown together in the field.

The Director General is the responsible head of the department and is charged with its administration. He nominates the officers for the different staff positions.

On active service the Principal Medical Officers are employed in the following capacities:—

- (1) Principal Medical Officer of the field force.
- (2) Principal Medical Officer at the base of operations.
- (3) Principal Medical Officer to each division.

The Principal Medical Officer of the field force has his headquarters with the General of Communications but is available for consultation with the Commander-in chief.

The Principal Medical Officer at the base under the Officer Commanding and the Principal Medical Officer of the field force has control of all hospitals at the base, and hospital ships together with all medical supplies.

The Principal Medical Officer of a division is on the staff and remains at the headquarters of the division.

To each unit in a division is attached a Medical Officer. This means that one Medical Officer is detailed to every regiment of the line when ordered for service; one to an artillery division; one to the divisional transport; and one to the remaining details, i. e. a squadron of cavalry, an ammunition column and a company of Royal Engineers. Together with the Medical Officers of the two bearer companies and the three field hospitals, this makes 30 Medical Officers actually in the field with every division, or 150 with each army corps besides the vast number employed in the stationary, general and base hospitals and on the hospital ships and those employed in special services; officers for garrison duties; officers for services to residents or natives of the country where military operations are in progress; sanitary officers; quarantine officers; bacteriologists and consulting physicians and surgeons. The divisional Principal Medical Officer selects a Medical Officer attached to a corps for Brigade Surgeon, who has under his charge all the regimental Medical Officers of his brigade. At the port or ports of landing are established the base hospitals, comprising a large staff of medical officers. The duties of these officers are varied, not the least being to prevent the introduction of any infectious or contagious diseases such as bubonic plague, cholera, small-pox, enteric fever, scarlet fever or other maladies likely to spread and play havoc with the troops. We understand the necessity for every precaution of this kind when we remember that sickness has always been a greater decimator of the army than battle-

fields themselves. More die from sickness during a prolonged campaign than are killed in battle. In the Spanish-American war:—

329 were killed.
125 died of wounds.
5,277 died of disease.

The losses on the Union side in the Civil war were:—

44,238 killed in action.
49,731 died of wounds.
186,216 died of disease.

France lost from disease alone nearly 50 per cent. of the troops she sent to Madagascar. The *bete noire* of English soldiers abroad has always been enteric fever. Even in times of peace, particularly in India, scores of lives are lost annually. The career of many a young officer has been cut short at the commencement of his foreign service by enteric fever. In war its ravages are much more severe as the conditions are naturally more favorable to its spread. Thousands of fresh troops are hurriedly embarked on crowded transport ships and after many days or even weeks at sea, poured into a distant country, overtaxing all its resources of shelter, food and water. All sorts of camping grounds have to be taken up, perhaps under a trying climate and with an indifferent water supply and that frequently polluted. Or it may be an army or detachment finds itself closely hemmed in and besieged for weeks as at Ladysmith or at Kimberley, with bad drainage, polluted water, foul atmosphere and poor food—an epidemic of typhoid is the result. An effort was made to inoculate with typhoid vaccine as many of the troops starting for South Africa as possible. A final report upon the protection this treatment has offered will be exceedingly interesting. We are sorry to observe that one of the Medical Officers sent out to specially investigate this particular subject has himself succumbed to the disease.

The duty of examining in detail all troops as they land is a formidable one and necessitates a lot of work notwithstanding the fact that they have all been medically examined before their departure from England. It is nevertheless a wise precaution and must prove a great safeguard. Transports arriving with any contagious disease on board, which may have developed *en voyage* are quarantined and individuals afflicted or found unfit from any cause are detained at the base hospitals to remain there if chance of early recovery is expected or to be trans-shipped to England if permanently disabled.

The accommodation required at the base hospitals will vary according to the number of troops in the field and may mean anywhere from 1,000 to 3,000 or 4,000 beds. The regular hospital establishments of the town will not likely be large enough to afford accommodation for so great a number of patients and it will doubtless be necessary to bring into requisition other public buildings, such as the town hall, the churches or public schools. Generally speaking when patients

are likely to remain for some time, public buildings afford more comfortable quarters than tents and are better suited for the services of the nursing sisters.

As the troops advance and the lines of communication are extended it becomes necessary to establish other resting places for the sick and wounded. General and stationary hospitals, as they are called, are organized along the line of communication and are conveniently placed with reference to railway facilities, good roads and the amount of accommodation already existing in the shape of suitable public buildings, etc. These depots, which may be from fifty to one hundred miles apart are intended to house from 100 to 200 or 300 patients. One after another these stationary hospitals are organized, taking up positions as far advanced as safety will permit and near enough to the field hospitals to afford a rapid evacuation of the latter. As the army gets more afield it becomes necessary for the medical organization to be more self-contained and moveable. To meet these requirements we have the independent unit known as a field hospital. In an army corps of 40,000 men there are 13 such units. These are distributed as follows:—

1 Reserve field hospital with the commander-in-chief.

1 with each divisional commander.

2 to each division. This makes on an average about one field hospital to every 3,000 men. A field hospital is a moveable concern capable of accommodating temporarily one hundred patients. Its personnel consists of five officers, viz: 4 medical officers and a quarter master with 35 non-commissioned officers and men. The ground required for its encampment is 70 by 160 yards and its equipment consists of 40 tents distributed as follows:—

There are twenty-five tents for the sick and wounded. These tents will accommodate four patients each excepting in the case of the severely wounded who require more room and more attention when two only are put in a tent. Immediately in rear of the patients' tents are three tents—the surgery, the operating and office tents. Next to these are four tents for the Non Commissioned Officers and men of the Royal Army Medical Corps as nurses, etc., while close to these are the two water carts and kitchens, one of each on either side. Still further to the rear are three tents for the officers and behind all the horse lines and wagons and four tents for the men of the Army Service Corps. Outside of all in the rear is the mortuary tent.

By day a field hospital is recognized by a white flag with a red cross in the centre and by night by two horizontal white lights. At retreat, when the flag is lowered, a red lantern is run up.

The medical equipment for a field hospital consists of:—

2 surgical haversacks and water bottles.

2 medical companions and water bottles.

2 pairs field medical panniers.

1 fracture box.

1 pair field surgical panniers.

- 1 pair reserve field medical panniers.
- 1 antiseptic case
- books and stationery.

Field hospitals are non dieted. The patients receive their field rations and such other extras and medical comforts as may be at the disposal of the Medical Officer in charge. The bedding consists only of a waterproof sheet and blanket for each patient. No bedsteads are supplied but very serious cases are if possible placed on a stretcher raised from the ground by resting on short stakes or crutched sticks driven securely into the earth.

In the selection of a site for a field hospital the more important considerations are :—

1st. As near to the dressing station as possible, but compatible with safety. This is important as the communication between a dressing station and field hospital will of necessity be either wheel or pack animal transport.

2nd. Near to a suitable road for the bearer company's transport.

3rd. Where a good water supply is at hand. An almost unquenchable thirst is a marked feature in the recently wounded and to be able to relieve this is a great God-send.

When another engagement is imminent the field hospitals should be emptied by convoys to the nearest stationary hospital so that they can be moved forward and made ready to receive the wounded from the battle field. When this is impossible such hospitals remain in the rear and become part of the medical accommodation along the line of communication and a reserve field hospital of the divisional staff or of the commander in chief is advanced.

As we approach the fighting line, mechanical and physical aid become more urgent than purely surgical skill. I mean by this the application of an improvised tourniquet to arrest haemorrhage; the adjusting of rough splints to fractured limbs, assistance to the slightly wounded in walking to a place of safety or to the collecting station, or the carrying of those unable to walk. It is here we realize how invaluable are the services of the men of the bearer companies—men trained in the use of the "first field dressing" and other temporary appliances and who are skilled in the art of removing the fallen from the field of action. The personnel of a bearer company consists of three medical officers and fifty-eight non-commissioned officers and men. For service in the field its equipment consists of :—

One operating tent, and operating table with mattress, eight stretchers and ten ambulance wagons, besides one water cart and service wagons and carts. The medical equipment comprises: eight surgical haversacks and water bottles, two medical companions and water bottles, one pair field surgical panniers, one fracture box and one antiseptic case.

The work of a bearer company commences with the commencement of a battle. The dressing station is selected at a suitable distance from the firing and in a sheltered spot, if possible near a supply of drinking water and near a road or passable ground for the ambulance wagons from the more immediate front to reach it conveniently. The dressing tent is pitched, fires are lighted, and hot water, beef-tea and other stimulants and restoratives are made ready. Dressings, instruments, etc., are laid out and every preparation made for the performance of both major and minor operations under as careful antiseptic conditions as it is possible to obtain. The bearer section proper, together with the ambulance wagons, moves forward to a convenient place for collecting the wounded. This is called the collecting station and is marked by a flag. A bugler is here for calls in the darkness or to give warning to the bearers to collect and retire if need be. At the commencement of a battle all the ambulance wagons rendezvous here and if required during the action will continue to ply between the collecting and dressing stations. If not a section of them may be detailed to remove the wounded from the dressing station to the nearest field hospital. The bearers work in two sections under the direction of a lieutenant with a sergeant in charge of each section. There are four stretchers in each section and four men per stretcher. These men have been taught to give 'first aids' and what immediate attention to the wounded is necessary is given by them and the patient if unable to walk is placed on the stretcher and taken back to the collecting station. He is lifted into an ambulance wagon, which on receiving its complement immediately starts back to the dressing station. The first aids consist in the application of the first field dressing, the administration of restoratives, etc. Each soldier on active service is provided with and carries on his person a dressing ready for immediate use. It is sewn into the frock of his serge or khaki and is composed of: 1st. A piece of gauze, 17 in. x 13 in.; 2nd., a pad of flax charpie between layers of gauze; 3rd., a gauze bandage $4\frac{1}{2}$ yards long; 4th., a piece of mackintosh waterproof, 12 in. x 6 in.; 5th., two safety pins. The antiseptic used is corrosive sublimate, 1.1000: it has an outer cover of cloth sewn and an inner cover of thin waterproof cemented so as to make it air tight. The directions for use are printed upon both the inside and outside covers. The man's clothes are not removed, otherwise he might be chilled, but slits are made large enough to apply the dressing and a tag, stating the nature of his wound, is attached to a button of his tunic or khaki—a most important provision inasmuch as it secures him against further unnecessary examination or interference until he reaches a suitable place for such further attention, as is necessary. The tag or specification tally indicates: 1st., his name and rank 2nd., number and name of his regiment; 3rd., a short description of his wound or wounds; 4th., precautions required in transport.

With a cavalry division the work of the bearer company varies somewhat, owing to their more rapid movements and the more scattered work required of cavalry. Naturally greater difficulties are experienced

in transporting the wounded. Instead of the stretcher, the use of which is almost impracticable in the cavalry service, men are taught how to assist the wounded into the saddle if able to ride alone, or how to help him to mount either in front of or behind a trooper. Rules are laid down how to handle the patient according to the locality of the wound. Pack animal transport is also useful with cavalry.

The light spring or market wagon found in this country and in some of the other colonies is a useful vehicle for ambulance work. Milk wagons and vans, such as are used by the large departmental stores, the latter especially would be very serviceable in war time. We sometimes deplore the absence of ambulance wagons, regulation or otherwise, in Canada, but I may say so far at least as this district is concerned and in view of what little responsibility might possibly fall to me owing to my connection with the militia force of Canada, I have never felt very much exercised. I am moved with a sort of proprietary feeling of more than ordinary dimensions as I see the vast number of vans belonging to these concerns threading their way through the streets of Toronto every day, and reflect that all these could be pressed into the service if needs be at a moment's notice. Have you ever thought what serviceable vehicles these would be in more ways than one on active service? The regulation medical transport consists of: The mark V ambulance wagon in use in the English army, which will carry 12 wounded all seated, or two lying down on stretchers and 4 seated. The mark 11 cart which carries 2 lying down or 4 sitting and while more convenient is not so practicable as the four wheeler because it is not so stable. For mountain work pack animals are used. A mule will carry two wounded men, one on either side seated in a cacolet or folding chair. Travois are used. Some of you will remember these in the North West. Dandies are employed in India and are carried by the natives. There is also the Indian dooley. Our own farmers' country wagon, with hayrack filled with hay to the level of the rack, would be a most useful medical transport.

The dressing station affords the first opportunity for operations of a radical kind. On arrival, the wounded are unloaded and carefully placed on the ground, the more serious ones to the right and the less serious to the left. Green tallies are used for serious cases and white tallies for all other cases. The two medical officers in charge, together with a staff of non-commissioned officers and men, take charge of the arrivals and look after them in the order of their urgency. Such operations as are necessary are performed. The dressings, splints, etc., are re-adjusted if required and, after due attention, the patients are re-loaded and passed on to the nearest field hospital.

The smallest unit to which a complete medical equipment is applicable, with resources leading backward to the base, is a brigade. The regimental medical service comprises only the necessary help for shifting the wounded to the nearest shelter. A very important supplement to

the work of a bearer company—a work requiring the same amount of skill and even more courage and bravery, because more constantly and closely on the firing line—is that of the regimental stretcher-bearer. The medical officer attached to a regiment has under his command one corporal, an orderly and two men per company as stretcher-bearers. These men belong to the fighting force, and, even if it were permissible, owing to the nature of their work, they could not receive special protection under the terms of the Geneva Convention. They are men who have been trained not only as regular soldiers, but they have also had special training at the Medical Depot, Aldershot, in the work of the stretcher-bearer, and, instead of taking cover, rifle in hand, like their comrades, they place their rifles in the transport wagon, take up the regimental stretchers and, under the direction of the medical officer attached to their regiment, proceed to rescue the wounded. Keeping in touch with their regiment at all times, they hurry about here, there and everywhere. Oftentimes they are much exposed, and their energies severely taxed. The work these men do is most praiseworthy, and frequently calls for more than ordinary courage, and I fear, sometimes, like that of the medical service generally, is not fully appreciated. They are brave fellows, and while the hazardous work they often do may not receive any special recognition, they receive at any rate the “thanks” and the “God bless you” of their stricken comrades. Tommy is no coward, and though blunt of speech and, may be, rude in manner, he has a soft spot in his heart and appreciates kindness. He is as ready to give as to receive help. He loves his Queen, and is ready to do his duty no matter in what capacity he is called upon to do it.

Such are the services rendered by the medical officers and men, both of the regimental stretcher work and of the bearer companies. Together these form what is designated the first line of medical assistance.

The second line of medical assistance is that afforded by the field hospital.

The third line is the stationary hospital, and so on until we come to the hospital ship by which Tommy ultimately reaches Netley, the most famous military hospital in the world, where he is looked after by the medical staff and the nursing sisters. He receives every attention, is petted, humored and generally spoiled. Perhaps he is even honored by a visit from Her Most Gracious Majesty the Queen, and finally he is discharged from the hospital, receives a pension, and it may be a medal or two, and fancies himself a hero, while the brave stretcher-bearer who dragged him from the field of action, stopped his life blood from ebbing away and placed him on the road to safety is never heard of. But such are the fortunes of war. Another, not so favored, receives a more fatal wound, and finds a resting place in a lonely grave on the wide veldt, “unhonored and unknown.”

Two important features in the handling of the sick and wounded in war have only just been alluded to, viz: railway transport and the more formidable undertaking, which England has always to make provision for, their safe return from “over the seas.”

To enter into details with regard to the refitting of either the luggage or passenger cars of England or the continent and to give the various methods suggested and in use would be more or less tedious. It is a fact well recognized by those who have had the experience that the cars in use on this continent both freight and passenger are much more serviceable and much more readily turned into hospital trains than those of the European Continent. The ordinary luggage car or goods' wagon, as it is called in England, can be conveniently converted into a transport car. It will accommodate eight seriously wounded all lying down. By means of rope attachments to the ceiling or roof of the car two tiers of stretchers are supported with four stretchers to each tier, *i. e.*, from doors opening in the middle of the car four men can be stowed away at each end on stretchers swung in the air. The patients are comfortable inasmuch as they are free from the jolting and swaying of the car and they can repose snugly on the stretchers, but there is no communication from one car to another when the train is in motion. It is known as Zavodovsky's method and is a very good system as applied to the short goods' wagon of England and the continent, but our long passenger car affords equal accommodation for four times as many patients with direct inter-communication.

The English type of passenger car divided as it is into compartments admits of but little refitting, the patients occupying the compartments either sitting or lying on the seats as the case may require. The long corridor passenger car of this continent is very much more serviceable. With seats reversed lying down accommodation is practically at hand and a second tier can be readily adjusted with stretchers resting on the backs of the chairs, while the corridor affords free communication with the other pre-requisites of a hospital train. Our wagons are also readily constructed into permanent hospital cars by erecting standing frames on a line with the raised portion of the roof. The stretchers are suspended from these by india-rubber rings. If not heated from the engine, a stove in the centre of the car affords ample heating, while good ventilation is obtainable without draught by opening the panes along the elevated part of the roof.

A hospital train properly so-called and specially constructed for the purpose should comprise comfortable accommodation for the sick and wounded on lounges or accessible tiers of stretchers, a kitchen and provision car, a store wagon for the soldiers' kit, etc., and a car for the medical staff with free access to all parts of the train. The facilities for loading and unloading must also always be kept in mind. In this particular feature, the English passenger car has its advantage, opening as it does on the side with a door to each compartment. With the long corridor car opening at each end it is necessary to build a temporary platform or run up a flat car at the rear in order to pass the loaded stretchers over the rail and directly into the door. In this way the difficulty of loading or unloading our passenger cars is readily overcome.

Right of way cannot always be given to a hospital train. Food supplies and reinforcements for the front may be more important, hence the necessity for a hospital train, in the event of being side-tracked, to be self supporting and in possession of every comfort and every convenience for rendering assistance.

A great feature in the handling of the wounded is the rapid transit which railways afford. The patients are readily dispersed and the congestion in the stationary and especially the field hospitals, which is likely to follow upon severe engagements, is speedily overcome. Another advantage which good railway accommodation affords is the relief it gives to the commander-in-chief. He is not embarrassed or encumbered by the wounded and incapacitated and can move on at his own convenience or as the exigencies of the case may demand. Scattering the wounded is an important feature from both a medical and surgical standpoint. It is a well recognized modern scientific necessity and is more readily accomplished where hospital trains are available. In the present campaign there are three specially equipped hospital trains which are rendering invaluable service—two provided by the local authorities of South Africa and one built by subscriptions collected by the Mayor of Windsor, called "The Princess Christian," being organized at her suggestion and under the supervision of the Central British Red Cross Committee. Tommy marvels as he sees all this luxury. He finds that his comforts ever increase as he nears the base and the bustle and din of battle are left far behind. But still greater surprises await him. Convenient and complete as are the regulation transport ships supplied by the Home Government, these have been supplemented in the South African campaign by what may really be called "floating palaces," "The Princess of Wales," "The Maine" and, "The Lismore Castle," and "The Avoca" quite surpass Tommy's comprehension and are far beyond anything he has hitherto experienced in the way of ship's comforts.

I am free to admit that never before has there been so much aid given to the Medical branch of the Service as on this war, not only by the various ambulance and Red Cross organizations in England and in the Colonies, but also by the liberality and private enterprise of both rich and poor throughout the whole of the British Empire. It is also clearly evident that never before have the services of the Royal Army Medical Corps stood out so strongly as in the present campaign. The work they are doing will go far towards restoring in England a confidence which the supercilious attitude and parsimonious behaviour of the war office have done much to destroy. At present the R. A. M. C. is practically the only department of the British army against which more or less serious charges of partial failure cannot be levelled. With reference to the efficiency of the work done by the Royal Army Medical Corps in the present campaign in South Africa and the untiring efforts of the Officers and men of this corps, let me quote from the words of a "South African Campaigner" as

they appeared in the *British Medical Journal* of the 3rd of February, 1900:—

BELMONT:

"In the action at Belmont on Nov. 23rd in which the first movement was made at 3 a.m., and which terminated at about 6.10 a.m. by the capture of the heights and the retreat of the enemy, the casualties, it will be remembered, were 54 killed and 238 wounded. "In addition 20 of the enemy's wounded were taken into the British hospital. Lord Methuen in his dispatch of Nov. 26th, written from Enslin, writes as follows with regard to the medical arrangements of this fight:

"By 10.30 my division was in camp; by one all my wounded were in a comfortable house being carefully attended; by 5 p.m. next day the hospital train conveyed the less severe cases to Orange River, the graver cases to Cape Town. This is the most perfect work I have ever heard of in war, and reflects the highest credit on Col. Townsend, R.A.M.C.'"

MODDER RIVER:

"In this action which was fought on Nov. 28th, beginning at 4 a.m., the number of casualties was 72 killed and 396 wounded. Lord Methuen concludes his dispatch by the following observation of the work of the Royal Army Medical Corps: 'Again I call attention to the splendid hospital arrangements, for at 4.45 p.m. on the day after the fight all my wounded men were on the way to Cape Town. I am glad to have been slightly wounded because in no other way could I have learnt the care taken of the wounded, and there was nothing officer or private soldier required that was not provided at once and the medical officers never tired in their endeavor to alleviate suffering.'"

For heroism let me relate a case as reported by the special correspondent of the *Medical Record*, New York.

"After the battle of Colenso an officer of the Royal Army Medical Corps, Major Babbie, distinguished himself by a feat of courage and daring which it is to be hoped will be recognized by the military authorities. The R.A.M.C. already possess more Victoria Crosses than any other branch of the service and it now seems possible that Major Babbie's name will be added to the list of holders of this much coveted honor. During the thickest of the fight Major Babbie rode into the donga—the dried-up watercourse in which the British losses were most severe and where Colonel Long's guns had to be abandoned—and remained with the wounded through a hail of bullets doing what he could for them. Among others whom he attended under these terrible circumstances was Lieutenant the Honorable Frederick Roberts, the only son of Lord Roberts, V.C., the commander-in-chief of the British army in South Africa. Major Babbie's horse was killed under him, but he remained in the donga until firing ceased, doling out minim doses of water from his water bottle and rendering such first aid as was possible. It was extremely sad that Lieut. Robert's life could not be saved, but he was shot in the forearm, wounded in the knee by a shell and had in addition a perforating wound in the abdomen. When Major Babbie brought him back he was pulseless and died without rallying. He had

civilized nations, soldiers are now armed with rifles firing hard mantled projectiles varying from 0.322 in. to 0.263 in. in diameter. The Boer is armed chiefly with the Mauser rifle, firing a mantled bullet about the size of our own Lee-Metford rifle—the Mark II Woolich bullet 0.303 in. in diameter.

Mr. Boer has not chosen the Mauser rifle because the bullet is a merciful one. This virtue is not a part of his nature or otherwise he would not be found firing upon medical officers, ambulance wagons and stretcher bearers while in the exercise of their merciful work, nor would he lure his enemy to exposure and to destruction by his treacherous use of the white flag—an emblem in war significant of distress and an appeal for mercy at the hands of the enemy. Oh no! We can rest assured he uses the rifle because of its precision and its effectiveness at long range. Nevertheless it is a merciful bullet and unless struck in a most vital part the recoveries from wounds in the present war are satisfactory and indeed sometimes even marvellous. The track of the bullet is narrow and the entrance and exit wounds are small. In the hospitals the wounded are playfully calling it a bug-bite. All sorts of penetrating wounds of the chest and abdomen have resulted favorably and without symptoms. Injuries to bones, to the larger joints and to other dangerous parts of the body are being followed by quick and very favorable recoveries. Hitherto surgeons have had quite a different story to tell with many long tedious cases to worry through.

The Roentgen Ray process, as you know, is a recent invention. It is quite old enough, however, to have made us familiar with the horrible bone-shattering effects of bullets, with fragments and sharp spiculæ of bone scattered through the tissues of the part. Now the same process reveals a punched-out perforation of the bone, as if bored by a gimlet, perhaps without either fracture or detached spiculæ, which are known to produce even more damage than the bullet itself. The work of the surgeon has materially changed. He has fewer bullets to extract, the bulk of them having gone through; fewer major operations to perform, such as excisions of the larger joints or amputations of arms or legs; and fewer fractures to set. Indeed there is more minor than major surgery in the field to-day. There will be fewer mutilated old soldiers about the streets of our cities in future. The Medical Officer will be more the physician than the surgeon, and this should be so, as all death statistics in wars shows. In the Duke of Marlborough's time, for services rendered, surgeons were promoted to the rank of physicians. England sent out famous consulting surgeons, but why not consulting physicians, especially when the dividing line is so definitely drawn between those two branches of the profession as it is in that country.

From the standpoint of mercifulness, a good authority has placed the bullets now used in the following order:—

- 1st. The Mauser
- 2nd. The Krag-Jørgensen, U.S.
- 3rd. The Lee-Metford, Mark II, Eng.

- 4th. Lee-Metford, Mark IV.
- 5th. Any of the last three with soft noses.
- 6th. Dum-dum.
- 7th. Remington brass-coated as used by Filipinos.
- 8th. Remington lead bullet.
- 9th. Remington brass-coated with point ground off.
- 10th. Shrapnel.
- 11th. Shell fragments.

Our notions with regard to the classification of wounds are now somewhat different from those which have obtained up to the present time. Wounds have been regarded as fatal, dangerous, serious or slight according to the parts of the body struck, the extent of the injuries inflicted and the nature of the missiles producing them. These are the three features which mark the gravity of a wound. It is chiefly with regard to the first mentioned, viz:—'the part of the body struck' that there has been so marked a change tending towards favorable recoveries. Wounds which have been regarded as dangerous or even fatal from a regional point of view have not even been serious as proven from results.

From available statistics, Sir Thomas Longmore has shown that hitherto the proportion of killed to wounded has been, on an average, as 1 to 4. This of course refers to those found dead in the field. Formerly a pretty large proportion of those who reached the nearest hospitals died within a day or two. "During the Russo-Turkish war of 1877-78, 11.8 per cent. of the wounded under treatment died in the army of the Danube and 13 per cent. in the army of the Caucasus." Here I venture to say are two changes which will mark the difference between the firearm of precision and the old "Brown Bess" the smooth bore, the Minié, the Enfield, the Snider, or the Martin-Henry rifle. Soldiers taking advantage of cover or occupying trenches will expose only their most vulnerable parts and if struck at all are more likely to be fatally wounded. Even when on the attack and more or less wholly exposed, as were the Canadians at Paardeberg, the ratio of killed to wounded will be greater. In that engagement our own men lost 21 killed and 69 wounded or about 1 to 3.

I am satisfied that on the field the proportion of killed to wounded, instead of being as formerly 1 to 4 or less, will now be more nearly 1 to 2, but amongst those wounded and carried off the field the ratio of recoveries will be very much greater than formerly. The percentage of deaths from wounds in the hospitals of South Africa is not at hand, but reports received are very encouraging. Sir William MacCormac, President of the Royal College of Surgeons, England, whose services as a consulting surgeon were accepted by the War Office, in an interesting account to the London Lancet amongst other things says: "In the hospital at Wynberg near Cape Town, I saw a large number of injuries inflicted by the Mauser bullet which is remarkable for the small wound it produces." Doubtless some contraction had taken place in the healing but the size of the entrance and exit

wounds was much smaller than the end of a lead pencil and quite circular." He describes in detail perforating wounds of the body cavity and of bones, which in their limitation he would, from previous experience, pronounce quite impossible and the prompt recovery from which was most surprising to him.

Mr. Treves relates a case where the bullet entered above the clavicle and came out on the inner side of the opposite thigh, there being no symptoms except temporary shock.

At Solferino in Lombardy, Italy, on the 24th June, 1859, was fought one of the most fiercely contested battles of modern times. It was the final engagement of the war between Austria and the combined forces of France and Italy. Solferino is a small village on the road from Brescia to Mantua. Here four French army corps led by the Emperor Napoleon III, and four divisions of the Sardinian army commanded by Victor Emanuel were opposed to an immense Austrian force under the command of Emperor Francis Joseph. After 16 hours hard fighting the allies lost 18,000 killed and wounded and the Austrians 20,000. In this engagement the number of wounded on both sides amounted to between twenty and twenty-five thousand men.

The inability of the medical organization of these armies to handle such a host of wounded men, many of whom had to remain on the field unattended for days, led to the suggestion from which the Geneva Convention originated. Five years afterwards in 1864 an International Congress assembled at Geneva,—Switzerland, at that time not having a standing army, being regarded as neutral ground. At that meeting 16 European powers entered upon a mutual understanding with regard to medical assistance in war. Since that time more than double this number of States have subscribed to the articles of the Convention, the chief features of which are the neutrality of the sick and wounded of opposing armies, as well as that of the personnel and material in connection with the care and treatment of all the afflicted.

Instead of being regarded as prizes of war, all medical officers and attendants, bearer companies, field hospitals, ambulance transport and medical equipment generally are considered as free from any interference at the hands of an enemy. It is strictly stipulated however that all help of this kind must be distinctly military or under military control and non-combatant and is especially recognized and protected by the use of the Red Cross on a white ground. More recently the use of explosive bullets has been discountenanced by those nations subscribing to the articles of the Geneva Convention. It is true that England has found in some of her engagements with savage tribes that the fully mantled bullet had not the desired stopping effect. In the Chitral Expedition, for example, it was found necessary to grind down the tip of the bullet until the leaden core was visible. This experience led to the manufacture of the Dum-dum and other varieties of open nosed or hollow-nosed bullets, such as the Woolwich Mark IV, the "solid base open nose," the "open nose with slits," the "tubular plugged with wax," the "tubular copper plugged", etc. There are also soft-nosed bullets in which the

lead is more or less freely exposed at the tip and consequently flattens out very readily. These, mostly of larger calibre than the Lee-Metford, are chiefly used for sporting purposes, especially when hunting large game.

The bullet in use in the English army to-day, however, is fully mantled and hence non-explosive in the sense in which this term was used by the Conference at St. Petersburg in 1868, when the principal military powers of Europe agreed:—"To abstain from the use of all explosive projectiles of less than 14 oz. in weight."

These are briefly the protective features of the Geneva Convention, it being universally acknowledged that the main object in a battle is not to kill men, not to blow them limb from limb, nor to torture the wounded by long exposure and inattention, but to render as many as possible *hors de combat*.

A CASE OF PERFORATING GASTRIC ULCER WITH INFECTION BY THE BACILLUS AEROGENES CAPSULATUS; WITH A SYNOPSIS OF THE LITERATURE ON INFECTIONS BY THIS ORGANISM.*

BY CHARLES A. PAGE, M.D.CM.

House Surgeon, Toronto General Hospital.

The following case occurred at the Toronto General Hospital in the fall of 1898, in the service of Dr. J. T. Fotheringham:—

A.B., act 32; occupation, reporter. For many years he had suffered from gastric dyspepsia, and was suddenly seized the day before admission with violent abdominal pain, at first felt mostly in the epigastric region. Persistent vomiting set in, with tympanites and great abdominal tenderness, the pulse becoming rapid and thready. He died in collapse in 36 hours, no gas formation being noticed ante mortem.

The autopsy was done 20 hours later by Dr. H. B. Anderson. The first thing to be noticed was the large size of the scrotum, which had become immensely swollen and crepitant throughout. Emphysematous crackling could also be felt in the thighs, especially the right, and cover slips taken from both these localities showed a bacillus, whose description morphologically agreed precisely with the *Bac. aerogenes capsulatus* or gas bacillus, of Welch. Post mortem staining was fairly well marked and rigor mortis was passing off. Upon making the incision into the peritoneal cavity gas escaped quite abundantly, and burnt with a pale blue flame, emitting an explosive sound when ignited.

The omentum was slightly adherent in the right iliac fossa and somewhat congested. The surface of the bowels was red and injected and the intestines were to some extent adherent by the presence of a fibrino-purulent material. Where the great omentum was attached to the stomach

*From the Pathological Laboratory of Trinity Medical College.

there was a collection of pus. Cover slips, both from the pus and the purulent material showed the presence of the same bacillus. Anaerobic cultures were made by melting tubes of agar, inoculating one tube and pouring the contents of another over it so as to exclude the air from the growth below. Cultures were thus made from the heart's blood and several of the viscera.

The appendix was in its normal situation and inflamed only to an extent equal to that of the rest of the peritoneal cavity. The spleen showed two fissures passing transversely across its diaphragmatic surface, but no gas was noticed. The liver presented evidences of perihepatitis and was soft and friable. No gas was evident. Old adhesions between the pylorus and the gall-bladder were abundant, some of them extending on to the liver surface. The mucous membrane of the stomach was greatly thickened and congested, the follicles very prominent, especially at the cardia. Four cicatrized ulcers were plainly visible along the greater curvature. Through the base of one of these, perforation had occurred where the stomach and gall-bladder had become adherent. The pleural cavities were normal, no adhesions. Heart: bubbles of gas were present in the heart's blood and gas cysts in the myocardium were numerous. Cover-slips showed the bacillus in large numbers.

The inoculated culture-tubes were placed in the thermostat, with the result that their contents were greatly cracked and fissured by the production of gas. The tubes were then broken, and fresh media inoculated, the conditions necessary for their growth being brought about in a Novy-jar, in an atmosphere of hydrogen. By this means a bouillon culture was obtained and a rabbit and pigeon inoculated with the bacillus, its morphology and peculiarities of culture being studied. From both the pigeon and rabbit the bacillus was again obtained in pure culture, as proved by cover-slips and its growth on different media. In agar-agar, the colonies are greyish-white in color, flattened and possessed of irregular margins. Bubbles of gas appear in the medium, with the result that fissures and cracks almost disintegrate the medium. There is no liquefaction. In gelatine, the appearance of the colonies is much the same, and a slight amount of liquefaction takes place immediately about the growth. The growth in bouillon is very rapid and abundant, the medium soon becoming cloudy, and the turbidity gradually forming a white deposit, leaving the fluid above clear. The odor has been likened to sour, stale glue. In milk coagulation occurs rapidly with the formation of gas bubbles in the clot, and where litmus-milk is used it turns deep pink upon exposure to the air. On potato a greyish-white growth appears, and there is marked gas formation. Upon blood-serum, spores may form.

After failure to inoculate satisfactorily by the posterior ear vein, the animal was anaesthetized, the jugular vein exposed, and the quantity of a bouillon culture contained in a Koch's syringe injected into the blood stream. Ten minutes later the rabbit was killed and placed in the thermostat. After twenty hours an autopsy was done. At this time the animal was greatly swollen, crepitation could be felt distinctly, especially in the axillae and groins. Upon incision through the skin a disagreeable

odor was exhaled, the subcutaneous tissues being discolored. The axillae and groins presented numerous gas bubbles, many of them of large size, so that an incision permitted the escape of a gas which emitted an explosive sound and burnt with a pale blue flame when ignited. Upon incision into the peritoneal cavity no gas was detected. Gas bubbles were present everywhere, in the clots, within the heart, in the myocardium, and under the pericardium. The lungs showed sub-pleural gas-bubbles, the kidneys when cut into showed many bubble cavities and retroperitoneally, large gas-cysts were easily discernable. The most striking features, however, were presented by the liver. Its capsule was completely disintegrated, and the organ itself seemed as if worm eaten. It was a most excellent example of a "foaming liver." The hepatic veins also contained gas.

Cover slips from different organs and the blood showed a bacillus of the same morphology as the one found at autopsy and when cultures were made from the rabbit colonies grew on the different media in no respects differing from the growths resulting from the original cultures. Some of the tissues were hardened and stained, and the bacilli were demonstrated. Bacilli were also seen in the walls of the gas-cysts.

A bouillon culture was likewise injected into the pectorals of a pigeon, which, next morning was found dead, with rigor-mortis marked. In this case, the result was mostly local, with marked emphysematous crackling in the pectoral region. The muscles exposed by incision were quite gangrenous, pale in color, and very emphysematous. The superficial and deep pectorals were separated by a large cavity. No pus was present, but a dark red fluid oozed out of the wound. Cultures and cover-slips again identified the same bacillus. In all respects this resembled the *Bac. aerogenes capsulatus* of Welch.

Instances of gas occurring in the tissues both before and after death are common enough, but only in the last few years has a satisfactory explanation been forthcoming. Previously it was thought that the presence of air or gas noticed in the tissues of the body, was due to the fact that air had entered the veins during some surgical procedure, or, when post-partum, the large uterine sinuses afforded ample opportunity for its admission. It was sometimes believed, too, that air had gained entrance by the alimentary tract, as a result of perforating gastric ulcer, for instance, and that death had followed partly from this cause.

Experiments carried on by Nysten and Hare showed that amounts of air varying from 40 to 120 c.c., in direct ratio to the size of the dog, could prove fatal if injected suddenly into any large vein. Hare believes that no quantity of air which could possibly enter a vein during an operation would be large enough to produce sudden death, and this would seem the most rational view. By cautious injection at intervals, a large volume of air may be introduced into the venous system with no untoward results, and Laborde and Munroe demonstrated that 1120 c.c. might be passed into the jugular vein of a dog within the space of ninety minutes with apparently no injury. This goes to show that large amounts of air

suddenly introduced may cause death, but it leaves a large number of cases in which bubbles of air were found in the vessels and viscera, post-mortem, unexplained, and the theory advanced by Ewald and Kobert, that the air in the cells of the lung was capable of being forced into the pleural cavity and blood vessels under pressure, or the idea that air could be spontaneously generated there, hardly clears matters up.

In 1891, however, Welch and Nuttall, described an organism which was isolated from a case that after autopsy permitted its anaerobic cultivation, and which they named the *Bacillus aerogenes capsulatus*. The patient was a brick-layer, suffering from an aneurism of the ascending aorta, who died suddenly after his admission to the hospital. He had had severe haemorrhages from a spot where the tumor had ulcerated through the skin, but on admission did not seem alarmingly ill. His appetite was good, and his mind clear. Eight hours after death an autopsy was done at which it was noticed that emphysematous crackling could be felt over most of the body. Gas-bubbles were found in the heart's blood, in the cardiac veins and arteries and in the myocardium. Large cavities existed also in the kidneys, liver and spleen, and cultures and smears, made from the organs and blood, demonstrated a capsulated bacillus in large numbers.

Briefly, this bacillus offered the following description: Its breadth is slightly greater than the anthrax bacillus, but it varies much in this, as also in its length. It is straight or slightly curved, with rounded extremities, non-motile, and stains deeply with the ordinary dyes, and by Gram's method. Capsules are often seen and involution forms commonly occur. It is anaerobic and grows upon all the ordinary culture media.

In order to grasp clearly the clinical conditions under which infection may occur by the *Bac. aerogenes capsulatus*, a hasty and necessarily brief summary of some of the cases published so far, will be given, for by the thorough acquaintance with the clinical aspect, recognition of further cases will become easier and more frequent.

The publication in America of the second instance of infection of this kind was in August, 1893, by Graham, Steward and Baldwin. Their case occurred in a woman who had evidently attempted abortion, and who, when first seen, was suffering most intense pain in the uterine region, in the back, and down the right thigh. Later, the pain had made itself felt in the left ovarian region and down the left leg, the abdomen was slightly tympanic and she was exceedingly restless. After a few hours, she was seen to be "emphysematous from the top of the head to the sole of the feet." Death occurred suddenly without any warning.

Fraenkel in January, 1893, published the report of a case of infection by the *Bac. aerogenes capsulatus*, and for the first time pointed out the essential relation of the gas-producing bacillus of Welch to those diseases known as emphysematous cellulitis, gaseous phlegmon, &c., in that the bacillus isolated and described by him was identical in all respects to that described by the American authors. Fraenkel's cases each followed hypodermic injections.

P. Ernst also reported two cases in which the bacillus he isolated proved to be identical with the *Bac. aerogenes capsulatus*. One case was that

of a woman from whom a four months old imacerated foetus was removed, and who died later from septic peritonitis and endometritis. Gas was only noted after death.

Mann's Case is instructive from the fact that it shows the possibility of infection during life in association with the *Streptococcus pyogenes*, and rapid spread of the process with marked constitutional reaction, recovery following energetic treatment.

Welch's and Flexner's unfinished paper in the *Journal of Experimental Medicine* affords us many examples from which to draw conclusions concerning infection by the gas bacillus, the most important and instructive of which will be briefly alluded to. In their third case, injury occurred to a man who fell from a wagon, sustaining injury to right hip and thigh. There was no external wound. The skin over the thigh was much swollen and reddened, emphysematous crackling being easily obtainable on the inner side and in the popliteal space. At autopsy, a traumatic rupture of the rectum was discovered.

Case ix of this series; a man with typhoid, died of symptoms of perforation of the bowel. At autopsy, this diagnosis was found to be correct, and a small opening, 39c. above the caecal valve was found. The peritoneal cavity was filled with gas, and the *Bac. Aerogenes Capsulatus* was shown to be present in abundant numbers in the peritoneal exudate.

Instances might be multiplied showing the different phases of infection by this *Bacillus*, but reference must be made to the list at the end of this paper for further details; for infection may occur at any time and under all circumstances when ordinary inoculation and growth could be expected. The pathological anatomy, however, is peculiar to infection by the gas-bacillus, and while depending on many conditions, may be briefly summarized as follows:

The nervous system; as shown by Reuling and Herring, large or small gas-cysts may occur in the cerebrum, with destruction of the grey and white matter. The walls of the Cavities are smooth, devoid of any lining or sack, and a layer of degenerate cells, with complete absence of nuclear staining, alone forms the boundaries of the cyst. The capillaries, round about, are completely blocked in many places by crowds of bacilli.

The digestive system; the results here depend upon the point and mode of infection, of course, the influence of this must always be considered, but the liver is the organ often affected most severely. When cut into this organ may appear riddled with cavities containing gas, whose walls are again lined with degenerated cells, this time hepatic. Blood containing many bubbles of gas, oozes from the cut hepatic and portal vessels, producing hillocks of foam on the cut surface, and giving rise to a very strange but characteristic appearance. The spleen fares likewise, though generally not so markedly. The Malpighian bodies are indistinct, and on pressure bloody, frothy fluid is squeezed on to the cut surface. Of the renal system, the kidneys are most commonly affected, so that gas-blebs may appear under their capsules, and on section, foamy material may be squeezed from the blood-vessels. Gas-cysts are frequently seen. The heart often shows marked changes, the myocardium being of

a pale color, often containing small cavities. Gas-cysts may be seen under the endocardium and the pericardium. The blood in the cardiac cavities contains many bubbles of gas. And so the different organs are separately affected, yet the amount of charge depends directly on the kind of infection, the mode of infection, and when the examination is made.

From what has gone before it may be concluded that the *Bac. aerogenes capsulatus* is widely distributed in nature. It may gain entrance to the tissues by any abrasion of the skin, by way of the pulmonary system, or from the alimentary tract, where it is probably a constant inhabitant, by a perforating gastric typhoid or other ulcer, and through any part of the genito-urinary system; after operation on the urethra or following child-birth or abortion, infection is relatively common. The effects of the organism may be plainly visible before death, showing that it is capable of growth in the living subject, but probably the bacillus is most commonly distributed just before the circulation ceases, so that its results are more often noticeable a few hours later. A terminal infection by the *Bac. aerogenes capsulatus* is common enough, instances being recorded by Welsh and Flexner, Norris and others. The low resistance of the tissue brought about by long drawn out sickness, creates the condition—wherein the opportunity for the germ to gain a foot-hold is assured. Indeed this loss of resistance is essential in all cases. The relation of the *Bac. aerogenes capsulatus* to gaseous phlegmons, malignant cellulitis with production of emphysema, is assured. The local infection may remain so, and be amenable to energetic treatment, as illustrated by Mann's case, but it is frequently general, the emphysema being first noticed often far distant from the point of infection, either before or soon after death.

REFERENCES.

- (1.) Welch and Nuttal—Bulletin of the John's Hopkins Hospital; July-August, 1892.
- (2.) Fraenkel—Centralblatt. f. Bak't; B, d. xiii.
- (3.) Graham, Stewart and Baldwin—Columbus Medical Journal, August, 1893.
- (4.) Goebel—Centralblatt. f. Allg. Pa h. and path. Anat. Ziegler, 1895.
- (5.) Ernst—Virchow's Archives, Ba. cxxxiii, S. 308.
- (6.) Welch and Flexner—Journal of Experimental Medicine. Jan. 1896, Vol. 1, No. 1.
- (7.) Dunham—Bulletin of the John's Hopkins Hospital Vol. viii. April 1897.
- (8.) Dobbin—Bulletin of John's Hopkins Hospital, Vol. viii. September, 1897.
- (9.) Erdman—Medical News, October 9, 1897.
- (10.) Larkin—Medical Record, N. Y., March 5, 1898.
- (11.) Norris—American Journal of the Medical Sciences, February, 1899.
- (12.) Reuling and Herring—Bulletin of the John's Hopkins Hospital, April, 1899, No. 97.
- (13.) Howard—Bulletin of the John's Hopkins Hospital, April, 1899, No. 97.

NEURASTHENIA.

BY D. CAMPBELL MEYERS, M.D., M. R. C. S. ENG., L. R. C. P. LOND.*

Neurologist to St. Michael's Hospital and Simcoe St. Dispensary, Toronto.

This is so extensive a subject that it would be impossible to discuss in the limited time at our disposal, more than few points in regard to it. Our increasing knowledge of the subject will ere long lead to a division of this multiform disease which only a few years ago was unmentioned in our text books, but the importance of which, leads to the necessity of further classification, so that some distinguishing name would indicate the special form of neurasthenia under consideration. The analogy; between the term neurasthenia, and that of Bright's disease, is striking and just as in the latter we have conditions which originally indicated kidney disease in general, so we have in neurasthenia, a term indicating an affection of the nervous system, but as Bright's disease was later classified into various kidney troubles as known to-day, so will time and further knowledge more clearly designate divisions in what we now term neurasthenia, a change which is urgently demanded from a clinical standpoint. As already stated, the limited time to-day will only allow of the discussion of the some of the phases of neurasthenia, and of these I would like to draw your attention to two of the most important. (1) The so-called "spinal irritation" and (2) the mental results of certain forms of this affection. In regard to spinal irritation, it was long supposed to be due to a lesion of the spinal cord or meninges, and this led the earlier authors, (notably among whom we find Rosenthal), seeking to explain its pathology in this manner, to classify it with diseases of the spinal cord. That this is an error, is, I think, now generally conceded; Bouveret among other having expressed himself very positively on this point. A consideration of the facts shows the correctness of this negative view. But it was to a more definite solution of the problem of the seat of spinal irritation that I hoped to direct your attention to-day, and this is, that instead of the trouble being due to changes in the spinal cord or local structures, I believe that it in reality is *psychical*. This belief has been forced on me, in the first place by the nature of the pain complained of. The hyperæsthesia is fully as intense as is met with in hysteria, which is avowedly an affection of the higher centres. Cases of this nature frequently occur, in which the slightest touch on the vertebral column or on either side of it calls forth expressions of the most intense pain. I recall one in which I directed the nurse to begin tapping the spine gently with two rubber balls mounted like hammers, and in a few days the patient could bear quite a severe pounding with these balls without any complaint, in fact she seemed to enjoy it, a condition which would not have been reached had there been any local affection sufficient to induce the degree of pain of which she originally complained. Simply because such pain is situated over the spinal cord, I do not think we are any more justified in assuming it to be due to a lesion of the cord than we would be to assume that the anæsthesia of a limb or one half the body, as is frequently met with in hysteria, is due to a lesion of the underlying structure. Why in

*Read before the Can. Med. Association

neurasthenia, the spine should suffer in this way so frequently is more difficult to understand, but if we consider that the spinal column with its muscles and its supply of ligaments is so constantly in action during the waking state, the fact that it should suffer early when nervous weakness arises is easily comprehensible, the degree in which it suffers being influenced by hereditary predisposition or otherwise. Whilst the action of the muscles of the back is largely automatic, the impulses from the higher centres are called upon more frequently as the nervous action which is sufficient in a normal state becomes weakened by disease and this increased demand on the higher centres gradually induces in them a condition of irritation which is expressed peripherally by the deranged sensations in the structures of the dorsal region. The localization of the pain in certain spots, as in the "plague sacrée" of Charcôt, or as in the tenderness to pressure of certain spinous processes, may be due to a slight strain of the ligaments or muscles, which has taken place without the attention of the patient being especially attracted to it, and which would never have developed but for the existence of the nervous weakness. A case in point is one of a young lady who, after having led an active out of door life with plenty of exercise, became neurasthenic and one day in lifting a book felt a sudden pain in the muscles of the forearm. This subsided in a little time and only recurred on making a sudden effort with the arm which was otherwise quite well. The strain was in this case due, not to any local trouble in the forearm, but to a lesion of the higher centre of the brain, and disappeared entirely as the central nervous system regained its normal tone, as is frequently seen in cases of traumatic myalgia. In an analagous manner a lesion of the spinal structures may develop producing an irritated centre in the brain which gradually increasing, shows itself in the symptoms known as spinal irritation. The importance of the suggestion that the real cause of the trouble is psychical rather than physical, is very great in consideration of the treatment.

We now come to the second phase which was mentioned above, namely the question of the relation between neurasthenia and incipient mental disease. Authors generally, consider that neurasthenia terminates, only as an exception, in mental disease. I believe, on the contrary, that certain forms of neurasthenia (especially those affecting the intellect or the emotions) *frequently* do so. This belief is based on clinical experience, and is supported by the researches of Hodge. The latter, as you are all aware, demonstrated with the microscope, the changes which take place in nerve cells after physical fatigue and electrical stimulation, and showed that after an excessive degree of fatigue, the cells recovered their normal condition only with difficulty, or not at all. This whole subject has been ably discussed by Tuke, who maintains that the changed conditions of the cells of the cortex, probably combined with the toxin introduced in the blood through deranged metabolism of these cells, must naturally lead to a disturbance of function of the higher centres of the brain, which unless corrected, must necessarily lead to definite mental disease. He says that "In the course of almost every case of idiopathic insanity, *i. e.*, insanity due to over-exertion of the brain, we have a fairly well marked prodromal period indicating the diseased balance between nutrition and

function in the kinæsthetic area. On the rapid removal or non-removal of the causes of implication of the cells of the Rolandic area, depends the issue of the case—recovery or prefrontal atrophy." This prodromal stage with its results is precisely to what I desire to direct attention, as I believe that this stage corresponds in many cases, to what we term neurasthenia, and that proper treatment at this period would avoid the disastrous results which would otherwise follow. A consideration of insanity shows that in nearly all cases prodromal symptoms must in some stage of its development have been present. As cases of insanity are described by the alienist under whose care the case comes, only when fully developed, the transition stage between mental health and insanity has been but little discussed, and in consequence a fertile field has been left uncultivated. These cases of neurasthenia are given an additional interest by the fact that they comprise cases on the border-land, where one or more of the faculties may be affected, the remainder remaining normal. Hence in an early stage, when the approach of the coming storm is heralded only by such symptoms as restlessness, intense and unreasonable anxiety, loss of or deranged memory, inability to do any prolonged mental work, disturbed emotions, worry over trifles, irritability, etc., with loss of sleep, the treatment of these cases would show most satisfactory results, whilst in no class of cases are the consequences of delay more serious.

Of the beneficial effects of treatment, none are more marked than in the removal of the patient from the surroundings in which the neurasthenia has developed. An important point in regard to separation is that if used at all, it must be complete; a single visit from a near relative or an intimate friend or even a letter from such, may seriously affect the progress of the patient toward recovery. In regard to the rest cure as described by Dr. Weir Mitchell, I have found it most useful in selected cases, and the underlying principles of it form undoubtedly the most valuable contribution which the treatment of neurasthenia has ever received. Rest is the keynote to the proper treatment of nervous weakness, and it is the proper application of this principle which makes or mars the success of our efforts. Rest in bed is only one form of rest, and may be contraindicated. Travel, with the resulting change of scene and surroundings is another form of rest, but great care is required in the selection of suitable cases. Many a patient is advised to travel when the change only irritates and excites an already weary brain, or an easily exhausted body, and leads to unsatisfactory results, because treatment of a different kind was necessary before travel could be undertaken with pleasure or safety. The same error is often made in regard to exercise, the fact that physical movement necessarily involves an expenditure of mental energy, being often overlooked. Hence while exercise may be freely insisted upon in some cases, in others it must be very carefully regulated in its amount. Time forbids further discussion of the medical treatment or of the use of massage and electricity in this affection, but I would like to mention the decidedly good results of hydrotherapy when used in conjunction with these measures. In conclusion, neurasthenic patients often state that they have been given this advice "Now just believe you are all right and there will be nothing the matter with you." There are undoubtedly neurasthenic patients who exaggerate their ills, but I am convinced that these are

much fewer than is generally supposed, and that when we can learn the patient's character in the past, further study of these subjective symptoms will often prove their reality. Although we cannot percuss or palpate to demonstrate the exactness of the descriptions given by these patients, we can impartially estimate the truth of their assertions, and after careful consideration of the symptoms, save them by proper medical treatment from what, in some cases at least, would have resulted in irreparable disaster.

SELECTED ARTICLES.

NEPHRITIS.

DIAGNOSIS OF CHRONIC INTERSTITIAL.—Charles O'Donovan remarks that the occurrence of Cheyne-Stokes respiration in advanced stages of fatty heart and toward the end of the life of persons suffering from one of the various forms of Bright's disease, as well as in other conditions of coma or allied states, has long been recognized. At such times it is merely one of the many features marking the probability of an early fatal termination of the case, and attracting attention only as an interesting symptom of little diagnostic value. But this form of respiration may be one of the first symptoms observable in cases of chronic interstitial nephritis, giving warning of the sclerotic changes at a time when albumin is totally absent from the urine, or so infrequently present or in so small quantity as to elude ready detection. Of three personal cases noted, the patients all presented this form of breathing, first at night exclusively; and even at any time only at irregular intervals. Careful observation over quite an extended period of time failed to show a single instance of its occurrence during the waking hours; when it appeared it was during sleep, otherwise calm and restful, and not influenced in any way, as far as could be discovered, by any particular posture or change of posture in the individual.

From experiments on the elimination of methylene-blue through the kidney in health and disease, E. V. Czychlarz and J. Donath conclude as follows: In nephritis there is a retardation of the elimination of methylene blue through the urine. This manifests itself either in the late appearance of the dye in the urine or in the abnormally prolonged persistence of its urinary elimination, or in a combination of the two.

Charles Alling Tuttle declares that urinary examinations, as ordinarily made in the physician's office have but little value, and that the toxicity of the urine often affords the best and safest means of diagnosis. Chronic interstitial nephritis can exist without albuminuria, casts, or the usual clinical symptoms of kidney impairment, and albuminuria of measurable amount and renal casts may be present and yet the health of the individual be unimpaired through many years.

Rockwell lays especial stress upon the danger of overlooking chronic interstitial nephritis, especially in its earlier stages. Whenever he finds

the specific gravity of the urine of anyone over forty years old constantly too low—1,005 to 1,015, especially when obtained during the height of digestion—he expects to find hyaline casts if he looks long enough for them. The urine, even with this low specific gravity, is usually distinctly acid, is pale and clear, containing little or no sediment, in marked contrast to the chronic diffuse form. The subject often has occasion to rise at night to pass his water. Albumin may be present or absent. It is never in large amounts. In such sediment as one is able to get, preferably by the centrifuge, may be found hyaline casts, cylindroids, and an occasional leucocyte. The urine may be preserved with borolyptol. A quantity should be placed in a conical glass, allowed to remain overnight when all but a small portion is decanted, and the remainder is put in a centrifugal machine; in this way casts will be obtained if they are present. In the diagnosis of this form of nephritis one is greatly aided by examination of the heart, for hypertrophy begins early. Arterial tension is high from the beginning, and the second sound at the base is usually accentuated.

Irvin Linderberger has found that certain drugs in renal as well as other affections militate at times against a proper diagnosis as regards conditions of the system, by a urinary examination; especially is this true after the administration of urotropin. Having the power of dissolving casts and probably other solid matter, it makes the diagnosis of nephritis by microscopical examination impossible.

The treatment of digestive disturbances with hydrochloric acid, pepsin being given generally in connection with it, will make the matter of diagnosis of oxaluria at times difficult or impossible.

If a twenty four hour specimen cannot be obtained, one passed on retiring and a specimen on rising should be called for, mixed, and examined. Especially in the early morning specimen, in cases of chronic interstitial nephritis, is the albumin very much diminished or absent altogether, this being due to the period of rest during sleep. The addition of a few drops of formalin will retard decomposition during the warm months, and not interfere with any of the tests for albumin or sugar.

In examining urine for casts J. H. Linsley considers the following method of most value: A few drops of the urine which contains the sediment is removed with a pipette and placed on a clean, glass slide. No cover-glass is used in this manipulation. The slide containing the specimen is then placed on the stage of a microscope and a $\frac{3}{4}$ inch or $\frac{1}{2}$ inch (No. 2 or No. 4) objective brought into the optical axis of the instrument. A higher power of the microscope should never be used for the detection of casts in the urine. The next step, the illumination of the specimen, is so important a procedure that without careful attention to the details of its application no casts will be seen, even though there be hundreds of them on the glass slide under observation. The opening in the diaphragm should be reduced until the specimen is only faintly illumined, and the mirror, using its concave side, turned in such a way as to direct oblique rays of light through the slide and objective.

When hyaline casts are present in a specimen which has been mounted in this manner, they appear as sharply defined, somewhat refractive, and perfectly transparent diminutive logs, with rounded ends

After carefully examining the specimen with the lower power, a cover-glass may be applied, the superfluous urine removed with a piece of blotting- or filter-paper, and the specimen investigated with a 1/5-inch or 1/9-inch (No. 5 or No. 7) objective. In this case more light is needed, and the opening in the diaphragm must be enlarged. The higher magnifying power allows the study of the structure of any casts or epithelial cells and the detection of pus or blooded cells and bacteria, but it should never be employed until after a thorough examination with the low power.

ETIOLOGY.—C. W. Larned says that the conclusions to be drawn from a study of the relation of chronic nephritis to malarial disease are: 1. Certainly in some localities malarial fever should be given a prominent position in the etiology of chronic, as well as of acute, nephritis. 2. In all cases of malarial fever the urine should be closely watched. 3. A blood-examination should be made in all cases of nephritis occurring in those who have visited or lived in a malarial district, as it often happens that the severe grade of nephritis resulting may mask entirely the clinical picture of malarial fever.

PATHOLOGY OF ACUTE INTERSTITIAL.—W. T. Councilman has discovered acute interstitial nephritis in 42 cases of infectious diseases, most frequently in diphtheria and scarlet fever. The interstitial tissue in these cases is infiltrated diffusely and in foci by cells resembling the plasma-cells of Unna. No satisfactory explanation can be given for the almost constant tendency of the infiltrating cells to collect, especially in the boundary zone of the pyramids, the subcapsular region of the cortex, and around the glomeruli.

PROGNOSIS.—R. C. Cabot and F. W. White, from the study of a number of hundred cases of nephritis, say chronic nephritis is not an incurable disease; recovery occurs in rare cases. It may exist for years without causing apparent constitutional disturbance. The average duration in 332 cases of chronic nephritis was 19 months. Acute nephritis is less common than has been supposed, many cases that were formerly so classified are found to represent exacerbations of chronic nephritis.

DIET IN CHRONIC NEPHRITIS.—Von Noorden says that he has not found in all the literature a single exact clinical experimental basis for the exclusion of dark meats in chronic nephritis, but only hypothetical affirmations over the greater content of irritating products (especially nitrogenous extractives) for the kidneys in brown meat. In a personal case, a patient, with chronic parenchymatous nephritis, who took one-half pound poultry daily for five days, excreted the same amount of nitrogen and a trifle more albumin than he did in the next five days, in which, instead of the poultry, he took an equivalent amount of nitrogen in beef.

In many cases, also, a restriction of the amount of fluids to 42 or 50 ounces can be of great advantage. This treatment is peculiarly applicable to those cases with cardiac asthma and dilation of the heart. Patients with interstitial nephritis suffer no diminution in the elimination of the important metabolic products by the restriction of liquids to 1½ litres.

TREATMENT OF ACUTE NEPHRITIS.—In acute Bright's disease Walter Sands Mills advises that the patient be put to bed and kept there until all acute symptoms have subsided. The room must be kept warm and at an even temperature day and night. Milk is the best food, and may be flavored with coffee, salt, or soda-water. Some patients will take more kindly to butter-milk or to koumyss than to plain milk. Gruel may be sometimes used to advantage.

The use of tea, coffee, alcohol, and spiced foods must be stopped until after the patient is convalescent. The drinking of large quantities of pure water—several quarts daily—is essential. Lemon-juice added to the water is very beneficial and may be taken *ad libitum*.

As the acute symptoms subside and convalescence is established, meat broths, soft-boiled eggs, and fruits may be added to the bill of fare. A full diet of the character usual to the patient will have to be adopted slowly and with caution, always closely watching and noting the slightest changes in the urinary secretion.

To help eliminate excrementitious matters, diaphoretic treatment is to be resorted to.

The patient may be wrapped in dry, hot blankets and given hot drinks. A more effective way, but one that is dangerous in cases with heart-lesions, is to give the patient a hot-air bath. This can be done by completely covering the patient, except the head, with blankets, in such a way as to form a sort of air chamber, and devising some apparatus to heat the air underneath. The hot-air bath ought to last no longer than twenty minutes. Care must be used lest the patient take cold; a rub-down afterward with alcohol and water will help to prevent that.

The hot pack is another method that may be used. This consists in wrapping the patient in a sheet wrung out in hot water and wrapped round about with blankets. This hot pack may be kept up for from a half to one hour. Finally the hot water bath may be utilized. This may last for half an hour. It is an advisable procedure to rub the patient thoroughly with dilute alcohol both before and after either the hot air or hot water treatment.

Pain over the kidneys may sometimes be relieved by dry cupping.

If the bowels are constipated and the urine is scanty, calomel may be given in $\frac{1}{8}$ to $\frac{1}{4}$ grain doses, repeated every hour or so.

If uræmic eclampsia or coma is impending, the treatment by means of hot air or hot water, as outlined above, must be resorted to. Active depletion is usually done by the use of pilocarpine hypodermically, $\frac{1}{4}$ to $\frac{1}{8}$ grain at a dose.

In uræmic delirium personal success has been with hyoscyamus.

The œdema of nephritis will often respond promptly to infusion of apocynum, ten to 15 drops being given every hour.

For œdema of the lungs alone, *apis mellifica* is to be used in a 1 to 100 preparation, $\frac{1}{2}$ drop doses being given every half hour until relief is apparent.

Cantharides has a beneficent action on the kidney of acute nephritis. It is best given in drop doses of the tincture. Later, when the dropsy has gone down, but albumin still remains, bichloride of mercury will be found to be of service. Drop doses of a 1 to 10,000 solution are efficient.

The anæmia of acute Bright's disease is to be treated with iron and cod liver oil. Inhalations of oxygen are also of value for this symptom.

Nestor Tirard regards the degree of œdema in acute nephritis as an indication of the probable extent of the engorgement of the kidneys. The treatment must be primarily directed to the relief of the dropsy. Diuretics are contra-indicated in the early stages of acute nephritis, since they increase the caliber of the renal vessels and thereby promote rather than relieve the renal engorgement. Vapor baths, hot and cold packs, the warm bath accompanied by the drinking of large quantities of water, and sometimes the administration of liquor ammonii acetatis are valuable. When these measures fail to induce diaphoresis, pilocarpine may be given hypodermically. When diaphoretics fail, hydragogic purgatives, such as compound jalap powder, or a mixture of jalap and scammony powder, may be given. œdema of the glottis may sometimes be relieved by scarifying the aryteno-epiglottidean folds. If this fail, intubation or tracheotomy must be done. When removal of the effusion from the extremities is necessary, Southey's tubes are to be preferred to all other measures. Cardiac failure should be combated by the administration of stimulants by the mouth or hypodermically.

TREATMENT OF CHRONIC NEPHRITIS.—As a guarding principle in the treatment of chronic nephritis A. R. Elliott repeats the words of L.G. Guthrie, who gives the motto: "Watch the heart and pulse." Herein is the surest way to the successful management of this widespread disease. Sooner or later the morbid process must end in death. But this termination can be longest postponed, the patient's interest can be best served, and his condition most securely palliated by placing the heart upon a therapeutic parity with the kidneys.

Caracciolo believes there is no certain correspondence between the amount of albumin and the renal disease. Mineral waters containing small amounts of salts are useful unless there is considerable polyuria, when the amount of fluid should be somewhat restricted. A moderate mixed diet is better than an absolute milk diet. The diet which is so consumed as to take albumin from the tissues is that which will give the maximum repose to the kidneys. This is to be determined in each case by accurate comparison between the food ingested and the ejecta. Cold baths should not be used, but the skin may be methodically hardened by moist friction on leaving the bed. Strontium lactate (6 grains a day) tends to diminish the albuminuria.

Cantharides is recognized by Julius Salinger as having distinct curative powers in chronic parenchymatous nephritis. The tincture should be given in small doses (1 to 2 minims), as an overdose is irritating to the renal epithelium. The following prescription may be recommended: Iron and ammonium acetate, $\frac{1}{2}$ ounce; tincture of cantharides, 2 minims.
—*Monthly Cyclopædia.*

DIPHTHERIA.

In the *Journal of the American Association*, Dr. Jerowitz writes as follows:—

- (1) The majority of cases are mild and only affect the fauces.
- (2) The exudate lasts from one to two weeks, but to this there are exceptions.
- (3) Removal of membrane is useless, as by denuding the surface, septic infection is promoted, and, besides, the membrane quickly reappears and remains longer than if it had not been meddled with.
- (4) The involvement of the larynx is always sudden, and comes as a new attack, and not by extension of the diphtheritic process.
- (5) The larynx becomes involved in about four per cent. of cases.
- (6) Every case complicated with uræmia had post-diphtheritic paralysis.
- (7) Laryngeal involvement is most to be dreaded between the ages of three and five.
- (8) Intubation and tracheotomy will become less and less necessary as the value of antitoxin is recognized.

In discussing treatment, he says:—

- (1) The first thing noticed after using antitoxin is a reaction, an immediate effect, showing that antitoxin is a powerful agent.
- (2) In every case in which I administered antitoxin in the proper dose, the membrane disappeared inside of three days. Without its use, while I have seen patients get well in the same length of time, yet the majority of cases lasted from ten to fourteen days.
- (3) In all cases in which I employed antitoxin in the beginning, the larynx did not become involved, and uræmia did not occur, while in cases treated without antitoxin the larynx became involved frequently, and uræmia also followed.
- (4) In cases in which the membrane involved the larynx, trachea, and even the bronchial tubes, recovery followed when treated with antitoxin, while the same class of cases before the use of antitoxin always resulted fatally.
- (5) Neglected cases, complicated with septicæmia and laryngeal involvement, do not recover with any treatment.
- (6) In severe cases of dyspnoea, with occasional cyanosis, the use of antitoxin and emetics has obviated the necessity for tracheotomy.
- (7) Measles as a complication is no bar to the use of antitoxin.
- (8) In laryngeal cases, complicated with uræmia or nephritis, antitoxin was followed by favourable results, thus proving that uræmia and nephritis are not necessarily contra-indications to the use of that agent.
- (4) As paralysis was seen to follow only the cases of long duration, those in which antitoxin was administered early were not followed by paralysis. Of those in which it was given on the second or third day, it occurred in about eight per cent. From this it follows that antitoxin does not prevent paralysis, except indirectly by cutting short the disease.
- (10) Place of injection, behind the scapula. No abscess or other bad result followed

(152) POST-PARTUM HAEMORRHAGE: ITS PREVENTION AND TREATMENT.

E. Davis (*New York Med. Jour.*, January 13th) says the chief causes are local and general exhaustion. Less common are genital lacerations, blood diseases, and placental adhesions. Prophylactic treatment should always be carried out. Each case of pregnancy should have individual attention, and tonics given if necessary, the woman being scientifically prepared for her "labour." During labour, in its first stage, the patient should have plenty of liquid food, and loss of sleep should be specially avoided. To prevent it, chloral hydrate gr. x should be given every three hours. Sometimes am. bromide grain xx or trional gr. x will give better results. In the second stage "posture" is of primary importance. If it is instrumental the writer always prefers ether as the anæsthetic, and slightly continues it during the third stage, in order to repair any lacerations. Tears in the anterior vaginal wall near the urethra frequently cause hæmorrhage, which becomes worse from pressure of vaginal tampons. On recovery from the anæsthetic, ergot should be given. The pressure on the uterus should be exerted only upon the anterior and posterior walls, and not at the fundus. If there is danger from relaxation, $\frac{1}{30}$ gr. of strychnine should be administered and a rectal injection of freshly made coffee. For after-compression of the uterus three towels made into firm rolls 8 inches long and 3 inches diameter may be applied under the binder. The uterus is brought well down and forward, and one roll is placed above and one on either side of it. The strychnine may be repeated if relaxation continues. During actual hæmorrhage the writer employs hot saline injections 104° F. to 110° F. and packs the uterus with gauze. After 24 to 36 hours the gauze is removed and the uterine cavity douched with salt solution. Ergot \mathfrak{m}_{xx} and strychnine sulphate $\frac{1}{40}$ gr. are given six hours for several days. The writer always in writing instructs his obstetric nurses to massage the uterus, administer a douche of two quarts of previously boiled water at 110° F., and give two teaspoonfuls of ergot (fluid extract) directly profuse hæmorrhage occurs and until he arrives. —*Brit. Med. Jour.*

(92) LABOUR COMPLICATIONS AFTER VAGINAL FIXATION.

Rühl (*Cent. f. Gyn.*, 1899, No. 51) calls attention to the severe labour complications which may follow both vaginal fixation of the uterus and ventri-fixation. The predisposition is greatest in the vaginal operation when the top of the uterine body is fixed to the anterior vaginal wall; and in the abdominal operation, when the fundus itself is immovably fixed close above the symphysis. The obstruction to labour may be so serious that although the pelvis be of normal dimensions, Cæsarean section may be required. In passing he calls attention to the fact that Cæsarean section, when performed for this cause, has been attended with a very high mortality, amounting to 50 per cent. In a normal pregnancy at the fortieth week the long axis of the uterus lies exactly at right angles to

the plane of the pelvic inlet. In the pathological conditions under consideration the fundus is fixed much lower than it should be, whilst the cervix is drawn up and retroposed, with the result that the uterine axis may make an angle of only about 40° with the plane of the inlet. When the uterine contractions occur under these conditions, the tendency is for the presenting part of the child to be driven backwards against the sacrum, instead of downwards and backwards in the pelvic axis. The cervix may be drawn so far up and back as to lie above the level of the sacral promontory, and the true pelvis may be bridged over by the anterior wall of the uterus and vagina in such a way as to leave between the anterior lip of the cervix and the sacrum no room for the passage of the child or for the manipulations necessary for artificial delivery. In these cases the author advocates an anterior utero-vaginal section, consisting of an incision passing through the anterior lip of the cervix, the anterior uterine wall and vagina. Special care is needed to avoid injury to the bladder. As much natural dilatation of the cervix as possible should be obtained before making the incision.

THE EXTIRPATION OF THE SEPTIC PUERPERAL UTERUS.

Prochownick (*Monatschrift für Geburtshilfe und Gynakologie*, Band ix., Heft 6) contributes a very interesting paper upon this subject. He draws attention to the fact that mortality of the puerperal state has not been lessened as greatly as was hoped when antiseptic precautions began to be taken in labor. He estimates that in Germany from three to four thousand deaths occur yearly from puerperal septic infection, and from eight to ten thousand cases in which death does not occur, but in which the patient's health is more or less damaged. He has found the treatment by serum useless, and has given attention to the problem of finding out when the septic puerperal uterus should be extirpated.

It is evident that this serious procedure is justifiable only when it is positively known that the uterus is the site of the infection, when other means have been employed without result, and when the patient is evidently getting worse. He calls especial attention to the importance of studying each case during the first two days of the puerperal period without disturbing the patient by long examinations. Each puerperal patient who has fever should be kept as quiet, as clean, and as comfortable as possible. The pulse, temperature, and respiration should be carefully recorded every four or six hours. Especial importance is attached to the condition of the pulse. The intestine should be emptied once in the most thorough manner possible. The patient should be once examined very carefully and thoroughly. If the pulse reaches 100, the heart, the lungs, and the spleen should be examined thoroughly, and the urine should be taken by catheter and subjected to examination, and the lower portion of the birth-canal should also be examined. Lacerations, either closed or without suture, and fissures in the perineum and vagina should be thoroughly examined. If no focus or infection is found, and the pulse does not exceed 100, no further examination of the birth canal should be made.

When the patient's condition is serious, and she has chills, high fever, a small and rapid pulse, the vagina should be douched with warm, sterile water, and some of the lochial discharged should be taken from the cervix. A careful bimanual examination should also be made. These measures, however, can rarely be carried out satisfactorily in private practice, and it is evident that some other method giving positive information is very desirable.

For some time the writer has practised the regular examination in such cases by taking cultures of the blood. The region of the elbow and the forearm are antiseptically prepared, and with a sterile syringe ten cm. of blood is taken from a vein, and a portion of it mixed with sterile bouillon, and the remainder placed in a sterile glass as soon as possible. Cultures are made from this blood and incubated, and in from twelve to twenty-four hours the results may be obtained. In his experience a fatal result has occurred in each case in which streptococci were evidently present in the blood. When, however, the blood was free from germs, all of the patients recovered but two, who perished from purulent peritonitis occasioned by streptococcus invasion through laceration in the vagina and crevix. When, however, it was impossible to remove suppurating decidua or pieces of placenta or moles, or when after labor myoma had become infected, and when the patient had a small and rapid pulse and distensions of the uterus and abdomen, the cultures from the blood were positive and the cases demanded the removal of the uterus. Cases of incomplete abortion furnished many of these patients.

He also raises the question as to whether the removal of the uterus is not more appropriate in cases where rapid absorption of toxins is going on from the uterus rather than where virulent bacteria are found within the blood. While this query is difficult to answer, he draws attention to the fact that a negative culture from the blood in a severe case shows that typical pyæmia is not present, but does not make sure a favorable result. This method of examination is especially useful in preventing useless and harmful local interference. It especially justifies the absolute rest treatment employed in the first days of a septic case. When the cultures of the blood remain negative the uterus should be cleansed and douched with fifty per cent. alcohol, and should improvement not follow, its extirpation must then be seriously considered.

The writer sums up his experience by stating that he cannot decide upon extirpation of the uterus from the results of examination of matter taken from the vagina or uterus, but that he considers the examination of the blood of far more importance. If pyæmia is present, complicated with tumors in the pelvis, suppurating portions of the ovum or septic criminal abortion, extirpation of the uterus is not indicated, because it can rarely save the patient. If, however, it is evident that the uterus alone is pyæmic, and that these complications are not present, then the removal of the uterus may be followed by a good result.—*American Journal of the Medical Sciences.*

THERAPEUTICS.

FOR THE SWEATING OF TUBERCULOSIS.—*Riforma medica* for September 5th attributes the following to Siefert:

R.	Agaricine.....	7½ grains;
	Dover's powder	113½ "
	Powdered mallow, } of each	60 "
	Mucilage,	

M. Make one hundred pills. From one to two to be taken in the evening.

INCONTINENCE OF URINE IN ELDERLY OR NERVOUS WOMEN.—The *Cincinnati Lancet-Clinic* for November 4th quotes the following from the *Medical Press and Circular*: When there is a frequent desire to pass water, or it runs away in the act of coughing, sneezing or laughing, it is generally due to the want of power in the vesical sphincter. In such cases tincture of cantharides will be found of the greatest service if given in small doses of one minim in water three or four times daily. —

TO PREVENT THE LOOSENING OF TEETH.—When it is desirable to counteract a tendency to this condition the following mouth wash is recommended:

R.	Ac. tannici.....	8	(ʒii.)
	Tinct. iodi	4	(ʒi.)
	Potassii iodidi	1	(gr. xv.)
	Tinc. myrrhæ	5	(ʒlts. lxxx.)
	Aq. rosæ.....	180	(ʒvi.)

M. Sig.: A teaspoonful in water to rinse mouth every two hours.—*Healthy Home*.

FOR HÆMOPTYSIS.—For syphilitic hæmoptysis, give mercury, the following prescription being recommended:

R.	Strychnine sulphate.....	1 gr.
	Corrosive sublimate.....	1 gr.
	Pepsin	30 gr.
	Powdered licorice root.....	q. s.

Divide into 32 capsules.

Dose: One capsule every 4 hours.

The green iodide, potassium iodide, and syrup of hydriodic acid may also be given.

For rheumatic hæmoptysis, the salicylate of sodium is the one remedy.—*Charlotte Medical Journal*.

OINTMENT FOR HÆMORRHOIDS.—Nehigan (*Therapist*) prescribes the following ointment for hæmorrhoids:

R.	Compound tincture of camphor.....	4	(ʒi.)
	Camphor.....	4	(ʒi.)
	Belladonna ointment.....	60	(ʒii.)

M. To be applied directly to the painful part.

PALATABLE EFFERVESCING QUININE :

R. Quininæ sulphatis.....	4	| (̄i.) (̄iiss.)
Acidi citrici.....	10	
Syrup simplicis.....		
Syrupi aurantii cort.....	āā 1	| (xv.) (̄vi.)
Aquæ destillati.....	q.s.ad.20	

M. Sig.: Add ten or more drops to about 50 grms. of water, in which 0.3 grm. of bicarbonate sodium has previously been dissolved, and drink while effervescing.—*Ibid.*

ATROPINE IN SEROUS DIARRHŒA OF NURSINGS.—The *Riforma Medica* gives the following :

R. Sulphate of atropine.....	1̄ of a gr.
Distilled water.....	450 grs.

M. From 1 to 3 drops may be given, but the general condition must be closely watched, and 3 drops must not be excluded.—*Ibid.*

Would Surgery Suffer if Iodoform was Abolished

E. C. Brush, in the *Journal of the American Medical Association* of December 16, 1899, sets out to answer the above question. He says the use of iodoform is on the wane, and he desires to further restrict its use. Accordingly, a large number of letters were sent to various surgical clinics asking certain questions relative to the value of iodoform and the frequency of its use. The first of these was, "What germicidal powder do you prefer?" Of the eighty-four replying, twenty-seven used iodoform, twenty-four used no powder of any kind, twelve used borac acid, and eight used aristol. The remaining thirteen used acetanilid, nosophen, iodol, etc. To the question, "Have you seen any bad effects from using iodoform?" seventy-three reported that they had seen bad effects, and eleven had not. Four of the eleven had seen no bad effects because they had not used the drug. Thirty-seven thought that the drug could be abolished without any detriment to surgery, and forty seven believed that the detriment would be in a general way; twelve limited the loss to the treatment of surgical tuberculosis, and eight considered the loss to be only when it is used in connection with the manufacture of surgical dressings and in specific cases.—*Medicine.*

Antiseptic Purification of the Meatus and Adjacent Parts.

Prof. Urban Pritchard (*Journal of Laryngology, Rhinology and Otology*, March, 1900) describes in detail the method worked out by Mr. Arthur Cheatte and himself. This purification treatment is especially adapted to the following cases :

1. When the membrane tympani is intact, and there is no suppuration. Here its use renders the surfaces of the meatus aseptic, and so allows the surgeon to operate on growths on the walls, or to open into the tympanic cavity without infecting the deeper parts.

2. When suppuration and perforation of the membrane tympani already exists, either (a) where operations, such as the removal of polypi, granulations, or necrosis, are required, or the curetting of carious spots; or (b) chronic otorrhoea.

In suppurative cases, absolutely scientific asepsis is not possible, or essential, for if we can reduce the dose of septic poison sufficiently, the natural sterilizing power of the tissue will exert itself.

In the first class of cases, an hour or so before operating, the meatus is syringed with a 1 in 40 carbolic solution, and then mopped out with 1 in 20, and the whole aurich scrubbed with the same. A strip of double eganide gauze well wrung out in 1 in 20, and twisted into a loose cord is lightly packed into the meatus, and a pad of similar gauze applied firmly over the whole article. This gauze is used in the after dressing, and any syringing required is done with 1 in 40 carbolic solution.

In the second class of cases, (a) the canal is syringed out with 1 in 40 once or twice a day for a week previous to the operation, and afterwards if necessary. If the case be very septic, as in caries, the strip of gauze should be dipped 1 in 20 and tipped with powdered iodoform, made into a paste with the same strength of solution. This tip of gauze is removed daily, and a solution of 1 in 40 used to syringe the ear.

Granulation and polypi operated on in this way, especially if the carious surface is also curetted, yield excellent results. Frequently the whole discharge ceases from the time of the operation, and the whole heals within a week or ten days.

In (b) the ear is to be purified as above, using iodoform if the discharge is very offensive. The strip of gauze should be packed down so as to fill the deeper two-thirds of the meatus, and then a second smaller piece used to fill up the remainder. This dressing is to be repeated once a day, or once in two, three or more days, as necessary, and continued for at least ten days after the discharge has ceased, and after that a light, dry piece of gauze is to be worn and changed at intervals for several weeks.

The neglected cases of chronic otorrhoea answer to this method, especially where there is a persistent fetid discharge not large in quantity, and not involving the further inaccessible parts of the attic and antrum. It is not suitable where the discharge is very abundant or when sub acute otitis is present, until these have been checked by other means.

WISHART.

THE SURGICAL AND MECHANICAL TREATMENT OF DYSMENORRHEA.¹

BY

I. S. STONE, M.D.,

Washington, D. C.

The question may be asked of physicians generally, and of gynecologists particularly, "Is dysmenorrhea treated with greater success than it was twenty-five years ago?"

If the question were asked with reference to many other disorders peculiar to women, we might with truth give an affirmative reply, for surgery has revolutionized the treatment of many of the disorders of the pelvic organs of women. An exception is therefore made, and it is the intention of your essayist to briefly mention some methods of treatment more or less in vogue, and to pass judgment upon them, which may or may not meet with the approval of this Society.

This paper will, therefore, deal chiefly with those forms of dysmenorrhea believed to be "obstructive" or to require some means of altering the shape or size of the uterine canal. The whole subject of dysmenorrhea is far too wide to be discussed in a paper like this, which must be read and considered in one short evening. We will, therefore, first consider briefly the varieties, and then some methods of affording relief. The vast number of women who suffer pain at the monthly period would almost lead us to suggest that it is the rule for women, at some time during their menstrual lives, to suffer in this way. Indeed, many very excellent observers incline to the opinion that nearly all young women do suffer inconvenience, if not severe pain, at the period. We are often, indeed almost constantly, reminded of the amount of suffering due to the menstrual function, and we must all confess how powerless we are to more than mitigate its severity in most cases. We have every reason to believe that a very large proportion of our young women who are students of high schools, academies, and colleges do suffer greatly from dysmenorrhea, so much so that they frequently lose one, two or three days from their duties each month. No other proof of this statement is wanted than the well-known professional belief that all young women students would have better health could they be relieved of work during the menstrual period. But we have no time to consider this part of the subject, further than to note the influence of modern educational methods and of social customs upon the development of this now almost universal disease. As neurasthenia is becoming so prevalent, so is dysmenorrhea likewise almost always present in neurasthenic women who menstruate. But, aside from these neurasthenic cases, there are many cases of dysmenorrhea which appear to be due to some other cause than a neurosis. Authors divide these cases into constitutional and local, but for this evening we will only discuss those cases we believe to be due to some form of obstruction.

¹ Read before the Washington Obstetrical and Gynecological Society November 17, 1899.

Symptoms.—The symptoms of obstructive dysmenorrhea are not classical nor even constant. We sometimes see women suffer greatly with bearing down pains, like those due to the expulsion of an ovum, yet such cases do not always prove to have large, or even any, accumulation within the body of the uterus. The pain is then often "expulsive," and out of proportion in severity to the size of the clot or membrane or amount of blood expelled.

Again, these cases having expulsive or bearing-down pains do not always have stenosis. The flexion, if present, is not always marked, and if there is a slight stenosis the uterine sound will easily enter through the internal os. We often see quite as much or perhaps more pain in those cases having a small ("infantile") uterus and scanty flow. We have, therefore, some difficulty in reaching a decision in any case, even with the aid of bimanual examination under anesthesia, as to the cause of pain. The symptoms usually presented in girls and young women, although expressive of great local pain, often are accompanied by backache, cephalalgia and other reflex or constitutional disturbances, all adding to the difficulty of making a diagnosis and of affording prompt and permanent relief. (It is generally supposed by the profession that real obstruction, due to a stenosed cervix, causes a retention of a considerable quantity of menstrual blood within the uterus, that this retained blood causes uterine colic, etc. In may be expelled in quantity, as with a powerful uterine contraction, or slowly, drop by drop, after softening and dilatation of the cervix is sufficiently accomplished. It has not been my good fortune to meet with a single instance of this kind where dysmenorrhea was the only, or even the chief, symptom. Obviously, these cases give rise to hematometra and similar conditions, which are not infrequently seen and treated by every gynecologist.)

Let us, then, in view of these rather serious hindrances to a clear and easy diagnosis, suggest, as far as possible, only medical, or at least no surgical, methods in the treatment of young and undeveloped women. It is my great desire to protect the young women, especially virgins under 21 years of age, from examinations, and especially from instrumental or so-called surgical treatment of dysmenorrhea. We must, in rare instances, make these examinations of young women, and, as generally suggested, rectal examinations will reveal all that is necessary or desirable to learn of the virgin pelvic organs.

In the absence of pelvic infection or severe displacements, it must be exceptional that we need resort to surgical intervention for the relief of dysmenorrhea. Personally, I wish to enter a protest against the common practice of regarding these slight malpositions of the uterus as the cause of dysmenorrhea. There is often a cause elsewhere than in the uterus itself, and it is our duty to ascertain this cause and remove it, as far as possible. We will also accidentally find many cases of displaced uteri which have never given their possessors any pain.

Excluding the young, undeveloped woman, and all others having constitutional or other general or local causes for dysmenorrhea, we will find occasionally a sufferer from what we believe to be congenital or acquired obstruction or stenosis. This obstruction may, in rare instances, be due to malposition of the uterus, its body or neck, or to traumatism, etc. How shall we treat such cases?

First exclude other pelvic mischief, such as results of tubercular or other infection of any of the pelvic structures. In every case which has resisted the usual medical treatment, the consultant or specialist should make an examination under anesthesia. The uterine sound has probably been passed and the specialist will probably be told that it passes with difficulty. However, we recommend as of the utmost importance this administration of anesthesia in all chronic or persistent cases. It is unnecessary to say this here, for we all recognize the value of the information to be gained and the possible advantages which may accrue to the patient. We often find prolapsed and adherent ovaries and Fallopian tubes where such a condition has not been suspected. It is our duty to release these imprisoned organs. Some will accomplish this by massage, and with gradual and methodical, not to say patient and persistent, effort accomplish what may be done at one sitting. By this I do not wish to say that massage is not to be used, but we are not speaking of the massage treatment of pelvic disease at the present time. If the uterus is strongly flexed, repeated replacement, or even massage as suggested by Dr. Dudley, of Chicago, may be tried, but we have no positive evidence that the result of such efforts warrants any hope of important or even partial relief.

The mechanical relief of dysmenorrhea would include the application of pessaries in those cases where a displacement appears to be the cause of pain. My belief is that relief is not often afforded if the pain is due to alteration in shape or size of the uterine canal. Not so with "congestive" cases, however, or in those having a degree of prolapse, for these are often relieved. Given a case of real stenosis, which only admits a small sound or probe, and which, in our opinion, barely permits the escape of the menstrual flow, what is the best, safest, and speediest method of cure, if there be a cure known to the profession short of sacrificial surgery? Pages might be written on the treatment of stenosis by intrauterine stem pessaries, etc. The diversity of opinion now existing in the medical mind proves how uncertain is the relief afforded by these and similar devices. Some authors, speaking with force and great authority, suggest divulsion, curettage, and packing with gauze in about all of these cases. They see *endometritis* at the bottom of each case.

It is doubtful if any uterus was ever cured of a flexion by a stem pessary, unless inflammatory changes induced by its presence helped to maintain the organ in position. (It must not be forgotten that, in nearly every case of flexion of the uterus, the body of the uterus itself has undergone changes at the flexure, due to defective circulation, pressure, atrophy, etc. Dysmenorrhea may be due to these changes in the muscles of the uterus as well as to those of the mucous membrane. Obviously, the routine, divulsion, curettage, or even use of intrauterine stem, must fail to cure such cases.)

In ante flexion we have other resources to suggest than the use of stem pessaries, while in retroflexion or retroversion, of surgery, it may be said, very little is left to be desired to at least overcome the displacement.

In mild cases of stenosis of the internal os we have, in some instances benefited patients by dilatation and insertion of Outerbridge's silver wire speculum stem, which permits drainage and prevents the return of the os

to its former size. But even with this in position and an easy escape of blood provided, we may find that some other cause must be found to explain the great pain experienced by the patient. It is, however, a useful instrument, and can be used with less danger than the large hard-rubber stem.

The writer believes that, while forcible divulsion in some rare instances may relieve dysmenorrhea, it is an operation of great danger and ought to be done by experienced physicians only, who will know how to care for the patient in case of accident. We say this with knowledge and speaking after many observations of permanent damage done to patients previously free from organic disease. We do not believe competent men do the greater number of these operations, but we do know, from many statements of patients and physicians, that this and many so-called minor operations are done by incompetent and ill-advised parties, who promise no danger to their patients, while in numerous instances the train of woe resulting is a long one, and a sad one too.

NOTE.—Bland Sutton calls attention to the fact that we must estimate the size of an internal os as we withdraw the sound, because of obvious difficulties in entering the cavity.

Excepting operations requiring removal of intrauterine growths, the writer has not divulsed a uterus for several years. He believes the operation generally unnecessary, and he knows it is the rule for "divulsion" to be rarely of permanent benefit. If any one thinks, by extreme nerve pressure produced in this way, he can relieve pain in a sensitive cervix, all well; but there should be little need of extreme laceration of muscular or even of mucous tissues. Gradual dilatation with steel sounds or small dilator, just before a monthly period, occasionally does lessen the pain, although there is no great amount of stenosis present; but this does not continue, and unless we use this tentatively, or during the months required to restore the patient's general health, we fail to provide permanent relief. Slight dilatation does, however, suffice in some instances to indicate the kind of treatment required.

With reference to the utility of "discission," our limited experience does not suffice to furnish an opinion. We have rarely though such an operation indicated and have consented to its performance only a few times. Slight incision of the external os uteri is, however, occasionally required, and if the canal is kept open by an Outerbridge wire speculum or continued packing with gauze, some relief may be obtained. The writer has performed these operations more for the relief of sterility than for dysmenorrhea.

Divulsion of the cervix was first practised and taught by Sir James Simpson, who used the bilateral incision. Sims gave the weight of his opinion in favor of antero-posterior incision, and, as all know, cut the anterior wall as well as the posterior lip when necessary in acute ante-flexion. But even in my very limited experience the operation has repeatedly failed, and, without mentioning its failure to cure at the time of operation, its object is not obtained, for both incisions generally rennitate and the final effect of the operation is *nil*.

Dr. Skene favors an operation upon the anterior vaginal wall intended to straighten the flexed uterus, but the writer is not convinced of

its efficacy for the relief of pain. Finally, we must consider Dudley's modification of Sim's operation, and we take pleasure in noting its chief merit—namely, *that the canal of the uterus can be made to stay open*, a desideratum beyond the reach of all other operations which do not produce excessive traumatism.

The writer has practised Dudley's operation in two instances. One of these cases occurred in a young, single woman, age 33, who had been treated by one of our best physicians for at least ten years without relief. She had the typical symptoms of obstructive dysmenorrhea, with acute ante flexion, but also had the neurotic type of the disease. It was a matter of opinion which was *post hoc* or which was *propter hoc*. The smallest sound could with difficulty be introduced into the cavity of the uterus. Her uterus had been dilated many times, and she experienced some relief from this during the first twenty-four or thirty-six hours of her flow, usually the time of her greatest pain.

It was decided to try Dudley's operation for the relief of the stenosis. The posterior lip and lower third of her uterus was thoroughly divided until a large (No. 16) sound easily entered the cavity of the body of the organ. Then the incised posterior lip was sutured into the angle of the incision, high up, so that very little raw surface was left, and at the same time presenting a future closure of the canal by granulation. The relief was not important at the next succeeding period, but this was due to the very nervous condition of the patient, for each period has been attended with diminished pain and the patient is very glad the operation was performed. Another case gave indefinite results at first, but is now in greatly improved health and her dysmenorrhea is better. Both these cases are perfect results so far as the operation is concerned, because a No. 12 or 15 sound easily enters; but the patients must be cured of the "neurotic habit" before a full and complete recovery is secured.

Conclusions.—1. A large majority of cases of dysmenorrhea occur in neurasthenic or neurotic women, and operative treatment alone will not effect a cure.

2. Dysmenorrhea due to flexion is not cured by the use of the intrauterine stem, for at best the uterus is kept straight only while the stem is in position.

3. The practice of divulsing the uteri of virgins under 21 years of age, or before maturity and complete development of the organ, is generally to be condemned.

4. Dysmenorrhea due to actual obstruction or stenosis is rare, and if present we frequently find that one or more ineffective operations have been done.

5. Dudley's modification of Sims' operation appears to promise good results, as it insures a large cervical canal which cannot be closed by cicatricial contraction. But this operation is only indicated in cases of stricture (stenosis) of the canal, or else in those rare cases where an ante flexion of high degree prevents the escape of the menstrual flow.—*Am. Jour. of Obstetrics.*

SOCIETY REPORTS.

TORONTO CLINICAL SOCIETY.

Stated meeting, May 2nd, 1900.

ELECTION OF OFFICERS:—President, Dr. W. H. B. Aikins; vice-president, Dr. Geo. A. Peters; corresponding secretary, Dr. A. A. Small; recording secretary, Dr. George Elliott; treasurer, Dr. W. H. Pepler; executive committee, Drs. Anderson, Hamilton, Dwyer, Silverthorn and Parsons.

TUBERCULAR TESTICLE, VAS DEFERENS AND VESICULA SEMINALIS REMOVED BY OPERATION.

GONNORHOEAL VESICULA SEMINALIS REMOVED BY OPERATION.

Dr. George A. Peters presented these specimens, described the conditions present, the operations and the results. From the first patient was exhibited a testicle, a vesicula seminalis and corresponding vas deferens; from the other both vesiculæ seminales. The first was undoubtedly tubercular; the second not tubercular. In the second, the man denied the history of gonorrhoea, although no other source of the condition could be deduced. The surgeon described the symptoms present, the difficulties of the operation and the final results, which were good in both cases.

TRAUMATIC ORIGIN OF CANCER.—Dr. Wm. Britton introduced this subject. Between two and three years ago, a commercial traveller was returning to his home in this city, carrying in either hand a heavy valise. As he was nearing his house he slipped, but recovered himself before falling to the ground. He entered his house suffering from a certain amount of shock and declined to partake of any supper. He stayed at home a few days and returned to his business but did not feel himself. Early in January (he was injured about the middle of December), he started for a trip to the Maritime provinces. He returned about the middle of February and consulted a physician of this city. An exploratory incision was deemed advisable, and it was then found that the man was suffering from extensive cancer of the liver. The incision was closed and in a few days thereafter the man died. He carried an accident insurance policy for \$5,000, and the Company declining to pay the policy, action was brought to recover the same. The case excited considerable interest amongst the medical men retained to give expert evidence. Dr. Britton stated he had come to a decided conclusion that the injury did not cause the cancer, but the others on the other side were just as positive that the injury did cause the cancer. Dr. Britton discussed at considerable length the causes of cancer of the liver and the bearing this accident had on the disease of this case.

Dr. H. B. Anderson, who performed the post mortem examination, stated that he found a solitary mass in the head of the pancreas, and innumerable nodules throughout the liver. The only part of the liver free from the disease was that part of the organ most closely in relationship

to the surface where the alleged injury was said to occur. Dr. Anderson stated that instances of primary cancer in the liver were exceedingly rare, though he had seen one case; and if it were likely to be due to injury, one would expect primary cancer of the liver to be more frequent, as the liver is an organ exposed to injury. He thought the likelihood of cancer of the head of the pancreas being due to injury was exceedingly limited; and in this case the fact that the part of the liver in direct relation to the site of the injury, was entirely free from any disease, precluded the possibility of the disease being here due to traumatism.

From the point of view of a pathologist the case presented no difficulties, and in the post mortem room, no one would question its being an ordinary case of primary cancer in the head of the pancreas with secondary nodules in the liver.

Dr. George A. Peters discussed the case from the other standpoint, and showed how a lawyer might be able to pin the medical expert down to traumatism as a cause of the condition present. From a clinical standpoint he did not doubt that the case was one of primary cancer of the head of the pancreas with secondary nodules in the liver, and that the condition was present at the time of the injury, but from a medico-legal standpoint doubt could be thrown on this view.

Dr. Nattress, the medical referee of the Insurance Company gave the precise dates of the injury, medical attendance, operation and death. He also stated that a provincial physician had diagnosed the man's condition as one of cancer of the liver months before the supposed injury.

Dr. Theo. Coleman read general observations upon the origin of cancer and the present day theories of the cause of the disease.

The result of the case was a non-suit.

VOTE OF THANKS.—Dr. George A. Peters moved, seconded by Dr. Herbert Bruce, that the retiring president be accorded a hearty vote of thanks for his efficient services during the past year.

Dr. W. Britton in the chair, presented this to Dr. Bingham, who made a suitable reply in acknowledgement.

One of the most successful years in the history of the Society closed with the usual refreshments.

GEORGE ELLIOTT,
Recording Secretary.

CASE REPORTS.

A CASE OF ACUTE MORBUS COXAE MASKED BY COEXISTING ACUTE ARTICULAR RHEUMATISM.

By James Gow, M.B., Intern Physician, Hospital for Sick Children.

On Wednesday March 6th, Wesley H., a lad of 8 years was brought to the out door department of the Hospital for Sick Children, for treatment. He complained of acute pain in left knee.

He was seen and examined by the physician in charge who made a diagnosis of acute rheumatism and ordered him to be admitted to the wards. He was placed under the care of Dr. J. T. Fotheringham, and the case treated as one of acute rheumatism.

The history as obtained is as follows :

The child was convalescing nicely from an attack of measles when on Monday the 4th he got his feet wet. That evening his left knee became greatly swollen and inflamed, rendering walking or any movement at the joint impossible. He remained in bed the next day and on Wednesday no improvement being noticed he was brought to the Hospital.

The knee on examination seemed slightly swollen, was not reddened specially, was very painful and hotter than its fellow of the opposite side ; no other joints were involved.

The general examination revealed nothing abnormal except a blowing murmur systolic in rhythm, heard over the mitral area, and at apex of heart and transmitted towards left axilla. This was thought to be the result of an old endocarditis. Two days after admission patient's right ankle became affected and presented much the same signs and symptoms as left knee. Several days later the right hip also became involved.

The temperature in the early stages was very greatly elevated and on the 9th inst reached 105° F. The evening temperature was always 2° to 3° above that of the morning. Nocturnal delirium and great irritability were specially well marked features.

Under treatment the condition slowly improved and on the 16th inst. temperature reached normal. It did not remain so however but again rose, and remained about 99° in morning and 102° - 3° in afternoon. Pain localized especially to the left knee also remained.

From the septic looking chart it was thought that some other trouble besides Rheumatism must be present, probably osteomyelitis, and as the boy was extremely intolerant of manipulation, an examination under chloroform was deemed advisable.

On March 25th an anaesthetic was administered and an examination of all the joints was made by Dr. G. A. Bingham, at Dr. Fotheringham's request. It was found that the left hip was held very rigidly by the muscles surrounding the joint and no movement was allowed at all. All the other joints seemed to have cleared up nicely. The trouble in the hip was thought to be tubercular, and treatment suitable for the relief of this condition was at once begun. Absolute rest in bed was enforced and 5 lb. extension was applied to leg.

A very striking change followed. In about twenty-four hours the pain disappeared, temperature fell to normal and the great irritability which had especially marked the case was no longer present.

From the history the case is undoubtedly one in which patient suffered from a double onset of acute attack of rheumatism and tuberculous hip and is very interesting on that account. The endocarditis suggests at least a previous attack of rheumatism and the trouble in right hip and ankle and signs of acute trouble in left knee are I think inexplicable unless the idea of an attack of Rheumatism is entertained.

The diagnosis of hip disease was only made after recourse had been had to an anaesthetic—the marked irritability and pain rendering an examination which necessitated movements of the joints impossible.

Exhaustive enquiries as to previous signs of hip trouble were negative—and no history of tuberculosis in the family could be obtained. The following special features may be noted.

1.—The onset of two totally different acute diseases at the same time.

2.—The great value of an anaesthetic to confirm or aid diagnosis.

3.—The wonderful abatement in symptoms following proper treatment.

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EDITORIAL.

OXYGEN INHALATION AS A THERAPEUTIC AGENT.

The recent prevalence of a serious type of pneumonia in the community has brought this subject prominently before the profession, and at the last meeting of the Toronto Medical Society a discussion took place in reference to the value of oxygen as a remedial agent. The consensus of opinion of the members present, based on their experience of its use went to show that in properly selected cases, the inhalation of pure oxygen gas was a valuable adjunct to the usual measures adopted in treatment.

Dr. A. H. Smith, of New York, in 1860, was the first to direct the attention of the profession in this country to the value of oxygen in practical therapeutics, and since that time it has been used to a considerable extent, especially in the treatment of pulmonary diseases, attended by dyspnoea. Dr. Smith showed experimentally that the inhalation of even pure oxygen was quite harmless, and that by increasing the proportion of the gas in the inspired air, animals could be kept alive indefinitely with degrees of tracheal obstruction that would have proved immediately fatal if ordinary air alone were used. These experiments suggested the conditions

in which oxygen has its greatest therapeutic value, viz., where there is interference with the *entrance* of air to the lungs, the pulmonary alveoli, and consequently the respiratory surface remaining normal. As he points out, ordinary respiration requires that a normal amount of oxygen be brought in contact with a normal quantity of blood. If a partial obstruction lessens the amount of air entering the lungs, this deficiency can be remedied by a corresponding increase in the proportion of oxygen in the air inspired. Where there is consolidation of pulmonary tissue and a consequent lessening of the respiratory surface, however, the conditions are entirely different. The blood will only take up a certain proportion of oxygen, so when the quantity of blood exposed to the air in the alveoli is lessened, as in pneumonia, this cannot be compensated for by supplying a greater amount of oxygen to the healthy portions of the lungs. As Dr. Smith says "we possess the means of remedying to a certain extent a deficiency of air, since we can make a reduced volume contain the full amount of oxygen. But we have no power to act in a corresponding way upon the blood, for it cannot be made to take up an excess of oxygen in one part to compensate for a deficiency in another."

The practical application of these considerations to the treatment of disease shows that they are well borne out by clinical results. In the dyspnoea of membranous croup, resulting from obstruction, oxygen inhalations act promptly and efficiently. The same is true of bronchitis, where the obstruction in the larger or smaller tubes is not complete, and the alveoli are normal. In croupous pneumonia and more especially in broncho-pneumonia, a certain amount of benefit will be derived from the fact that in addition to the actual consolidation, there is always a considerable amount of bronchitis and oedema in other portions of the lungs. But in these diseases the chief value of oxygen is said to be that by arterializing the blood in the unconsolidated portions, it facilitates the sluggish circulation, relieves the embarrassment of the right heart and thus obviates a common cause of death from asystole. For these reasons, in severe cases it should be resorted to early, before marked interference with the pulmonary circulation occurs, as little benefit can be expected with a failing circulation. The dyspnoea of spasmodic asthma is often greatly relieved by the inhalation of oxygen, and it is obviously indicated in cases of emphysema, chloroform narcosis, and asphyxia from different causes, as well as in diseases characterized by deficient oxidation and consequent fatty degenerations in different organs of the body, as in the various forms of anaemia, leukaemia, and pulmonary tuberculosis.

There seems little rational explanation for its employment in cases of diabetes, uraemia, gastralgia, dyspepsia, etc., though some claim to have

seen benefit follow its use. While oxygen is by no means the cure-all in disease that it has frequently been vaunted as being, still it must be considered in many cases to meet urgent indications in treatment.

ANTI-VACCINATION IN ONTARIO.

During the smallpox scare in Toronto a short time ago, as the result of the outbreak of the disease in different parts of the Province, wholesale vaccination of school children and others was resorted to at the public expense. The mayor, according to reports in the public press, at a meeting of the city council, took exception to the account for vaccine, and gave vent to a tirade against compulsory vaccination, expressing the hope that the obligatory laws enforcing it would soon be repealed. It is unfortunate that persons holding prominent public positions should not have sufficient good sense to keep silence in reference to matters about which they know nothing, but it would too often appear that the greater the lack of knowledge of the subject in question the more violent and positive are the statements made concerning it. Worthless as such opinions are in influencing those who know, they still have their ill effect in stirring up the unreasoning opposition of the ignorant, so that much harm often results.

A few weeks later a deputation consisting of a few homœopaths, a woman physician and some other ladies, waited on the Provincial Government to urge the repeal of the present vaccination laws. Here again, froth and violence of language took the place of argument and reason. With ignorance that would discredit a Kaffir they denounced vaccination as "the most colossal medical delusion in the history of the world." It is particularly edifying to see our homœopathic brethren abandoning their doctrine "similia similibus curantur," and refusing to accept the one crumb from rational medicine from which they might be expected to gain some comfort. The Premier listened to their arguments, and promised to take the matter into the limbo of his serious consideration, where, no doubt, like many another ill-considered petition, it will long remain in safe confinement, to the credit of his wisdom and the safety of the community. The beneficent results in the saving of life and suffering which have followed the discovery of the immortal Jenner are too well known to the intelligent public to allow them to countenance any such retrograde action as that proposed to the Government by this deputation. Were it not for the dire effects that would be visited on the innocent, however, it almost seems a pity that these individuals who wish to escape vaccination might not be allowed their will, that evolution might exert her untrammelled influence of selection. The anti-vaccination crusade would then work its own cure in due time.

CARE OF PAUPER INEBRIATES.

The treatment of pauper inebriates is exercising the minds of certain committees, appointed by the leading medical associations of the Dominion for the purpose of considering the best means to adopt in making an attempt to enlist the sympathy and gain the support of the Provincial Governments in satisfactorily dealing with this unfortunate class of the community.

Dr. Rosebrugh of Toronto has given much time and thought to the matter and working with representatives of the Prisoners' Aid Association and members of the committees above mentioned, he has framed a bill which during the past few months has been on several occasions placed before the Government of Ontario. They, of course, considered the matter, perhaps are at present considering it, and without doubt will continue to consider it for a long time, unless some such pressure is brought to bear upon them as to make them realize that the enactment of such legislation will prolong the life of the Government.

It is to be hoped that some means will be taken to help this unfortunate class, thus not only saving to the State many good citizens, but also a large expenditure of money required for their management. Although the scheme is new in Ontario, it is not an experiment, for it is resulting in the reclaiming of a large percentage of patients both in England and the United States where it has been tried.

D. G. G.

THE CANADIAN ARMY MEDICAL SERVICE.

The promised organization has been authorized and inaugurated by recent General Orders, and we are glad to welcome this most necessary addition to the offensive-defensive resources of the Dominion. The authorized strength of five Bearer Companies and four Field Hospitals is of course quite short of actual requirements, and will probably be soon increased. For the defence of certain strategical centres existing civil medical and surgical facilities could be utilized, and the newly created units be employed, till more are organized, in the more active duties of offensive-defensive operations in which mobility is an essential. The list of commissions in the A. M. S., published elsewhere in this issue, when compared with the Militia list, shows that seniority in rank has been respected, juniors having been in only one or two instances given steps over seniors who had elected to leave the regimental service for the staff. There is no evidence of political favouritism in the appointments, which

seem to have been made strictly departmentally. We are glad to be able to express this opinion, as charges of favouritism have been rather freely made of late in connection with the Department of Militia and Defence.

The distribution of the units at present is as follows:—

Bearer Companies.

No. 1 Company	.....	Halifax, N.S.
" 2 "	.....	Ottawa, Ont.
" 3 "	.....	Montreal, Que.
" 4 "	.....	Toronto, Ont.
" 5 "	.....	Quebec, Que.

Field Hospitals.

No. 2 Company	.....	Kingston, Ont.
" 3 "	.....	Montreal, Que.
" 4 "	.....	Toronto, Ont.
" 5 "	.....	Quebec, Que.

We may suppose that in the further organization contemplated, Hamilton, London, Winnipeg and Vancouver, are likely to be made headquarters for similar units, with others in St. John, N.B., or Halifax, N.S.

One great advantage likely to be derived from such units is that as they will be recruited at least in part from the medical students in the various centres, there will in time be available as Medical Officers for the regiments throughout the country men who will have had more specific military training than has in the past been possible for the average regimental Medical Officer. For it is a truism to say that every man who wears a uniform must be first of all a soldier, no matter what his technical duties may be in addition, in the various Departments of the Service, Pay, Engineers, Service Corps, Ordnance Dept., or what not. And admirably as the Militia have been served in the past and are now being served by their Medical Officers, we must admit that from the purely military side, improvement is to some extent possible in the case of a few at least of those who have held commissions as M. O's.

The reflex effect of this organization will probably show itself, or could be made to do so, in an increased interest on the part of the taxpayer in the Militia. Time was when the Service was looked on as disreputable, by many a decent member of the *bourgeoisie*. This has largely disappeared, the *morale* of the entire force has risen greatly, and the great influence of the medical profession upon public opinion will be more likely than ever to be exercised in favour of the purely volunteer, and in the technical sense "irregular," force which we in Canada have, all that we ever can have, and which therefore it is the duty of every good citizen to support in every possible way.

EDITORIAL NOTES

CANADIAN ARMY MEDICAL STAFF.

By a general order issued by the Department of Militia on April 30th, the following commissions have been allotted :

To be lieutenant-colonels.—Lieut.-Col. J. H. L. Neilson, Surgeon-Lieut.-Cols. C. C. Sewell, from the R.C.A. ; A. Codd, from the R.C.D. ; G. S. Ryerson, Lieut.-Col. W. Tobin, from the unattached.

To be majors.—Majors A. Worthington, A. D. Osborne, C. W. Wilson, W. Natrass, H. S. Birkett, E. E. King, C. V. Belton, J. D. Brousseau, E. Fiset, from the unattached list ; Major C. C. Jones, Surgeon-Lieut. J. T. Fotheringham, from the 2nd Battalion. The following on probation, not yet qualified :—Major J. E. March, from the unattached list ; Surgeon-Major J. H. Bell, from the retired list ; Major C. E. Elliott, J. W. Bridges, E. B. Echlin, R. H. Abbott, from the unattached list.

To be captains on probation.—Surgeon-Lieuts. J. A. Sponagle, from the 69th Battalion ; S. D. Johnson, from the 82nd Battalion ; M. McLaren, from the 62nd Battalion ; H. J. Harrison, from the 59th Battalion ; G. S. Rennie, from the 13th Battalion ; G. H. Parke, from the 8th Battalion ; A. N. Hayes, from the 27th Battalion ; H. A. Archambault, from the 65th Battalion : A. Y. Scott (late 2nd Battalion).

To be lieutenants.—Lieut. J. A. Devine, from the unattached list. The following on probation, not yet qualified :—J. Herald, O. L. Berdan, A. A. Shaffer, H. B. Anderson, W. W. Thompson, R. F. Preston, D. A. Stewart, J. A. P. McCabe, L. R. Murray, H. P. Fleming, from the unattached list ; J. A. Ross, A.M.S. ; R. Ovens, K. Cameron, J. H. Cormack, W. I. Senkler, from the unattached list ; 2nd Lieut. E. D. Farrell, A.M.S., Lieut. E. F. Gorrell, from the reserve of officers ; J. T. Clarke, H. A. Bruce, F. Fenton, J. M. Cotton, A. T. Shillington.

To be second lieutenants (supernumerary).—Lieuts. A. A. McCrimmon, H. H. Sinclair, from the unattached list ; Dr. J. O. Orr, Dr. D. W. McPherson, H. J. Hamilton, C. A. Hodgetts, G. G. Turcott, J. A. Roberts, L. Drum, D. E. Mundell, G. S. Cameron.

The following officers are allotted to medical corps units :

Bearer companies.—No. 2 Company, officer commanding, Major E. B. Echlin ; No. 3 Company, officer commanding, Major H. S. Birkett ; No. 4 Company, officer commanding, Major J. T. Fotheringham ; No. 5 Company, officer commanding, Captain G. H. Parke.

Field hospitals.—No. 2 Company, officer commanding, Major R. H. Abbott; No. 3 Company, officer commanding, Major C. W. Wilson; No. 4 Company, officer commanding, Captain A. Y. Scott; No. 5 Company, officer commanding, Major C. E. Elliott.

We understand that the recruiting to the strength of the peace footing has already begun in No. 4 Field Hospital and No. 4 Bearer Company (Toronto), so that these units will be ready to go to the camp of instruction at Niagara in June.

Trinity Medical College.

The following candidates have passed the final fellowship examinations in Trinity Medical College:—F. C. Trebilcock, 383 marks out of 450, gold medal; C. L. Taylor, 366 marks, first silver medal; J. W. Fitzgerald, 365 marks.

The following receive certificates of honor:—F. W. Marlowe and R. E. Stanley Ryerson.

The following have received seventy per cent. and upwards:—First-class honors—J. A. Newsome, J. C. Grosjean.

The following have made sixty per cent. and upwards:—Second class honors—W. H. Rennie, G. B. Jamieson, H. P. Ross, T. A. Addy, J. G. Adam, A. R. Perry, E. A. Boyd, L. B. Ashton, W. J. Boynton, W. A. McIntosh, E. O. McDonald, J. T. Elliott.

The following have passed:—E. G. Rawlinson, J. J. Walker, J. Chapple, E. K. Langrill, J. A. McClintock, J. M. Sinclair, H. Softley, A. L. Marks, J. A. Kennedy, C. W. Brand, C. E. Coke, D. C. Wilson.

Following are the names of those who have passed in the third year examinations:—A. F. Anderson, T. B. Allen, T. W. Allison, L. B. Ashton, J. B. Buell, W. C. Becker, W. T. Brown, A. E. Cantelon, T. H. Crawford, J. B. Coleridge, C. R. Elliott, F. H. Ferguson, N. H. Ferguson, J. H. Foster, C. C. Grant, R. Harrington, J. Herod, G. B. Hoops, S. Johnston, R. N. Kyles, W. H. M. Kyles, C. I. Levy, D. R. Landesborough, C. P. Lusk, J. D. Lyness, J. Moore, W. H. Marshall, H. N. MacKechnie, A. C. Malcolmson, J. W. McCormick, R. Parsons, H. C. P. Rundle, A. E. Ranney, F. T. Stainer, A. J. Schilstra, A. P. Stirrett, J. R. Thompson, R. Turnbull, A. F. Wright, R. C. Thompson, C. E. Watson, R. L. King, G. H. Burleigh, T. M. Davey, J. T. Elliott, S. J. Farrell, J. C. Grosjean, H. H. Hutchinson, L. E. W. Irving, J. A. Kennedy, E. R. Langrill, R. S. MacKechnie, W. A. McIntosh, A. R. Parry, J. M. Sinclair, C. L. Taylor, J. T. Wright.

The Silver Salts in the Treatment of Chronic Suppuration of the Middle Ear.

Gleason (*Laryngoscope*, March, 1900,) points out that the use of the silver salts in his treatment of otorrhoea has not been markedly successful, the irritating effects of the solution having overshadowed the anti-septic and astringent properties of the silver and rendered the progress slow, and where an astringent was needed diluted alcohol rendered better service.

Argonin and protargol (5% solution) have of late been used by the writer with good effect. They have been used with a hypodermic needle and a Blake's cannula, and injected as far up into the attic as possible. This was followed up by massage with Siegle's pneumatic speculum, in order if possible to force a portion of the solution into more distant parts than could be reached with the syringe.

Surgery of the Tonsil.

Under this Captain Noland (*New Albany Med. Jour.* Jan., 1900, states that the atrophied tonsil is deleterious by reason of the pressure of infection retaining follicles filled by dried, decomposing secretions. The absorption of this infectious material into the circulation is a common cause of pains formerly called growing pains. Such follicles should be cleansed, split open, and the ragged edges trimmed off.—*Laryngoscope*.

WISHART.

The McKay Bill.

Pending the promise of Premier Ross that a Bill would be introduced into the Legislature next session dealing with many points in the organization of the Provincial University, Dr. McKay withdrew the Bill introduced by him in reference to relation of existing medical teaching bodies to that institution. A committee of the Senate of the University has been appointed to consider the whole matter, so that a satisfactory solution is hoped for.

Professor Delstauche.

The death on the 27th Jan'y last of the distinguished otologist is greatly to be regretted. He was born in Brussels in 1840 and was the second son of Dr. Felix Delstauche, the first otologist in Belgium.

Educated at Bologna, he began practice in Brussels in 1865, and was medical officer of its poorest district during the terrible epidemic of cholera of 1866, exhibiting the greatest devotion. In 1871 he opened the first special clinic for diseases of the ear and nose in the hospital for poor children. Later he served in the Belgian Red Cross Ambulance in the Franco-German war. A brilliant thesis on tinnitus aurium in 1872 made

him an *agrégé* of the University of Brussels. At the otological congress held in London last year he was awarded unanimously the Lensal prize, as a testimony to the value to the suffering deaf of his numerous othotherapeutical inventions.

WISHART.

Clinical Society Dinner.

About forty members of the Toronto Clinical Society attended the annual dinner at the Albany Club on Wednesday evening, April 18th, when a very enjoyable time was spent.

PERSONAL.

Dr. Thos. C. Cullen (Tor. 90) has been appointed associate professor of Gynaecology in The Johns Hopkins University. Dr. Cullen recently refused a call to the professorship of Gynaecology in Yale.

Dr. G. R. McDonagh has returned to Toronto after an extended European tour.

Dr. A. H. Wright and Dr. N. A. Powell have recently spent a two weeks holiday in Atlantic City.

Dr. Charles Sheard, Toronto's efficient medical health officer, has returned from a well earned holiday in New York.

Dr. Colin A. Campbell (Trinity '98), of the house staff of the Toronto General Hospital, has been appointed surgeon to the S. S. Tartar, of the Canadian Pacific line from Vancouver to Yokohama. Dr. Campbell left Toronto on Tuesday to assume his duties.

Dr. Paul A. Gillespie, a graduate of Toronto University, who, previous to the outbreak of the British-Boer war was practising at Winburg, Orange Free State, has recently written home of his experiences. He was commandeered for service in the Boer ambulance corps, and was sent to look after their wounded in Boshof just before that place was taken possession of by Lord Methuen's force. Much to his satisfaction, Dr. Gillespie is now in the British Army medical service.

Lieut. Colonel G. Sterling Ryerson, Canadian Red Cross Commissioner in South Africa, has been appointed British Red Cross Commissioner with Lord Roberts headquarters.

Dr. Walter P. Thompson, formerly of Waubashene, has disposed of his practice to Dr. Frank Porter, and has opened an office in Toronto at 6 Carlton St.

Dr. A. P. Chalmers, (Trinity '92) of Oil Springs, who has been very ill as the result of an infection received while performing an operation, is well on the way to recovery again.

We are pleased to know that Dr. Arthur Jukes Johnson, of Bloor St., is recovering from the illness which has confined him to the house for the past two weeks.

Dr. W. Doan, Harrietsville, sailed for England on the S. S. Parisian on May 12th, where he will spend the summer doing post graduate work.

Dr. W. J. Greig, of Toronto, is taking a post graduate course at the John's Hopkins Hospital.

Dr. St. Jean, formerly Liberal Member of Parliament for Ottawa, died at his home last week after a short illness.

BOOK REVIEWS.

THE ANATOMY OF THE BRAIN.

A Text-book for Medical Students. By Richard H. Whitehead, M.D. Professor of Anatomy in the University of North Carolina. Illustrated with Forty-one Engravings. 6 1-4 by 9 1-2 inches. Pages, v—96. Extra Vellum Cloth, \$1.00, net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia, Pa.

The author's aim to furnish students with a clear, accurate and concise account of the anatomy of the brain has been well carried out in this little book. The plates are numerous and well chosen and the press work is very satisfactory. The subject is treated of in four chapters as follows:—

The divisions of the encephalon; the surface anatomy of the encephalon; the internal anatomy of the encephalon and the conducting paths of the encephalon.

DISEASES OF CHILDREN.

By George M. Tuttle, M.D.

This little treatise certainly covers a large amount of ground and the author is right in claiming that it contains but a skeleton of the subject. We cannot very heartily advise its perusal either for student or practitioner, for it is so superficial that its use and that of kindred works is not of the sort to impress upon the reader more than a skimming of the cream—and nothing solid will remain.

If a practitioner wishes to do his duty by his patient he should have, for reference, that class of work which deals with the whole subject from inspection to treatment—and should not content himself with a mere sketch of the disease, which, by reason of its too great brevity, will often omit the classical, or more frequently found symptoms. We would call attention to the author's treatment of pleurisy with effusion as one instance of this dangerous superficiality. Four and a half lines are given to the whole subject. Surely this sample will suffice to bear out our meaning when we say that it is too exaggerated an example of the "multum in parvo" to be useful.—A. B.

LEA'S SERIES OF POCKET TEXT-BOOKS.

Edited by Bern B. Gallaudet, M.D. **Crockett's Gynecology.** A Pocket Text-Book of Diseases of Women, by Montgomery A. Crockett, A.B., M.D., Adjunct Professor of Obstetrics and Clinical Gynecology, Medical Department of the University of Buffalo, N. Y. In one handsome 12mo. volume of 368 pages, with 107 illustrations. Cloth, \$1.50, net. Flexible red leather, \$2.00, net. Lea Brothers & Co., Philadelphia and New York. February, 1900.

This text-book by Montgomery A. Crockett, M.D., of Buffalo, and Bern B. Gallaudet, M.D., of New York, should be of great value especially to students. It is concise and shows clearly the hand of a clinical teacher. The paragraphing and tabulating are excellent. It is characterized by an absence of padding as well as by an absence of the many pages of histories and reprint so frequently found in text-books. All this makes the book a valuable one to a student and of great assistance to him in getting up the subject. The teaching is on the whole reliable. The authors however in their attempt to condense and make the subject easy for the student have detracted from its scientific value and made it of less use to the practitioner, as for example in the chapter on "Menstruation and its Diseases." Amenorrhœa, dysmenorrhœa, menorrhagia and metrorrhagia are treated as separate diseases rather than as symptoms. That the book is a student's book is also made apparent in the paragraphs describing operations. Operations are in some cases rather defined than described and while this is enough for the student it is not sufficiently minute for the operator.

The book is well gotten up. The diagrams are excellent and the press work good. There is certainly a great want filled by this publication.—D. G. G.

INJURIES OF THE EYE IN THEIR MEDICO-LEGAL ASPECT,

By S. Brandy, M. D., Prof. in Lille University, etc, France. English Edition revised and edited by Charles A. Oliver, A. M., M.D. Published by F. A. Davis Company, Philadelphia, New York, Chicago.

This monograph of 160 pages is written mainly for the eye specialist. It treats of the traumatic lesions of the eye and its adnexa, especially from a prognostic standpoint. It lays special stress on the differential diagnosis between recent and old or previous pathological changes, also simulated affections of the eye and how to detect them.

The last chapter is on Medico-Legal expert testimony, the legal portion of which was written by Prof. Jacquay of Lille, France, and translated and rewritten and adapted to the courts of the United States of America by Charles Sinkler, Esq., of the Philadelphia Bar.

This is a valuable hand book, written with care, concise and to the point.—Trow.

A SYSTEM OF MEDICINE.

By many Writers. Edited by Thomas Clifford Allbutt, M.A., M.D., L.L.D., F.R.C.P., F.R.S., F.L.S., F.S.A. Regius Professor of Physic in the University of Cambridge, etc. Vol. VI. The MacMillan Company, New York and London, 1899.

The volume is a series of most valuable monographs full of personal observation, well reported cases illustrative of the subject in hand, and reference to the most recent literature.

The first half of the work deals with diseases of the Vascular System, continued from Volume V—right sided valvular disease, angina pectoris, arterial degenerations, aneurism, thrombosis, embolism and disorders of the lymphatic system are considered.

Diseases of muscles occupy some 25 pages and the remainder of the 920 pages are devoted to diseases of the Nervous System.

With such names on the list of writers as Sir Douglas Powell, Pitt, Roberts, Welch, Mott, Rolleston, Beevor, Barlow, Horsley, Head and Rissien Russell, and others, further comment is hardly necessary. Some subjects are of greater interest than others, and appeal to one with greater force, and this may permit particular mention of some of the sections. That dealing with "The Arterial Degenerations," by Dr. Mott, with excellent illustrations and abundant references, is a most valuable contribution. This is equally true of Thrombosis and Embolism, by Dr. Wm. Welch; General Pathology of the Nervous System, by Dr. Bevan Lewis; Raynaud's Disease, with excellent illustrations, by Dr. Barlow; Diseases of the vertebral column, by Professor Horsley; affections of the Spinal Meninges, by Dr. Rissien Russell, and a most comprehensive section on Medical Ophthalmology by Dr. Brudenell Carter. The volume closes with complete indices as to name and subject. It is a work of unusual value.

H.C.P.

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PUBLISHER'S DEPARTMENT.

CAUSES, DIAGNOSIS AND TREATMENT OF CYSTITIS.

In the Medical News of April 7th, 1900, appears a complete and comprehensive article with above title by Dr. Ramon Guiteras, a recognized authority on diseases of the genito-urinary tract. We reprint herewith portion of this paper on "Treatment of Cystitis due to Tuberculosis."

"In the treatment of tubercular cystitis, the practitioner encounters a condition that taxes all the resources at his command and he errs, as a rule, on the side of too much, rather than too little, treatment. In other words, it often happens that the more you treat the patient locally for his cystitis, the worse the condition becomes. It is, therefore, necessary to proceed cautiously in the treatment of this form of bladder inflammation, and, above all, is it important to improve the general condition of the patient as much as possible. If we were to treat patients suffering from tubercular cystitis along the same lines as pulmonary cases, namely, by sending them away to lead an open-air life under conditions that would improve their nutrition to the utmost, the condition would be much more rapidly improved or cured than by anything that could be done by the ablest specialist of the period.

Numerous remedies have been recommended by different authorities for the treatment of this form of cystitis, and naturally every practitioner who encounters this rebellious trouble grasps at anything that offers the probability of a cure. Guyon at one time advocated the use of intravesical injections of bichloride of mercury, 1 to 10,000, and since then many have been following his advice, but such a solution will rarely cure this disease, while it usually produces an irritation that is almost unbearable.

Nitrate of silver and permanganate of potassium have the same effect. Boric acid and boro-glycerine irritate less, but do not seem to possess the power to ameliorate the disease. Recently iodoform injections have been advocated, and the procedure would seem to be founded on a logical basis. Three or four ounces of a five per cent. solution of iodoform in liquid vaseline are injected into the bladder every two or three days, the patient being instructed to watch the stream when he urinates and stop the flow just as soon as the oil appears. This forms a permanent iodoform dressing of the bladder-wall, and in the hands of some of the French surgeons is said to have met with gratifying results.

Personally, I have had better results with borolyptol in this class of cases than with any other remedy which I have employed. This seems to have a powerful germicidal effect, while the fact that it does not irritate the bladder renders it pleasant to the patient. It is used in the