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The Canada Lancet

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EDITORIAL

THE EDITORIAL POLICY OF THE CANADA LANCET.

New developments require new ways of handling—in medicine as in other professions and business callings.

Beginning with this issue the *Canada Lancet* will publish leading articles from all fields of medicine and surgery. Our aim will be to keep the physician in touch with new developments in clinical methods, surgical and medical practice. No expense will be spared and no effort will be withheld to furnish our readers with the materials of helpful reading and study.

The *Canada Lancet* does not champion any "isms" or "issue" other than that of furnishing the physician who is earnestly endeavouring to serve his community with thoroughly up-to-date information—news, happenings and developments in his chosen calling. The present management desire that the *Canada Lancet* shall be a forum wherein developments may be considered, where news may be told and where the busy practitioner may find refreshment after the labours of the day and may read with pleasure and with profit the achievements of fellow physicians.

As the chief business of the physician must ever be to teach mankind the ways of health as well as to heal, so it will be our humble privilege to afford through the columns of the *Canada Lancet* an avenue to greater achievements in a profession that has seemingly achieved the ultimate in the marvels of its science.

The *Canada Lancet* welcomes new ideas. Every physician welcomes such and it will be our pleasurable privilege to pass the suggestions on to the wider field of usefulness comprising the whole medical fraternity of the Dominion.

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PROFESSIONAL CONTRIBUTIONS

RADICAL CURE OF HEMORRHOIDS

Charles J. Drueck, M.D.,

Professor of Rectal Diseases, Post-Graduate Medical School and Hospital, Rectal Surgeon to the People's Hospital, Chicago, Ill.

Preparation of the Patient.—The patient is to be as carefully and thoroughly prepared for a hemorrhoid operation as for a laparotomy. If a cathartic is deemed necessary, an ounce of castor oil is given twenty-four hours before the operation, to sweep out septic and decomposing material from the intestines. This cathartic must be given long enough in advance of the operation to allow the patient to get rid of it, and for the increased peristalsis to subside. If the patient already has been taking a cathartic daily, the physic, in some instances, may advantageously be omitted, to avoid exhausting him. Most patients do not eat much previous to the operation, still some consider it a last chance for several days, and consequently, unless warned, will gorge themselves. Hence, I request the patient to abstain from meat, vegetables containing much cellulose and gas-forming foods, and to subsist for the day before the operation on broths, cooked pulpy vegetables, and other readily absorbable foods. The patient enters the hospital on the evening before the operation, and if restless is given 20 grains of bromides, in order to insure sound sleep for the night. That same evening he is given an enema of physiologic salt solution, and then is left undisturbed. Early on the morning of the operation, the perianal region is shaved and cleansed, and a sterile dressing is applied. Three hours before the operation the patient is given a one-pint enema. One hour before the operation he is given a cup of soup or else coffee and toast, for it is better not to operate when the stomach is empty. He is given a hypodermic injection containing morphine 1-4 grain, hyoscine 1-100 grain, and atropine 1-150 grain; after which all visitors must leave the room. This injection quiets him and obviates psychic trauma.

The Operation in Detail—My operative technic is the same whether performed under local or general anesthesia.

If a local anesthesia is decided upon, a little extra detail is necessary in preparing the patient.

The table should be covered with a thick pad and the patient should be provided with a pillow to help make him comfortable. Always re-

member that he is not anesthetized, and every sound and touch is appreciated by him. He should, therefore, be handled as little and as carefully as possible, not tied or strapped in any way, the left lateral prone position with the hips raised (the proctologic position) is satisfactory for the patient, and prevents the sacro-iliac strain, which so often is caused by the lithotomy position.

I use one-half of one per cent. solution of apothesine or procaine for infiltration of the skin, thus permitting a liberal amount to be used without danger of toxicity, as apothesine is but one-seventh as toxic as cocaine. Quinine-urea solution is not used for the skin, because its injection is painful. The success of a local anesthetic depends upon a careful and thorough infiltration of the whole field. I use a 26 gauge needle. A 30 cc.I syringe is filled with warmed anesthetic solution. The skin in the posterior raphé, one inch back of the anal margin, where it is less sensitive, is touched with phenol on a swab, and after waiting a few minutes, the skin is picked up between the thumb and forefinger of the left hand, and the needle is introduced at the cauterized spot. A few drops of aposthesine solution injected here causes a wheal to arise, and after waiting a few moments, the needle is advanced, and another wheal is made, while the needle is carried forward just under the skin at a distance of one-half inch from the anal opening. When the needle has been advanced its full length on one side, it is retracted to the posterior commissure but not withdrawn from the skin, and the infiltration is carried up on the other side of the anus. When the full depth of the needle has been reached on both sides of the anus it is withdrawn and inserted at the most anterior wheal just made, and the infiltration is continued to the anterior commissure and around on the opposite side until the wheals meet those previously produced. In this way the whole anal opening is anesthetized, while the needle is always kept one-half inch out from the edge of the mucous membrane. This procedure blocks the inferior sphincteric nerves. Wait ten minutes for anesthesia to be complete, and then introduce the left index finger into the rectum above the external sphincter, hook the finger over the muscle and by slight traction draw it down and steady it while the needle, passed through the anesthetised skin, is carried into the sphincter muscle and 20 minims of apothesine solution are deposited in its substance. This deep injection is made in four places, one on either side of the commissures, one-half inch out at the entrance of the lesser sphincter nerves. The index finger within the anus will assist in guiding the needle to the proper depth, and will be left under the rectal wall. A 10-centimeter needle, long enough to easily

reach all of the deep layers of the sphincter, the anesthetic solution should be slowly infiltrated, so that some distinction of the tissues will precede the needle point and avoid pain.

A syringeful of anesthetic fluid is now deposited immediately in front of the tip of the coccyx to block the coccygeal nerves and thus further facilitate dilatation. This inflation procedure consumes 15 to 20 minutes, and must be carried out carefully until anesthesia is complete. Then the finger within the rectum massages the sphincter, and if the muscle has been well injected it will soon relax. If it is not sufficiently anesthetized it will contract upon the "bite" of the finger, and we must wait longer. Never begin manipulating, pinching or operating until anesthesia is complete. This applies with equal force to local and general anesthesia. As the sphincter relaxes under the massage, a second finger of the same hand is introduced and if needed a finger of the other hand and the massaging and stretching are continued until the capacity of the sphincter is reached. The manoeuvre must be carefully performed so that the mucous membrane is not torn or the anal margin otherwise damaged. Just what is the full limit of the sphincter varies with individuals, and the operator's experience is the criterion in each case. By this method there is never any danger of rupturing the muscles, as may occur under divulsion with the speculum. This slow but thorough dilation of the sphincter is an essential factor in lessening the post-operative pain by avoiding sphincteric spasm. If the hemorrhoids have been habitually prolapsing, the sphincters will be found relaxed, and will not need much dilating. Abscess following a hemorrhoid operation usually results from trauma during the dilation of the sphincter (most likely to occur if the stretching is hurriedly performed), a perirectal blood vessel being ruptured, and this resulting in a hemotoma, which later becomes infected and this causes a perirectal abscess.

When the muscle has been thoroughly relaxed it will so remain while we are operating. The hemorrhoids and the anal mucous membrane prolapse well into view under this treatment, and the whole pile can be seen and reached. Although prolapsed internal hemorrhoids may be operated upon without dilation of the sphincter, I always make this procedure part of my technic, because without it some part of the pile is apt to remain internal to the sphincter and cause a recurrence at a future time. Therefore, even if the hemorrhoid is within reach without dilation, the sphincter should be stretched that all hidden nodules may be found. Also if the stump retracts above a tight sphincter, a subsequent hemorrhage might not be detected for some time. Take plenty of time in mak-

ing the dilatation, because prolonged relaxation cannot be obtained if the stretching is roughly or hurriedly performed.

Having opened the arms and brought the hemorrhoid well outside, it is now infiltrated with a solution of one half of one per cent. of quinine and urea mydrochloride, using enough solution to distend the tumor thoroughly. The pedicle of the tumor should be injected and also the normal mucous membrane for one-half inch above the pile, as otherwise traction on the pile in handling will cause pain by stretching the sympathetic nerves which come down the rectum from above. By waiting five to ten minutes now before operating, the best effect of the quinine is obtained and post-operative anesthesia is much more satisfactory. The anesthetizing solution should be slowly forced into the pile so as to avoid a sudden painful distension of the tissues. Afer the needle has been inserted, it may be turned in different directions and the tumor well infiltrated. If more than one puncture is made into the hemorrhoid, the solution runs out as rapidly as it is injected. Sufficient fluid should be injected to blanch a part of the hemorrhoid. If several hemorrhoids are to be removed, they are all injected at this time before the removal of any is begun. Quinine solution is used for this part of the infiltration, because it produces anesthesia that lasts several days, during which time healing is well established. The anesthetizing solution should be used in as limited amounts as will obtain the necessary results, because excessive quantities produce a large exudate, which causes a sense of fullness in the rectum for several days.

The hemorrhoid having been brought well into view, it is picked up at its upper limit with a hemorrhoidal forceps and an incision, beginning in the normal mucous membrane, one-fourth of an inch above the tumor, is carried down on the left side of the pile, then, beginning again at this upper point, a similar incision is carried down on the right side of the tumor. The upper pole of the tumor is now lifted out of its base, thus exposing the vessels as they enter the tumor from above.

The vessels are then grasped with a thin artery forceps and the tumor is cut free. The lateral incisions are carried down to and around the lower border of the hemorrhoid. These lateral incisions are to be kept close to the hemorrhoid, or, preferably, in that part of the mucosa covering the side walls of the pile. The dissection is carried down around and beneath the hemorrhoids to the solid connective tissue or fascia about the muscle coat of the gut, and the pile is shelled out by blunt dissection. This enuclation of the tumor is almost a bloodless operation.

The pedicle in the grasp of the forceps at the upper end of the wound next receives our attention. The size of this pedicle varies with the size of the hemorrhoid; still even when the tumor is large and fleshy, the pedicle is slender, because it consists only of bloodvessels and connective tissue supporting structures between them. The pedicle is lifted well up and examined, in order to make sure that it is thoroughly freed from the mucous memmrane, then a No. 1 catgut ligature is slowly and firmly tied close down at the base. One end of the ligature threaded upon a curved non-cutting needle now is passed through the base of the stump beneath the ligature. The forceps and upper part of the stump are now cut free about one-eighth of an inch from the ligature, and the thread that transfixes the stump is tied over the stump and across the encircling ligature, thus preventing it from slipping.

As the stump is released, it retracts well into the bottom of the wound, and the mucous membrane edges fall together over it. It is important to tie the stump carefully, as it is small and, if not properly secured, secondary hemorrhage may result. The wound edges fall together in good position, still, they should be secured by two small interrupted sutures.

If the tumor is in the anal canal, its lower edge may rest at the white line where the skin and mucous membrane meet. If the tumor is of the interno-external variety, it is to be removed completely, by continuing the dissection over the white line and onto the skin, taking out a "V" shaped piece of skin and inflammatory tissue sufficient to restore the anus to a normal appearance (figure 2). Lastly, the wound is closed with two interrupted catgut sutures. When dissecting out the hemorrhoid, be sure to leave a clean-cut, smooth-surfaced wound, as a ragged wound is more liable to bleed.

The lateral incisions are to be kept close to or better upon the edges of the pile to conserve the mucous membrane between the several tumors and not endanger the caliber of the rectum or the anal canal by possible contraction. Those strips of attached mucous membrane left between each two operative wounds will also assist in rapid and satisfactory healing. If this work is poorly performed, stricture of the anus may result. Care must be exercised that none of the incisions extend beyond the anesthetized area.

The hemorrhage during the operation is slight. The large vessels are not injured because they enter the hemorrhoid at its upper part and run parallel with the length of the bowel just under the mucous membrane. If a vessel is accidentally severed, it is an inferior hemorrhoidal vessel at the lower border and may be picked up and ligated separately

or included later in the sutures approximating the wound edges. The operation need not be hurried, as the anesthesia will last upwards of an hour, and the utmost care and gentleness should be exercised in the use of tissue forceps, retractors and sponging. It is important that skin tabs be removed at the time of the operation. Otherwise they become engorged, inflamed, and most painful.

Whether the operation is performed under local anesthesia or general anesthesia, be careful to handle the parts gently, for unnecessary dilatation of the sphincters, rapid or rough manipulations and catching with snap forceps the tissues that are not to be removed, will cause more pain and increased danger of infection.

The operation completed and the field cleansed, the rectum and anus are well covered with sterile petrolatum, carefully and freely covering each and every wound. A light gauze dressing is then applied and held in place with adhesive straps. I do not place a tube within the rectum, because I am convinced that it does not serve any good purpose, while it certainly causes the patient intense pain and is one of the active factors giving rise to retention of urine.

When the patient is put to bed, keep him in the Sim's position, or else on his face. Do not allow him to lie on his back, because, in this position, the middle and superior hemorrhoidal vessels in their upper portion are in a vertical position; at the pelvic brim, they bend at a sharp angle, so that the abdominal contents are superimposed. All of these positions cause obstruction, and as the hemorrhoidal vessels have no valves, there is a back pressure and a tendency to swelling, a giving away of the stitches and more pain, as well as delay in the process of repair. After the first day in bed our patient may turn about and assume a comfortable position.

AFTER-TREATMENT—The after-treatment of hemorrhoid patients is a very exact one, but unfortunately, often is neglected, with the result that complications frequently occur. Although general standard rules for the post-operative care can be set down, there is much to be individualized in each case. In fact, it is most important that the operator himself look after his patients, so far as this is possible; for, just a little slip in the after-treatment may spoil the effect of an otherwise excellent operation.

The post-operation diet of the first day consists of liquids given every two hours; soup, broth, egg albumen, buttermilk and cream, four ounces of either, with two ounces of water. No milk is allowed. On the second day, order semi-solids: poached egg, toast, custard, rice, sago, absorbable vegetables, also cooked apple, prunes or other fruit, and for

beverage, tea, coffee, grape-juice, lemonade and orangeade. After this a regulated general diet is allowed.

These patients expect defecation to cause terrible pain, and I presume that their fear acts as an inhibition to evacuation. So at the end of the second day, I give an injection of six ounces of liquid paraffin, using a soft catheter, letting the patient use a commode, instead of the bedpan. Each day thereafter he is given an enema of eight ounces of physiologic salt solution or of glycerin, two ounces, and water six ounces. Wet absorbent cotton is employed as a detergent after each evacuation.

When the patient leaves the hospital, his hemorrhoids are cured; however, in many cases there still remains the effect of long-continued disturbed digestion. Therefore, the patient should be impressed with the importance of the after-treatment, and should receive either direct or at the hands of his home physician whatever directions regarding his diet and medication may be necessary.

I never use bichloride of mercury during the operation, nor in any of the after-dressings, because this irritant sets up a lasting tenesmus as soon as the sensory nerves recover.

THE ADVANTAGES OF THIS TECHNIQUE:—

1. The operation is thorough and may be satisfactory performed under local or general anesthesia. The incised wounds, if carefully coapted, heal more readily than will crushed or cauterized surfaces.

2. The sphincter muscles are not disturbed or injured by forcible dilatation, since a speculum is not employed.

3. The ligature is so applied as to hold the vessels securely, so that secondary hemorrhage cannot occur, neither is there any sloughing tissue to separate several days later.

4. The stump is small and buried, and the wound edges are closely approximated, so that the resulting scar is smooth and level with the surrounding mucosa, instead of being raised; consequently it does not obstruct the passage of the feces. It is this raised hard scar left after operation for the removal of hemorrhoids that more than any other factor tends to induce a recurrence of the trouble.

5. All of the diseased tissue is removed, therefore recurrence is impossible; yet enough of the mucosa is left to maintain in good order the tactile sensibility of the anus. This is one of the points of superiority over a lump and cautery method of operation.

EFFECTS OF THE FACTORS PRODUCING SHELL SHOCK.

By Chas. G. A. Chislett, M.B., Ch.B.,

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IT has been said that war neuroses brought to light few new symptoms, and that the symptoms were, in the main, those of ordinary "nervous breakdown." Although this statement is fundamentally true, one would have expected a greater similarity in the combination of symptoms as they arose from a common source, viz., war conditions; but when dealing with large numbers of cases one was struck with the individual peculiarities of the symptoms encountered.

While physical signs often remained the same, psychical signs of the disorders were extremely varied, so that one was led to assume that the psychogenic factors were worthy of close observation, and were really very important in the production of the neuroses. In fact, it depended to a great extent on the mental make-up of the soldier whether he was likely to develop shell shock or not.

Attributes of the mind, such as will power, power of mental concentration, capacity for mental exertion, ability to adapt one's mentality to surrounding conditions, and so on, vary so much in different individuals that it was to be expected that a soldier, lacking in an attribute essential to sustain him through the severe mental stress of modern warfare, would inevitably break down. When a person is much lacking in any essential attribute of the mind, such as will power, that person is either mentally defective or mentally unstable. This defect or instability, in the majority of cases, is not acquired but is inherited, and careful inquiry into the histories of cases of war neuroses elicited that over eighty per cent. showed family histories of nervous or mental disease, and in those whose family histories could not be obtained the presence of physical stigma of degenration pointed to nervous instability or inherent mental weakness.

Certain attributes of the mind may become more highly developed by training and environment, and compensate for a time for any lack in others. For instance, *esprit de corps*, an attribute ingrained in most regular soldiers and in many of the overseas troops, undoubtedly had the effect of postponing the development of the neuroses in the unstable members.

The emotions of fear and anxiety, the basic elements of war neuroses, are experienced by the normal man when brought face to face with modern warfare, and he is fortunate if he can at least sublimate the external manifestations of these emotions. Many a soldier, however, who appeared to be brave was undergoing a mental conflict known only

to himself, and the subjection of his natural emotions was the result of the triumph of his higher moral attributes over those feelings which, if displayed, would have stamped him as a coward. The genesis of neuroses was in some cases rapid, in others slow, and depended on the contributing factors.

The prevalence of trench warfare conduced to the production of neuroses, as these affections were comparatively unknown in previous wars where open fighting was the rule. It was unusual for an unstable soldier to develop marked symptoms during his early days in the trenches as his first feelings were those of curiosity regarding his new surroundings and his intimate relationship with the war. This curiosity kept his fear of consequences in abeyance for a time, and it was only when it was satiated that he awoke to the actual realisation of his position.

In open warfare the daily incidence of fresh scenes and pastures new served in the same manner to sustain the soldier for an indefinite period. A man awoke to his danger by seeing his comrades stricken down and by the sight of their wounds, and any further desire he felt of probing the action of modern projectiles was soon dissipated by his imagination, which conjured in his mind the view of himself as a casualty. Trench warfare gave him ample time to exert his imagination, and, if a weakly-balanced individual, he soon developed a state of mind in which any slight shock would prove to be the determining factor in his nervous breakdown.

There seems no doubt that apart from commotional cases of shell shock, which were the result of physical trauma of the nervous system, a state of neurasthenia was primarily present, and the development of hysteria was the result of sudden shock on an already unstable nervous system. Without any definite shock occurring, the neurasthenic state tended to progress, so that ultimately the sufferer became unfit. The progression was engendered by the constant mental conflict in which the soldier was endeavouring to repress his complexes of fear and anxiety.

The additional responsibility devolving upon officers was a factor which made the officer a more likely subject for rapid neurasthenia than the private soldier. It was often pitiful to note the almost superhuman efforts of some officers to hide their emotions; and, indeed, many forced themselves to brave danger needlessly in an endeavour to deceive either themselves or their men. These efforts only served to exhaust them the more, and sooner or later they had to be removed from the line as totally unfit. In a few cases of neurasthenia, where no hereditary taint of instability could be ascertained, the presence of bodily disease seemed to have acted as a predisposing factor in the production of the neuroses.

Prolonged fatigue, debilitating diseases such as dysentery, paratyphoid fever, trench fever, and gas poisoning reduced the general tone of the nervous system, and neurasthenia was easily induced.

The influence of suggestion as a causative agent was felt more in young untried soldiers. It is well known that suggestion is very valuable in the treatment of hysterical conditions, but it has also acted in causing these conditions. Among the troops hurriedly sent to Francee during the great German offensive of 1918 were many untried men, who were pitchforked almost at once into extremely trying conditions. The weaklings soon broke down, and it was noticeable that many others who apparently had no taint of instability quickly became affected purely from contact with their less favoured comrades. This influence was more easily studied in cases in hospital, as the behaviour of one man could sometimes be seen to affect nearly all the other patients in the ward, and this would happen even at the base where there was comparative peace. The special wards in hospitals set apart for shell shocks came to be known as the "Blighty Wards," as many of the inmates were evacuated to England. The result was that many who were suffering in a mild form on admission became progressively worse with the prospect of being transferred to home. The experiment of putting mild cases in Labour Battalions or on base work, after these men had run the gamut of hospitals, was not attended with success. On the other hand, I have seen mild cases of hysteria do fairly well if returned to the trenches, but this procedure was too dangerous to be extensively practised.

As a general rule, the symptoms in all cases were fairly well defined, but the differences in the psychogenetic factors were many and of great interest. While stress of war brought about the patient's main complex, viz., that of fear, it sometimes emerged that there were other factors which were serving to aggravate his condition. Indeed, if one looked past the ordinary exciting causes, and, by means of psycho-analysis, delved deeply into the man's mental make-up, the incidence of other anxieties seemed to show that their removal was necessary before there was a chance of recovery. These complicating factors had their effects on the symptoms, as was to be expected, and they appeared in most devious and astounding ways. The analysis of dreams was also of assistance, as it was found that a reticent man would often relate his dreams while being almost inaccessible otherwise.

A case which presented a peculiar symptom was a man who in early life had narrowly escaped death by drowning. At long intervals in his growth to manhood he dreamed of this incident, and invariably woke up suffering from asthma. While in France he was blown up, and there-

after the dream recurred most frequently, the result being that he was seldom free from asthma. He did not associate his attacks with his altered nervous condition, but under suggestive treatment his dreams and likewise his asthma disappeared completely. Many of the phobias were recurrences of symptoms produced by shocks in early life.

Claustrophobia was common, as the soldier's life in the enclosed spaces of dug-outs and trenches tended to the fear of being buried alive. A phobia of this type sometimes became so marked that the sufferer had to be sent to the mental wards owing to the predominant symptom interfering with his normal reasoning and judgment.

The symptoms indicative of the emotions of fear, such as tremors, tachycardia, pallors, etc., were merely the outward expressions of these emotions; but other signs, such as contractures and paralysis, were obscure in origin.

Tremors were not always general. For instance, a man might have trembling of the lower limbs and yet no tremor of the fingers. I have noted this occasionally in men who were placed under shell fire for the first time and had not yet contracted shell shock.

Spasmodic movements and antics affecting whole groups of muscles were exceedingly common, and often could be referred to dodgings and efforts to escape from passing missiles. A lateral spasmodic movement of the head was perhaps the most common, and came to be known as the "dodging reflex." In a few cases I met with a "bobbing reflex." One of these was an observer in the R.A.F. who had developed the reflex to a marked degree. It had apparently originated from an excessive fear he had of getting his eyes injured, as he told me that when his 'plane was being fired at he was in the habit of diving his head under cover, and that latterly he was doing this unconsciously and under the slightest provocation, so fearful was he of suffering injury to his eyes. Blepharospasm was also very marked in this case, but this sign was encountered with great frequency in hysterical patients, and has been said to have originated from the blinding flash of the explosion which caused the shell shock. This affection has also been attributed to sand or earth having been blown into the eyes. Patients who suffered from cholera were generally found to have previously suffered from this affection in childhood. Others developed it in the wards from imitation.

Definite gaits were sometimes referable to movements performed immediately preceding the time of "shock," *e.g.*, a private soldier was brought in on a stretcher half an hour after he had been blown over, and on being raised from the stretcher could only move forward in short,

jerky steps, and in a manner suggesting that he was attempting to run from an approaching shell. This gait persisted for several weeks.

"Camptocormie" or "bent back" usually resulted from the patient being blown up, rendered unconscious, and sustaining bruising or other slight injury at the lower part of the back. On recovering consciousness he found he could not assume the erect posture without pain. He kept his body bent to counteract the pain on movement, and the position eventually became chronic, not only from habit, but with the added suggestion of a transfer to England. Other cases of this affection apparently originated in men who were knocked down by shells while running for cover with bodies bent. Paralysis and contractions are well known in forms of hysteria apart from the war neuroses. In relation to shell shock, they came on either after the patient has recovered consciousness or after what was called a "period of meditation."

Contractures following on slight wounds were apparently due to the patient keeping the muscles immobilised as a reflex protection against pain, and by meditation this immobility became exaggerated. This was more likely to occur in wounded men who were temperamentally unstable.

Anæsthesias, analgesias, and hyperæsthesias were usually of late origin. Sometimes they arose after the patient had been subjected to many conscientious examinations of his sensory functions. The pathogenesis of mutism is theoretical, and probably originated in the cortical centres of the brain. As a symptom it was not of much moment, as the application of electro-therapy was attended by immediate success in the large majority of cases. Some were unfortunate enough to regain their speech with stammer, which did not respond so readily to treatment.

Deafness, apart from organic lesions caused by windage, was also cortical. It was usually absolute, differing in this way from organic deafness. The startings on slight sounds being heard, so often observed in the shell shock, was due to hyperacusis.

Blindness was comparatively rare. It occasionally came on after a period of meditation, and had been known to follow the placing of a shell shock patient in a dark dug-out, so that when he recovered consciousness he found he could not see.

Mental states complicating the neuroses were varied. Maniacal symptoms with delusions and halluciations were occasionally encountered. Mental depression was frequently associated with commotional shock, and was nearly always present with neurasthenia. It was unwise to keep neurasthenic patients for a long period at a base, as some were liable to contract suicidal tendencies, their depression being aggravated by prolonged introspection and the deferred hope of a transfer to England.

Mental confusion and stupor were fairly common and generally associated with mutism. If the mutism could be cured by electrotherapy there was a general improvement in the mental symptoms. Disorders of memory gave rise to much trouble, both to the patient and to those responsible for his evacuation. All degrees of loss were met with from a temporary amnesia immediately following the shock, to a total unconsciousness which persisted for weeks.

Periodic attacks of amnesia sometimes occurred, even coming on months after, and when the patient had been transferred to England. I do not know of any case of idiopathic epilepsy which has been the result of shell shock. Every case met with had a previous history of "fits." In fact, no case that I had to deal with appeared to have been even aggravated by service in the trenches.

Hystero-epilepsy was found to have occurred in many cases as the result, not of the primary shock, but from imitation and suggestion, and where the patients had been brought into contact with others suffering from hystero-epilepsy or with true epilepsy. It also occasionally followed slight injuries to the head in soldiers who showed the taint of instability.

THE RELAXED EAR DRUM

It is the universal opinion that so-called catarrhal deafness, better termed progressive deafness, is caused by a stenosed Eustachian tube with retraction of the ear drum due to insufficient air pressure. But if one examined carefully he would be surprised to find that in a number of cases the tube is patulous, in fact wider open than it ought to be and that instead of the ear-drum being retracted, it is relaxed. In such cases the deafness is due to a relaxed ear-drum which is unable to convey the sounds to the auditory nerve.—Harold Hays in *The Medical Times.*

TOBACCO AND LITERATURE.

As many of the great English authors know that pipe-smoking helps their literary efforts, it is natural that their works should contain favorable references to tobacco. These references have been traced back to the sixteenth century and a notable instance is found in Ben Jonson's "Every Man in His Humour". In that famous comedy the virtues of tobacco are recorded in these words: "I do hold it and will affirm it before any prince in Europe to be the most sovereign and precious weed that ever the earth tendered to the use of man."

ITEMS OF INTEREST TO MEDICAL PROFESSION

Medical men say that the mild winter was a healthy season, thus contradicting the adage that a green Christmas makes a full graveyard. The air of a hard winter may be bracing and healthful, but the drawback is that many people, especially those somewhat advanced in years, do not breathe that air, but the heated air of houses, street cars and places of business. The most healthful climate is that which gives the maximum of days which invite one outdoors. Our well-heated houses, perhaps, make us rather too much inclined to shrink from the outside air. The outdoor sleeping porch is a good institution.

THE BABY'S MILK

Of equal importance with the much-discussed subject of milk-modification is the less-discussed subject of the kind of milk to modify. On some points there seems to be a fair degree of unanimity. Very few advocate the prolonged feeding of any canned food to babies. Practically all pediatricians use cows' milk in some form in the routine artificial feeding of infants. The question at issue, then, and it is a question which merits clarification, is whether the infant should be fed raw certified milk, pasteurized milk, or boiled milk. Certainly if raw milk be used, the ordinary "market milk," with its higher bacterial content and greater likelihood of causing trouble, should be avoided. The champions of raw milk should be the champions of certified milk. They should also be interested in seeing to it that certified milk is all that it is certified to be.

Those familiar with bacterial counts for the past year know too well how frequently certified milk has failed to meet the requirements of the various medical milk commissions. At the meeting of the American Association of Medical Milk Commissions, held in Louisville in November, 1920, it was fairly agreed that the "labor situation," more than any other factor was, and is, responsible for the frequently high bacterial content of certified milk. The occupation of dairyman stands competition with other trades very badly—due partly to irregular hours, partly to the general aversion to any sort of farm work, largely to the higher wages paid to industrial workers. Employes in a certified dairy must be intelligent, careful, teachable; they must take what would seem to the ignorant and indifferent, ridiculous care in this work. Such workers have been difficult, often almost impossible to get. Producers, usually far less able than distributors to weather any storm, have often been obliged to make use of milking machines to make the available labor accomplish more. Milking machines are notoriously hard to clean. They may effect a re-

duction in the number of laborers employed; but they require the most intelligent and painstaking care in their use, if the bacterial counts are to be kept within certification requirements. Clearly, those who favor the use of raw certified milk in infant feeding have to contend with the fact that bacterical counts are occasionally, in some communities frequently, high; and that a few virulent streptococci, even though the actual count be well within requirements, can do serious damage to infants.

If the milk is properly cared for afterward, pasteurization makes it safe for use by adults and young children. Though the bacterial counts of pasteurized milk are often high, likelihood of pathogenic organisms being present is very slight.

The complete safety and ready digestibility of boiled milk are certainly powerful arguments in its favor as the best form of milk to use in infant-feeding (provided of course that care is taken to furnish antiscorbutic vitamine). If we boil the milk, the necessity for using the more expensive certified milk is at least questionable—especially as the fat content of market milk is not likely to fall below standard. It requires an enormous amount of effort on the part of medical milk commissions, producers, and distributors, to keep bacterial counts below ten or even fifty thousand. The corresponding increase in price of pure milk practically prohibits its use by the poor. The infant mortality-rate has always been a check (albeit an immorally expensive one) on the purity of the milk supply. Will boiling the infants' milk allow producers to "get away with" grossly contaminated milk? Decidedly, it should not. There are no accurate data on how many killed bacteria can be fed with safety. And no one would relish having the point decided by his own baby.

Most of those who favor boiled milk for infants agree that milk need not be boiled after the baby has reached the age of two years. Should not young children above two years of age be given raw certified milk? Such children are in all probability, or at any rate should be, taking a fairly general diet. It is inconceivable that pasteurized milk should be pasteurized. It is safe to say that if the efforts at present being expended by the profession on certified milk were to be devoted to securing a supply of pasteurized milk of acceptable purity—say a fat percentage of 3.5 and a bacterial count not to exceed 250,000—the result would be distinctly beneficial. At any rate it would be far better than the condition at present prevailing in many communities: a badly contaminated milk supply for the general public and a hyper-pure milk supply for the relatively few who can afford its higher price.—*The Medical Record.*

NEW PROCESS FOR HEALING WOUNDS IS ADVANCED

A Calgary doctor claims to have discovered a new process in healing wounds. Briefly explained, compressed air and electricity is employed, which dries the moisture and causes the filbrin in the blood to congeal. It is stated that this has already been successfully tried out. Local doctors at the present time are keeping an open mind on the discovery. A paper on the subject was read before the members of the Medical Association recently.

AORTA RESPONDS TO SKILL OF FAMOUS FRENCH SURGEON

Surgery Recorded New Feat When Most Vital Artery of Human Body Was Repaired With Sheet of Tissue Taken From Patient's Thigh.

Repairing the most vital artery of the human body like he would a bicycle tire, was a feat performed in May, by Professor Tuffier, famous French surgeon. The revelation was made to-day before the Academy of Science.

According to the report, a patient was threatened with death from a conical aneurism of the aorta. Professor Tuffier uncovered the artery and patched it with a sheet of tissue taken from an aponeurosis in the patient's thigh. He was able to strengthen the artery, reduce the congestion and prevent death.

This was the first time recorded of surgical mending of the aortic artery.

A STEEL ROD DRAWN FROM A MAN'S BODY

Probably the most amazing accident case ever treated in an English hospital was handled at Charing Cross hospital in London recently when George Neal, an elevator operator, was taken to the hospital with three feet and seven inches of steel rod penetrating his body. Neal had been working at the bottom of an elevator shaft when the steel rod, twenty-four feet long, fell from above and transfixed him. The rod entered the man's left shoulder at the back, passed through his left lung, through three vertebrae without touching the spinal cord, down the right side of the abodmen, missing the stomach and through the muscles of the right leg, emerging at the knee. The rod was cut at both ends and Neal was rushed to the hospital. There a surgeon operated on him and the hospital engineer drew the rod out as the surgeon directed its course from inside the body. Neal is expected to recover.

THE PROGRESS OF MEDICINE AND SURGERY

INFORMATION OF VALUE IN DAILY PRACTICE, GLEANED FROM A CAREFUL REVIEW OF THE LEADING MEDICAL JOURNALS IN THE WORLD.

SOME FACTS REGARDING CANCER.*

By Harry C. Saltzstein, M.D., Detroit, Mich.

The role of chronic irritation as a factor in the causation of cancer is becoming more important, and some of the evidence gradually being accumulated is interesting and curious.

The kangri basket of the Kashmir natives of Thibet is a rather famous chronic irritant. During the long winters, they carry a basket of warm charcoals in front of the abdomen, or place it between the thighs and knees. Fifty per cent. of carcinoma in these people is cancer of the skin of the abdomen and thighs. The betel-nut chewers of India likewise have an inordinate incidence of carcinoma of the mouth. They chew the nut constantly, often sleeping with it in their cheek. In China, the men eat first, and the women always eat later, when the food is cold. Carcinoma of the esophagus and mouth is common among men in China, but not nearly so common among women. Natives who do not cook their food have far less incidence of cancer of the upper alimentary tract than civilized communities have. W. J. Mayo has often commented on the heat of ingested foods as a cause of upper alimentary cancer. Hot porridge is generally ingested at 163 , rice at 168 , and hot liquids in general range from 120 to 170 .

Lip cancer developing so frequently in those who smoke a short pipe, and cancer of the stomach following gastric ulcer, are common instances of concer developing upon a bed of long continued irritation.

Bertillon, once divided France into two squares, one centering about Paris, the zone of greatest alcohol and meat consumption, and the other bordering on the Mediterranean, where these habits are much less in evidence. The upper square had two to four times the cancer incidence of the lower, and the increase was chiefly in cancer of the stomach and rectum.

Imperfect combustion of coal probably is a cancer irritant of some sort, for while coal miners have a low mortality, workers in gas works and coal heavers about boilers and engines have a relatively high one, and English chimney sweeps had a cancer mortality five times that of normal.

*Read before the Maimonides Medical Society, Detroit, October, 1920.

This last was due chiefly to cancer of the scrotum, attributable to the direct irritant action of the soot in caking up between the folds of the scrotal integument, for on the continent, where clothing precautions were taken, there was no such increase.

The rabbit is an animal normally very resistant to cancer. A Japanese pathologist has recently developed carcinoma in the ear of the rabbit by repeatedly painting the ear with coal tar.

Workers in coal tar and aniline industries are known to be frequently affected with keratoses, warts, and papilloma of the bladder, all of which often become malignant.

Dermatologists "see cancer in all sorts of processes of long-standing irritation," to quote Pusey, and they, as a group, recognized the origin of cancer from an irritated focus long before surgeons or the profession generally did.

Cancer of the skin follows lupus erythematoris, lupus vulgaris, psoriasis, or develops in those whose skins have been exposed to light or heat over long periods of time. Malignant degeneration of the skin of the face is common, while on the extremities, except the dorsum of the hands, which are uncovered, it is the rarest of occurrences.

It is known that long continued ingestion of arsenic causes keratoses to appear on the hands, face, and feet, and these occasionally undergo malignant degeneration. Arsenic is a protoplasmic irritant. When it enters the horn cell it sensitizes it to light, so that an abnormal growth may take place after what would be an average sun exposure to a normal cell.

Cancer never develops upon normal skin. On the face or exposed portions, malignant degeneration follows nevi, keratoses, pigmented motes, etc. These rarely form cancers on the body or extremities. On these regions there must be a previous lesion of the skin of an inflammatory nature, and the important thing is that the inflammation has been chronic, over a period of months or years.

There has been no adequate explanation of the relative rarity of cancer of the skin of the body and extremities, as compared to cancer of the face. A reason may be that the continued sunlight irritation is sufficient to metamorphose an abnormal cell rest, such as a pigmented mole, if it be on the face, but if it be on the body, this long standing irritation being lacking, the mole never changes.

In this connection Udo Wile has observed that he sees much more cancer of the skin in Ann Harbor, where the clinic draws chiefly from country districts than he did in New York, where the clinics draw from

crowded tenements. In New York, there were but 2 cases of cancer of the skin in over 6,000 patients. In Ann Arbor, in a clinic one-sixth as large, there were 48 cases of carcinoma of the skin in the first year, and these were chiefly in farmers. Though cancer is rare in the extremities, as before stated, it follows chronic ulcers, sinuses, old gunshot wounds, sinuses of chronic osteomyelitis, scars of burns, chronic eczema, syphilitic ulcers, etc. All of these processes, if very slow in healing (months or years) are apt later to become the seat of malignant epithelial degeneration. Often these may be very rapidly growing.

Is Cancer Increasing?

Whether cancer is really increasing, or the apparent increase everywhere reported is due to improved diagnosis, difference in longevity, and improved registration is still an open question. Certain it is that every statistical survey reports an increased cancer mortaliy. From sixty-three deaths per hundred thousand population in 1900, to eighty-one deaths in 1915, or an increase of nearly thirty per cent, are the figures from the United States Registration Area statistics. These statistics cover roughly seventy-five per cent. of the population. During this same time the death rate from tuberculsosis fell from 202 to 145 per 100,000.

In New York City, the general death rate for 1919 fell 23% over that for 1918, but the recorded cancer deaths have increased 4%. Throughout the world, there are similar steady increases. Thus, from 1896 to 1910, while the United States cancer mortality increased eighteen per hundred thousand population, Ireland increased thirty per hundred thousand, Denmark eighteen, Germany thirteen and Austria ten.

But, to what extent can this apparent increase be ascribed to the increased longevity of the present day, and to the varying degrees of accuracy in diagnosis? Since the Civil War, fifteen years have been added to our normal expectation of life. German vital statistics estimate a difference of twenty-five years in the length of the life of the Prussian of 1860 and to-day. Dogs and cats, the only animals who in nature are allowed to live out their normal life expectancy in any great numbers, have a high frequency of cancer, even higher than that of man. Certainly all mortality statistics have to be corrected for the proportion of inhabitants reaching cancer age before inferences can be drawn.

How can increased incidence due to better diagnosis be measured? It is rather difficult, but there are certain pertinent facts. Carcinoma in some regions of the body is much more accessible to physical diagnosis than in others. If recognition being steadily increasing were responsible

for the present high mortality figures, the curves of the accessible organs might remain flat, while the curves of the inaccessible ones would steadily mount.

King and Newsolme, in 1893, first tested this proposition. At that time the municipal mortality statistics of Frankfort-am-Maine were the only ones where separate tabulations for each body organ had been kept, and they had been so compiled since 1860. Classifying tongue, mamma, uterus, and vagina as accessible, and the internal organs, chiefly alimentary tract, as inaccessible, they found the curve of the first group remaining flat, that of the second group mounting steadily. Wilcox has recently brought this table up to the year 1913, and it shows the internal organ cancers, those less readily accessible to physical diagnosis, presenting a steady yearly rise over a period of fifty years, the other groups remaining flat all this time.

Following King and Newsolme's original publication, English statistics were tabulated for separate organs. Analysis of these figures, chiefly by Bashford and Murray over two decades support the same argument. While cancer of the skin and of the uterus, both easily accessible to physical examination, showed no increase, alimentary cancer everywhere showed a rising curve. The male has much more cancer of the alimentary tract than the female; stated differently, 97% of male carcinomata are inaccessible, while only 63% of female cancers are inaccessible. All statistics show cancer increasing more rapidly in the male than in the female. Bashford thinks these differences are due to differences in the accessibility of physical examination. From London Hospital statistics, 1904-1909, classifying growths as accessible or inaccessible to physical examination, he estimated that 91% of the accessible growths were diagnosed, while only 62% of inaccessible ones were recognized at the time of death.

American cancer mortality statistics classified under organs primarily involved, are still not available, but there is a tabulation showing what proportion of cancers of each body location were diagnosed with reasonable certainty in one year, 1914 (that is, at the time of death, the attending physician was not in doubt as to the diagnosis.) This shows an accessible group, comprising cancers of the breast, skin, tongue, lip, mouth, vagina, testes, uterus, larynx and rectum presenting practically no diagnostic uncertainty at the time of death, while the inaccessible group range from cancer of the ovary and Fallopian tube with 15% of diagnosis uncertain, to caricinoma of the stomach with 72% uncertain.

Another factor Bashford and Murray hold responsible for the increased recognition of to-day is a gradually decreasing tendency to ascribe "failing vital functions in the aged as a cause of an obscure illness" i.e., reported as old age, tumor, etc. While the curve of cancer mortality for the ages forty to fifty has been relatively stationary for some years, the reported mortality in the aged has been relatively increasing. As regards cancer mortality "England of to-day compares with England of several years ago as London of to-day compares with rural England of to-day."

There is other evidence showing that cancer mortality varies with the status of the medical practise of the community. In cities, cancer mortality is usually higher, but decreasing more slowly than in country districts, and that notwithstanding the larger proportion of aged persons with high cancer mortality in the country.

There is less cancer among negroes of the south than among whites, but the negro rate is increasing more rapidly. In eight large southern cities, cancer among negroes increased 92% from 1891 to 1914, while that of whites increased 73%.

Wilcox believes these facts to be connected with the larger proportion, greater accessibility, and improved methods of city physicians.

Surgery and Cancer.

What has surgery done for cancer, and what hope of cure does it offer? Some writers are not optimistic. Whether or not surgery obtains a cure depends on two factors, first, whether distant metastases, often unrecognized, are present at the time of operation, and second, incomplete surgical removal, or grafting or dissemination of carcinoma cells during the operation.

The body defence against carcinoma metastases is the formation of a connective tissue capsule. Carcinomatous emboli occur with great frequency, and are transplanted everywhere. The reason they do not form metastases oftener is because the connective tissue encapsulation is an immediate protection. This encapsulation of emboli takes place with great frequency about the small arteries of the lungs in carcinoma of the abdominal viscera. In bone, carcinomatous emboli lodge in the lacunæ, act as osteoclasts, break down some of the bone, then this space is filled up with carcinoma. This mass is surrounded by connective tissue fibrils, and later a bony capsule is laid down about the irritating focus. Whether the body or the carcinoma triumphs depends a good deal upon the local

immunity of the organ, "the metabolic affinity between the carcinoma cells and the cells of the particular organ." A carcinomatous embolus may remain encapsulated for years, and then suddenly, presumably because of some lowered resistance, it will burst into a metastasis. Here is an explanation of metastasis occurring years after operation. This varying degree of immunity has often been clinically commented upon. The late J. B. Murphy often spoke of the "rebelliousness of cancer when it occurs with obesity," and remarked that "the spare type has a tendency to the production of connective tissue, preventing the spread of malignant cells." W. J. Mayo observes that whereas all persons have a certain measure of immunity, some having sufficient to prevent their ever having cancer, in others there may be enough so that an incomplete operation will not be followed by recurrence. Grafting, dissemination of carcinoma cells, or incomplete removal at the time of operation are, of course, commonly known sources of recurrences. W. J. Mayo states that he has often been impressed by local grafting of carcinoma cells, such as recurrences at the site of skin suture holes only, or recurrence about a colostomy wound from a low sigmoid growth.

Once the regional lymph glands are involved, the outlook is altogether different, and incomplete removal, no matter how careful and skillful the dissection, is the rule. Carcinoma of the lip is one of the most favorable malignant tumors operated upon, as regards ultimate cure. When no glands are involved, various statistics show 70% to 80% cures. In a recent study of the material at the Mayo clinic, Broders shows that 76% of cancers of the lip without glandular metastases are still living. Of these having glandular metastases, only 17% are alive, and all of these had only one submaxillary lymph group involved. No case with two groups of glands involved, or with cervical glands involved has been reported living. Bevian says that from his personal experience, he does not think he has ever cured a carcinoma of the breast with axillary metastasis.

To arrive at an estimate of just what surgery has done for cancer, Levin compiled a table of the reported results from various surgeons and clinics. In one column, called high estimate, were placed those from the best operators, (Halsted, Mayo, Willy Meyer, etc.,) and in the second column, called low estimate, were placed the reported results from other surgeons. The table is reproduced:

	High estimate p. c. of 5-year cures. (Holstead Mayo, etc.)	Low estimtae p. c. of 5-year cures. (Other surgeons.)
Bladder	30	6.8
Breast	38	16
Hand, face, neck	83	30
Liver	None	None (chiefly metastatic)
Mouth, tongue	20	13
Rectum	50	9
Stomach	25	3
Abdomen	12	4

If now, one would take the average operability as 50%—the surgeon refuses to operate upon 50% of the patients presenting themselves to him because of too advanced stage,—and then compare the average of the above cures with the cancer incidence taken from mortality figures, one would obtain an estimate of just how much cancer is cured surgically. Doing so, Levin says that the best surgeons cure 15%, the average surgeon 4%. If all patients came to the surgeon in time, that is if the operability were 100%, the high estimate table would average 30% of cures. At present, about 10% are cured.

But statistics like these are changing, and because of two factors:

(A). The limits of operability are widening. At the Mayo clinic, when 25% of carcinomas of the intestine and rectum were deemed operable, the operative mortality and per cent. of 5-year cures were greater than now. As more of the further advanced cases were operated upon, the operative mortality and per cent. of 5-year cures diminished, but instead of curing 13 in each 100 patients presenting themselves, they now cure 27.

(B). People are gradually seeking advice earlier, and more often than formerly before a precancerous condition has become malignant. At John Hopkins, Bloodgood says that the incidence of benign tumors of the breast has risen from 32% to 59% of the total breast tumors operated upon, and the surgeon is nowadays called upon much more frequently than in former days to decide upon the nature of a borderline tumor.

Of these two factors, the second is much more potent and promising, Surgical technic has undergone advances recently, especially in carcinoma of the colon, and a few years earlier in gastric resections, but as a general rule operative removal of malignant growths is about standard-

ized. Very much improved methods of removing a given tumor are not to be expected.

The crux of the situation is early diagnosis, and education of the public to recognize dangerous early symptoms. In Germany campaigns have been waged by the state for many years, and to-day German surgeons operate upon cancer in a much earlier stage than do American surgeons. All the circulars of the propaganda campaigns of the American Society for the Control of Cancer have such titles as these: "Fear the beginning of cancer." "Cancer is curable by early operation." "Cancer—in the early treatment lies the hope of cure." "What you should know about cancer," etc.

It is to be hoped that these methods, analogous to those which produced such striking results in campaigns against tuberculosis, will have similar far-reaching effects in the control of cancer mortality.

PHYSICIANS TO HOLD BIG GATHERING.

Famous American Authorities to Address Ontario Medical Association.

The annual meeting of the Ontario Medical Association will be held at Niagara Falls, on May 30th, 31st, and June 1st and 2nd. The entire Clifton Hotel has been reserved exclusively for the convention and members of the Medical Association.

From across the line Dr. Rehfus, of Jefferson University, Philadelphia; E. Starr Judd, of the Mayo Clinic Rochester, Minnestota; and Dr. Burtz, Cleveland, are three of the distinguished figures from the American Medical Fraternity who will be present.

This is to be the largest gathering of medical men in many years, and it is to be of special importance because it will discuss the coming legislation which is likely to affect the medical profession and because of the radical departure which will be made at the meeting when social problems in reference to Child Welfare Industrial Medicine, and matters relating to federal health, will be taken up and discussed.

There are a number of different committees dealing with the various phases of the profession and each committee has its chairman.

Dr. H. E. Cowper, of Welland, is the chairman of the section dealing with Obstetrics and Gynæcology.

Dr. Mench, of Bridgeburg, is chairman of the section on medicine.

Dr. MacDonald, of St. Catharines, has the section of surgery.

Dr. Sutherland is chairman of eye, ear, nose and throat section.

Dr. Hess, Hamilton, is in charge of the X-Ray section.

Dr. Wilson, Niagara Falls, has charge of the Entertainment Committee.

Dr. Kellam, Niagara Falls, has charge of arrangements, etc.

Dr. Davis of Welland, is chairman of the Publicity Committee.

Dr. Mahoney, Niagara Falls, is the local secretary of the Ontario Medical Association for this meeting.

Special attractions have been arranged for the visitors, in way of motor drives, etc., throughout the beautiful surroundings of Niagara Falls. All the scenery will be viewed in detail by the visitors. The Hydro Power plants will be open to the visitors, and golf at Lewiston Country Club will be an added attraction.

"FEAR"

By Dale M. King, M.D.

Attending Neurologist—The Grace Hospital, Detroit, Michigan.*

N presenting this subject for your consideration, it is done without presumption to any superior knowledge, any keener insight or that any recent investigations have added to our understanding of fear. It has received the intelligent consideration of man since the time intelligence was his heritage. Perhaps in primitive days very little expression was attempted to expose a crude analysis, but no one doubts that the sentiment of fear was felt in many forms and grew in complexity through the ages until, at the present time, we are assailed from so many different angles that fear has become a day-dream as well as a night-mare. It is not my purpose to deal with this emotion in its relation to, or influence upon, the internal secretions, but rather as a functional mental disturbance that bears to health a relationship that would sap or impoverish the most generous estate.

As physicians we develop finer sensibilities and cultivate an acute faculty for the interpretation of the complexes of our patients' lives. We realize that we are treating this man or woman, not as the human machine that we see before us, but a human who has inherited certain physical and mental characteristics influenced by environment. Not only do we visualize him or her, from infancy, in sickness, work or play, but we attempt also to picture certain mental reactions which were likely to have followed known incidents. All of us bear the scars of many

*Read before the Attending and Auxiliary Staffs of The Grace Hospital, Detroit, Mich.

psychic traumata. Most of these, it is true, have healed and are almost erased from memory, but there are others perhaps, that lie in the subconscious as an open wound.

To illustrate this: For a number of years I have had as a patient a man, who, suddenly overcome by the fear of death, would rush to the office in the quickest conveyance. He was a picture of mental distress; rapid heart, shallow breathing interspersed wtih deep sighs, and cold extremities. The first thing he would do was to unbutton his vest and shirt and ask me to listen to his heart. Assured that it was absolutely all right he gradually regained poise. Eventually I learned that one day, when a boy attending school, he asked permission to step out of a gymnasium class because of a pain in his heart. It was probably due to a slight indigestion. Anyway he was excused and hastened to his family physician who examined his heart and said that it was all right, that he had no cause for alarm, but asked him to stay there at his home for a few days. The boy did. During this period, which was short, his heart was examined frequently and he was quite emphatic that the doctor had always told him that there was nothing wrong with it. Yet such a contradiction of word and deed did not escape him. The weight of evidence, including his feelings, were for rather than against, heart disease. He suffered from this false conclusion until he told his story some twenty-five years later. Even to-day the habit casts its shadow but with ever lessening tone: his nights are less disturbed by terrifying dreams; his days nearly free from fear.

We admit that, were it possible to impose an identical experience on another boy, the impression might be erased in a few days, if indeed any impression were made. This incongruity does not explain itself by saying that the first youngster was a psychoneurotic, admitting, of course, that such would be most likely: but we have other things to consider. This boy had an earlier impression which blazed the way, or at least made him more susceptible, to such a trauma. He had seen an aunt die suddenly of heart disease.

Here let us dwell for a moment on the timid child and consider the probabilities of a psychic trauma being caused by the so-called mental test as given in our public schools. The first reflex act of the infant is to breathe. You may call it physiological or instinctive. Some psychoanalysts lay great stress upon this first instinctive act; back to this struggle for breath and life, they trace the many respiratory discomforts of the neurotic, the choking, the smothered feeling, the sighing in fatigue or distress. We have not time to disagree with them, but we do. Anyway, through different instinctive impulses, this little animal lives and

grows. Each day it acquires a bit more knowledge which, you must admit, is imposed upon its credulity by some "higher up". It has not yet, by experience, acquired the means whereby it can compare and weigh. It is what might be called "passive" knowledge, and knowledge so gained always leaves one vulnerable to attack. So here you have a picture of the child mind, knowing by "passive" acceptance and easily assailed by doubt.

Going hand in hand with this mental development is the instinct of self assertiveness. Nature has planted that seed deep in our souls and upon it greatly depends our success in life. The child begins to do things without guidance; in fact does things in response to its instinctive impulses that are far from pleasing to the parent. Here severe reprimand or repression may cause a feeling of resentment or debasement that lasts through life. Especially may this be true when the sex impulse is involved. Mothers who shame their children tell them that such leads to feeble or insane minds, are associating with the repression, a fear that holds a partnership, and always exhibits itself in the dreams of unconscious expression that must eventually follow.

All children are more or less timid, even while the spirit of self assertiveness is developing. They are in a big, strange world and feel far from sure of themselves, although the litle bluffers would like us to think that they do. When therefore any fear comes upon them, it is natural that they should rush to the mother. She it is who has always given them food and all body and mental comforts. The wise mother explains away the fear and re-establishes self-confidence.

To illustrate the importance of this procedure let me cite a case: A young girl with chorea. No foci of infection could be found. She was so frightened by automobiles that it was almost impossible to get her to cross the street and her movement became convulsive. Sleep was disturbed by terrifying dreams; usually she was being chased. She was thin, pale and looked frightened. Just such a youngster as you would instinctively know, needed comfort and assurance. This she had never received at home. Her fears instead, were accentuated by a mother who always watched her closely, warned her against danger repeatedly, and scolded her for being nervous. Consequently the repression came out during sleep in the form of terrifying dreams. The situation was explained to the mother; the child was re-established in confidence by assurance and a few simple exercises. In a short time she was well.

Now let us return to the child and the mental test. You have the little animal with its instinctive impulses, which are strong and constant; its "passive" knowledge, of which it is never quite sure, and its self as-

sertiveness, which it is trying valiantly to develop. With anything in the course of construction there is danger in exposure, so with the child's character; he is timid. There is the lack of confidence in his armament that breeds timidity, traced as it may be, to a self-consciousness, or too close self-inspection. This state of mind is often over-developed in the home, even before the school age, by ignorant or careless parents. Such a child may be easily embarrassed, confused in any attempt at verbal expression, awkward in active movements and, for self-protection against these admitted weaknesses may develop certain unnatural traits of character, sullenness, irritability, exaggeration. It is interesting to hear the stories of these little egotists who, while too timid to speak their piece in school, or fight their battle on the playground, realize their weakness and try to re-establish themselves in their own eyes, and in those of others, by telling, as true, such actions as a brave and better self would select. Left alone, they usually make the bluff good and eventually rise above their disabilities.

What hurts a child more than to be called a fool? In childish exchanges the term is often used with telling effect. How much more impressive must that term be then, when clothed with the authority of scientific acceptance. Can any of you estimate how deep the injury, or how lasting? The very ones who should be protected are the ones hurt. The mental test, as a routine procedure in our schools, is worse than absurd. It is dangerous to the health and happiness of our coming men and women. It must, or should be, that any intelligent teacher can in the course of a short time, during the study of different subjects, know with a reasonable degree of accuracy, the mental qualities and characteristics of her pupils, and help them, even unknown to themselves, where help is needed. It would seem that we have been diverted from our subject, but such is not the case. We are all children, and we cannot neglect any part of life from birth if we wish to approach a true analysis.

As has been stated, one of the most important instinctive impulses is self-assertion. It follows closely upon those most primitive impulses which are called forth by physical needs, as food, warmth and bodily comfort. The child starts to do things, and with accomplishment, confidence becomes stronger and self assertiveness more aggressive. Its whole object seems to be set on elevating the ego. It is the one instinct that strives for independence and self-reliance. Destroy or injure it in the child, and you have the man who is over-sensitive, easily humiliated and discouraged. The early self-repressions of childhood are rehearsed in later life, and most of our serious problems arise from a failure to realize an ideal.

If this self-assertion impulse is placed within us to develop the ego,

it must be an incentive to, rather than a part of the sex impulse. Freud has placed his naught outside the circle instead of inside, but this does not deny the weight of his wonderful deductions from a false premise, or the enormous advancement his theories have forced in modern psychology.

Freudian interpretation of dreams recalls that a physician who may be here to-night, asked me why dreams often gave such mental relief; that he knew a man who, terribly depressed for several days, would feel relieved after a dream. To be brief: Our instinctive desires are not only frustrated by reality, but are blocked in our waking hours by our ethics and consciences. Any interference with an instinctive impulse causes a repression and an anxiety or worry. The dreams allow expression, and there is relief.

Self assertion then, is the instinctive impulse to serve the ego. It applies to all physical and mental attempts, and it is a disturbance of this instinct that causes all forms of fear. Perhaps I am wrong, but I have had reason, in my work, to study the subject carefully. The shell-shock victim has had his self-assertion instinct blocked. There are obstacles that the conscious mind tells him cannot be overcome. The self-assertion instinct has always been closely associated with fear. This association is exhibited in the child learning to walk, and it remains through life. As the soldier's physical assertion is assailed by what the conscious mind tells him are great odds, his instinct for self-preservation calls for flight. Indded he would run were it not that this same trained coscious mind, that has warned him of his great danger, also warns him that to flee would be cowardly. At once a conflict arises between them. they do not compromise. The man becomes deaf. There is nothing wrong with his auditory apparatus. But the conscious mind refuses the messages. They have dissolved partnership.

The man who finds social obstacles in his way, that baffle his ingenuity to surmount, has a like blocking of his assertive instinct, that desire to elevate the ego, so fears and doubts creep in. The conscious mind rejects them as nonsense, but they remain in the subconscious mind as the same fears and doubts. Fear of any type has a similar though modified action on our bodily functions: the rapid heart, the shortness of breath and digestive disturbances. These symptoms are moulded by the conscious mind into all forms of physical and mental disabilities. The solution of the problem is to find out what these instinctive desires of self-assertion are, and drain them off by free expression through the conscious mind, rather than to repress them as unreasonable and unthinkable.

To illustrate my meaing. A young married man, an accountant, was referred to me by an oculist. His eyesight had suddenly become very

poor, spots floated before his eyes and distances were deceiving him. After office hours he devoted considerable time to electrical engineering. He was afraid of softening of the brain, he had dizzy spells, palpitation, fear of suffocation. Dreaded to go any place alone and always felt best at home. As a boy he felt afraid and guilty after a sex impulse. This grew until he was sure that irreparable damage had been done. Then thoughts of imperfection came: that he was paying for his sin. He is not satisfied with his position, but could not tell why. He really wants to be out of doors that he may regain lost vitality and he is not in a financial position to make the change which his instinctive self, desires; thus the conflict, and the instinctive self was winning through bad eye sight, palpitation, dizziness and other symptoms.

Why these patients should feel most comfortable at home goes back to childhood. When self-assertion is developing in the child many bumps and set-backs are experienced. Instinctively it goes to the mother for encouragement and solace. These early instinctive impulses are always with us, and we again reach out for the mother or the home.

KAMSACK TO HAVE NEW UNION HOSPITAL

The result of the vote taken recently in connection with the Assiniboine Valley Union Hospital, Kamsack, resulted 1,675 votes for the hospital and 693 against. This gives the required two-thirds majority and so the hospital is now an assured fact for Kamsack. The Town of Kamsack voted 1,183 for the hospital and 9 against.

CANADIAN MEDICAL MAN GETS U. S. APPOINTMENT

Dr. Wm. Charles White, of Pittsburgh, who has been appointed chairman of an expert medical board, which is to have supervision of the hospitals of the United States, is a native of Woodstock, a son of Mrs. James White.

Dr. White, a Canadian, has achieved more than average renown in the States. He was in Washington recently preparing for the work of selecting and recommending sites for five hospitals to be erected for the rehabitation of American wounded soldiers, for which an appropriation of $12,000,000 has been made. He has achieved continental reputation in connection with the treatment of tuberculosis, and is a director of the Pittsburgh Tuberculosis League, which did notable work in the war against that disease.

STERILISATION OF WOUNDS BY A SINGLE PROCEDURE OF ELECTRO-IONISATION

By Dr. Maurice Parin,

Interne des Hôpitaux de Paris.

ALL surgeons of the present generation are unanimously agreed in their expressed views with regard to the immense practical utility of the application of sutures for the purpose of facilitating and accelerating the process of repair. They not only contribute to curtailment of the necessary period of cicatrisation, but also lend their aid in amelioration of the functional result by their way substantial effecet in diminishing the duration of the time-period of the inevitable immobilisation. In a certain number of the unlimited variety of wounds presened to the care of the surgeon the primary suture is at once adopted after carefully carrying out the preparatory procedure of exercise of the adjacent "suspected" tissues. Excellent results have been obtained in this way. But in many other cases primary suture has not been resorted to because decidedly unfavourable indications have been furnished by the evidence afforded by the temperature, the aspect of the adjacent tissues, and the results of bacteriological examination. And in other cases, more especially during the terrible experience of the past few years, the overwhelming encumbrance presented by the normous number of the wounded has prevented all possibility of utilising the anticipated benefits of this technique.

The wounded of these last two classes were brought from the fighting line to the hospital at the rear with lesions which were, in nearly all cases, the seat of secondary infection—even where they had had so much good fortune as to escape the primary. Such infection necessarily produced an interval of delay—often considerable—before application of the secondary suture. Indeed, in all those cases where they had to deal with wounds profoundly infected—more especially when the microbic flora presented a certain proportion of streptococci, pure or associated—the surgeons in charge recommended abstention. Thus they submitted the wound to a course of appropriate general treatment, and postponed application of the secondary suture till a sufficient degree of disinfection had been attained. The inevitable result was, of course, a considerable loss of time, inasmuch as none of the methods of disinfection which had till then been adopted insured immediate sterilisation of the wounds. This is a result which is now rendered possible by having recourse to electro-ionisation, even when we have to deal with the streptococcus.

Professor Leduc, of Nantes, was the first to prove (1900) beyond dispute that it was possible to make the constituent elements of a solution

placed in contact with the surface of the body to pass by the agency of electrolysis into the substance of the underlying tissues. He devised two methods of demonstrating his fact: the use of toxic ions applied to animals, arranged in series; the use of coloured ions. These methods have become classic and need only be referred to. A new form of therapeusis—that of electro-ionisation—was the created. I shall here deal with the zinc ion only. A very simple and very demonstrative experiment is that of connecting the positive pole of an electric source with anodes of various metals immersed in a solution of albumen. The zinc plate becomes covered with an adhering compact coat of coagulated albumen, which is deposited with relative rapidity in uniform peripolar distribution; while the iron plate produces no coagulation, but forms an albuminate of iron which falls to the bottom of the vessel; the platinum plate also produces no coagulation, but causes a disengagement of oxygen. The dimensions of the cylinder of coagulated albumen reveal the facility with which the ion of zinc is propagated through it. Thus we have coagulation of albuminods and penetration of antiseptics into the depths of the tissues; that is to say, the programme of a rational treatment of wounds, and the object actually pursued and attained by curettage, chemical cauterisation, and the dressing of wounds. Chemical antiseptics act by coagulating albumen, thus causing the formation of a pellicle which prevents deeper penetration of the antiseptic agent, and so compelling the chemical antiseptic to remain a surface antiseptic only.

The zinc ion determines the formation of such a pellicle, because it is the best coagulant of albumen, but the pellicle does not prevent further penetration of the zinc ion—contrary to what happens in the use of chemical coagulants, and the zinc ion penetrates the tissues to a depth which can always be regulated by the operator.

M. Leduc first applied this method in the treatment of furuncle and of anthrax. He treated many cases of large nuchal anthrax by insertions of positive zinc needles in the diseased tissues after preparatory puncture with the tenotome: the action was truly specific and the result, immediate diminution of the pain, at once followed, and after 24 hours the resoution was nearly complete. He has also utilised the efficacy of the zinc ion in cauterising and sterilising the uterine mucous membrane and for arrest of hæmorrhages. He asserts that there is no case of endometritis which it will not completely cure, and his testimony is corroborated by his pupil, Dr. Boucher, who has treated many hundreds of cases of hæmorrhagic metritis of unknown origin by this procedure.

CLINICAL RECORD

A Case of Painless Labour in a Primipary

By G. E. W. Henderson, L.R.C.P., M.S.Ed.

This case is of much interest owing to the fact that the three stages of labour were entirely devoid of pain.

The patient, Mrs. A., a married woman, aged 23 years, and of somewhat slight build, is a farmer's wife and works hard. Throughout her pregnancy her health was excellent; she did a lot of dairy work, including the milking of several cows, right up to the morning of her confinement.

I was sent for by the nurse in charge at 3 p.m. on the 18th January, with the request that I would come as quickly as possible. I arrived at the house at 3.30. The patient was lying in bed, and expressed herself as feeling perfectly comfortable. On examination, I found, to my surprise, the head on the perineum, which was tightly stretched and bulging. The membranes were already ruptured, although neither patient nor nurse had noticed any escape of waters. The nurse informed me that at about 10 a.m. that day the patient had told her that she felt a "heaving" in the abdomen, associated with a feeling of "something pressing down." This "heaving" had come on at regular intervals, at first every half hour, but later at more frequent periods. It was getting so frequent that the nurse told her to go to bed at 2.30, and she then prepared to examine her, and was greatly surprised to find the head on the perineum.

The patient was lying on her left side taking an intelligent interest in our conversation. I placed my hand on the abdomen, and in a minute or two I felt the uterus contracting violently. The contraction was severe and prolonged, and was such as one would associate with that stage of a normal labour, except that, in this case, there was absolutely no pain. During the contraction the patient did not hold her breath. I repeatedly asked her whether she felt any pain at all, and she always replied that she felt nothing except a feeling "as if something was passing down on the back passage," but no pain. The contractions were now coming on every three or four minutes, the perineum was very tightly stretched over the head, and looked as though it would tear. Another violent contraction came on, during which the patient said quite quietly, "That is a little sore, doctor; it feels as though something would tear." Wishing to save the perineum, I gave her a few drops of chloroform, and applied a cloth wrung out of a very hot antiseptic lotion to the perineum. Another "pain" came on, and the head was born. The placenta came

away itself twenty minutes later; again the uterine contractions were painless. The child was an L.O.A. with a very well-pronounced caput succedaneum. The infant did not breathe for some minutes, and artificial respiration had to be applied for about five minutes, when he drew a long breath and began to cry lustily.

The case seems an unusual one. The mother is a perfectly healthy woman. Before her confinement she had the usual dread of the agonies of labour and was quite determined that she would insist on getting plenty of chloroform. Her nervous system is normal; reflexes present and normal. Sensation to touch, heat, and cold normal.

It is interesting to note that her entire involuntary muscular system does not contract in the same painless way her uterine muscle appears to do, as a dose of aloin sets up the usual painful griping, thus proving that the muscle in her intestinal canal conforms to the normal in this respect.

AN AMAZING OPERATION

A remarkable operation successfully performed by Dr. William L. Chapman of Brooklyn upon the skull of Roman Leondowski, a prisoner in Sing Sing prison, to remove a bullet from the man's brain, will, it is hoped, result in restoring Leondowski to complete sanity. Dr. Chapman and other physicians maintained that Leondowski, who was subject to violent fits of temper of a homicidal nature, was not a criminal by nature, but that the bullet pressing against his brain was the sole cause of his outbursts.

Leondowski is now under observation, if he appears to be perfectly normal he will be released from prison when he has fully recovered from the effects of the operation, which is reported to be the first of its kind on record.

If the operation does all for Leondowski that it is hoped it will do, it will naturallly imbue with a new interest the claim of Cesare Lombrose, the Italian criminologist and alienist who maintained that every criminal had a kink in his brain that was the direct psychological cause of his criminal actions.

Whether all criminals are mentally sick is a theme around which many criminologists have built interesting theories. Lombroso's theory has perhaps been pushed to an extreme by its adherents, but few persons will deny that there are criminals whose moral irresponsibility arises from a mental defect. These are "the luckless pots marred in the making."

If the removal of a bullet pressing upon a man's brain should restore him to sanity and obliterate his criminal tendencies, could not the same result be obtained in many other cases if it were shown that there was a pressure upon the brain that an operation could remove?

THE EYE AND SLEEP.

The theory that ordinary sleep is directly connected with the structure, use, and habits of the human eye is advanced by Dr. T. D. Atkinson, of Los Angeles, Cal., in *The Western Optical World*. Dr. Atkinson distinguishes two kinds of sleep: the common form, well defined as a temporary suspension of some of the functions, and the deep sleep of anesthetism, leading to the complete and permanent suspension of all the functions of the body, which is death. Failure to distinguish between these has led many investigators into difficulties, he says. Both may be present in the same individual at the same time. He writes:

"Observers of the phenomena of ordinary sleep have found that nearly all the organs of the body function just as well during sleep as during consciousness. It is only a few of the organs whose functions are temporarily suspended. However, the suspension is not complete, and any one of them may bring back consciousness at any time in case of necessity. Take, for instance, the sense of hearing. The volume of the noise does not decide whether a sleeper is to be awakened, but whether the noise is of a suspicious and unknown character. The sleeper may sleep through the noise of a passing express-train which literally jars the house, yet be awakened by a slight noise of an unknown character in the room. Either the ear has learned to judge the necessity for restoration of conscience, or, what is more probable it is in direct communication with the brain, which itself judges the necessity and acts accordingly. The other senses will act in practically the same way.

"One of the greatest difficulties of investigators is that they have taken the individual as the unit of observation instead of the whole race, and most have failed entirely to take into consideration the environment under which the human race has developed.

"In examining the human eye we find that its usefulness as an organ of sight is confined in its natural state almost wholly to the daytime. In the dark it is practically useless, and it is the only one of the organs or senses that is rendered useless by darkness, or whose usefulness is even diminished by darkness. When man is among enemies his sense of sight is more important to him than his other four put together. Blind, he is

defenseless and an easy prey to marauders. It became absolutely necessary for him, in his course of development, to hide away and be absolutely quiet whenever his sense of sight failed him, and it failed him regularly once every twenty-four hours. If he attempted to go about in the night the same as in the daytime he would have been extinct ages ago. An absolutely quiet animal most easily defeats the sense of sight, hearing and smell of another animal.

"At the approach of darkness man has for millions of years quietly hid himself away, and in his constant endeavor to be absolutely quiet produced a condition which we call sleep.

"We know from natural history that individual animals have very little success in breaking away from the habits of their species. Habits adopted by animals from necessity and indulged in for ages have a power over a single individual which he can not resist. We find animals religiously performing habits after the necessity for performance has passed away and no longer is productive of any results.

"It became a race habit to hide away quietly every time the earth turned upon its axis. Altho the necessity has largely passed away, the habit is still with us. Consequently, it is upon the blind man as well as upon him who can see. All nature asks to obey a command when given; hence a man may go twenty-four or forty-eight hours without sleep and recover entirely with one night's sleep.

"It is only in very recent times, comparatively speaking, that man has broken into the night with artificial light, yet gradually but surely he is encroaching on sleep by keeping his eyes useful during the night. It is no longer necessary as a matter of self-preservation, nor is it because his eyes are useless at night, but a habit formed through countless ages can not be easily lifted from man's shoulders.

"In this respect it is worthy of notice that artificial light is not the only invention of man that is doing away with sleep. In past ages almost every one lost his power to see small objects almost in middle life. This was especially true if the light was not good. Their vision was almost entirely confined to larger objects outside. Consequently, as their vision decreased their sleeping increased and was indulged in excessively by older people. Since the perfection of glasses, which preserve good vision practically throughout life, sleeping among older people is less and less in evidence in proportion to the care they have taken to preserve their eyesight.

"In closing, I wish to add a few words in regard to artificial sleep to distinguish it from ordinary sleep. Artificial sleep is sleep such as is

produced by a blow on the head or inhaling of certain gases. I am of the opinion that it is more nearly related to death than ordinary sleep; that it is the complete suspension rather than the temporary suspension of the organ affected. They are only brought back to working order by the efforts of the unaffected organs. If this task is too great the sleeper dies. The sleeper can not be awakened in the ordinary way as by suddenly calling his name. It is my opinion that artificial sleep is caused by affecting the optic nerve either by a direct blow upon the head or through the blood, either by way of the lungs or digestive organs or direct incision, and until the effect has disappeared from the optic nerve the sleeper can not be restored to consciousness."

WILL DOUBLE CAPACITY OF PETERBORO HOSPITAL

It was announced that plans and specifications had been prepared for an extension to St. Joseph's Hospital which when completed will double its capacity. The extension will be erected to the south of the present building, and will include a full storey basement with three upper floors.

One floor will be devoted entirelly to women, and above this will be the operating theatres, two for regular and one for special work.

DR. McNAB, MEDICAL ASSOCIATION'S PRESIDENT

At the annual meeting of the Calgary Medical Society, held recently, Dr. B. S. McNab was elected president for the year. The other officers elected were as follows: Vice-President, Dr. T. H. Crawford; secretary, Dr. A. H. McLaren; treasurer, Dr. T. J. Costello. The executive committee will consist of the above mentioned officers and the following: Dr. Roach, Dr. McCalla and Dr. C. Robinson. An interesting address was delivered by Dr. J. Ower, of Edmonton on "The Newer Laboratory Methods and Their Significance." The next meeting of the society will be held in October.

TWO MORE DOCTORS SUSPENDED

Two more Winnipeg physicians had their licenses cancelled for alleged misuse of the privilege of writing liquor prescriptions, at a meeting of the council of the College of Physicians and Surgeons, held recently.

There will be a meeting of the council about the middle of April to consider reinstating several doctors whose licenses were suspended previously by the council, it was stated.

TRAINING NECESSARY TO PRACTISE MEDICINE.

In a report from the Joint Advisory Committee of the College of Physicians and Surgeons of Ontario and the Ontario Medical Association, the attitude of the medical profession is set forth in regard to unlicensed practitioners.

The report states that there is no animus toward the disciples of any cult, but that it is necessary that anyone engaging in the practise of medicine should have compassed a certain measure of excellence in preliminary and professional training. Professional study, the report points out, is pursued in the medical department of a university. The length of time taken by such studies hinges on the nature and number of the subjects studied. The report also points out that certain given attainments must be satisfied before a professional student in medicine is allowed to enter upon the final subjects and begin his hospital work proper. The report claims, however, that six years of study, the time in which a student may fit himself for a degree, is too short, and in the case of many that period is supplemented by one or more years' post-graduate work.

The report also points that as protection to the public in Canada the different provincial licensing boards, following their own licensing examination, grant to those holding a university degree a license to practise. In the Province of Ontario, the report says, the public has the double safeguard of a degree, satisfying the university tests, and of the licensing examination conducted by the College of Physicians and Surgeons.

DOCTOR DIES AFTER HE FINDS A NEW REMEDY

The late Dr. Charles Arthur Ellis, widely known Denver physician, was the discoverer of a bacteriological fluid which he had perfected through ten years of intense scientific research and with which he had been able to effect a large number of marvellous cures of pernicious anaemia, hitherto considered incurable.

Just before his death, Dr. Ellis had planned to make public to the world through an address to the Denver City and County Medical Society his achievement, and then devote all of his time in continuing this work. He had planned to show several of his patients, who are now well and able to be about their regular business duties, at this meeting and lecture upon the scientific aspects of the work.

Pernicious anaemia is called pernicious because practically none suffering from the disease gets well, physicians declare.

"Dr. Ellis held that cases of pernicious anaemia were not pernicious as generally conceived," said Harry H. Wear, his assistant in this research work. "His theory was that they were simply secondary anaemias, due to some primary focus of infection. By use of his bacteriological fluid he raised the patient's immunity until the patient could fight off the disease himself, with the aid of the symptomatic treatments now in general use. It was through bacteriological therapy and specific treament that Dr. Ellis was able to effect these cures."

Wear also stated that Dr. Ellis had cured 80 per cent. of 28 cases he had handled.

BROOKLYN SURGEON SUED FOR DAMAGES

An action for $50,000 was begun in the Supreme Court, Brooklyn, on March 19, against a surgeon who is accused by a woman patient of having sewed up a needle in her abdomen following an operation. A second operation was performed, but no needle was found, and no relief resulted. The defendant has made a general denial and has applied for a bill of particulars.

POSTHUMOUS HONORS FOR PETERBORO MAN

Mrs. T. J. Horkins, of Campbellford, has received a letter from Adjutant-General Macdonagh, London, England, together with three medals awarded her son, the late Captain Richard E. Horkins. The decorations were the Mons Star, the Great War Medal and the Victory Medal. Capt. Horkins was killed in October, 1916, while a member of the 77th Royal Field Artillery. He enlisted as a lieutenant and was promoted to captain. Before enlisting in 1914 he was house surgeon at St. Michael's Hospital, Toronto.

UNVEIL MEMORIAL TABLET TO PETERBORO PHYSICIAN

In the presence of the medical staff of Nicholls Hospital and members of the Hospital Board, a handsome brass tablet was unveiled on April 19th in memory of Dr. Halliday, who died last year after serving for thirty-five years on the staff of the hospital. The tablet was the gift of Mrs. Halliday, widow of the deceased.

The resolution accepting the gift was moved by E. B. Fowler and seconded by William Madill. Richard Hall, president of the board; Dr. N. Greer and Dr. W. D. Scott paid tribute to the life work of the deceased. At the time of his death he was the dean of the Peterboro medical profession.

REVIEW OF MEDICAL PUBLICATIONS

THE PRINCIPLES OF ANATOMY AS SEEN IN THE HAND.

By Frederick Wood Jones, D.Sc., M.B., B.S.Lond. London: J. & A. Churchill. 1920. (15s. net.)

This work is based on lectures delivered by the author to officers of the R.A.M.C. at the Special Military Surgical Hospital, Shepherds' Bush. But it is also partly the result of attempting to teach medical students such principles of anatomy "as may be expected to interest them." How far the author has succeeded in his aim will quickly be appreciated by anyone into whose hands the book may happen to fall. The matter is arranged in twenty-seven chapters, each of which deals with some aspect of the anatomy of the hand, and each of which is brimful of interesting matter well treated. This part of he body "has been selected as a limited and self-contained study from which the student may learn more of principles and less of details than is usual in complete text-books of anatomy." In the opening chapter the author impresses on us the need for cultivating the faculty of observation. The instruments of precision in use at the present day rather tend to cast into the background the older type of physician possessing powers of observation comparable with those of a Sherlock Holmes combined with a Boy Scout; but the author holds, and rightly, that "the man who seeks success in Medicine does so in vain if he remains unobservant." He refers to the casual fashion in which some artists regard hands and feet, and cites as an exemple Rembrandt's famous "Lesson in Anatomy," in which the flexor group is shown arising from the radical condule of the humerus. In support of his statement he reproduces, as a frontispiece to the volume, the well-known picture. The succeeding chapters show that the author practices what he preaches. They are one and all packed full of the results of observation. But we are not presented merely with a dull collection of facts concerning the hand. Other regions of the body are invoked; and the phylogenetic bearing of the facts is duly expounded. In this connection we would specially refer the reader to the chapters on pentadactylism and the "formulæ" of digits, phalanges, etc. Perhaps the chapter on the joints is as good an example as may be cited of the author's treatment of his subject. The embryology of joints is briefly outlined, then the various types of joint (synchondrosis, syndesmosis, etc.), depending on what is required of the joint, are taken up; and so we are led to the diarthrodial joint, required specially in the hand because of the wide range of movement which it permits. Periosteum and capsule are then considered, the formation of ligaments, and the de-

velopment of intra-articular fat. The inter-articular fibro-cartilages then come in for a share of attention, and the author points out the difficulty of applying a common morphology to the different structures which form this class. The triangular fibro-cartilage of the wrist-joint is then taken up, and its significance expounded. Next come the articular cartilages the epiphyses, and epiphysial lines ,and the nutrient arteries. The remainder of the chapter deals with the chief features of the joints and ligaments of wrist, hand, and fingers. Another example of furnishing the student with "principles" will be found in the consideration of the action of muscles generally (Chapter XV). In this chapter the subject of muscular action is taken up, and "prime movers," antagonists, "action of paradox," synergics, and fixation muscles are described and explained. Here, as in other chapters, indications of inheritance from arboreal ancestors are remarked upon. This chapter closes with references to re-educating paralysed muscles, as distinct from the "trick movements" by muscles which were never paralysed. This substitution of healthy muscles is elaborated in the following chapters, which deal with the muscles, extrinsic and intrinsic, of the hand. If, after a fairly full repast on the contents of the book, we revert to the author's aim of teaching such principles as "may be expected to interest" his readers, we are struck by the success which has attended his efforts. It cannot fail to be appreciated both by the overburdened undergraduate and by his elder professional brethren whose day of examinations is long since past. Professor Wood Jones here shows us what the teaching of anatomy may be made, and we commend the volume to the attention of all anatomical teachers. We doubt not that the teaching of anatomy in such a fashion would whet the appetites of students so that, like Oliver Twist, they would "ask for more."

WARFARE IN THE HUMAN BODY.

By Morley Roberts. Pp. xii+286. London: Eveleigh Nash Company, Ltd. 1920. Price 18s. net.

It is a far cry to Loch Awe, but it seems a further cry from the freshness of sea-breezes and from the chatter o ndeck or in the fo'c's'le. It is an unusual sequence that an author publishes his lighter work before his deeper studies, but this is what Morley Roberts has done, and we have no fault to find with his performance. There may be few equally appreciative of Morley Roberts in his two varieties of literary scintillation. For example, novel-readers will be puzzled to learn that a ship with its male and female passengers and its contained potentialities is like

"an extruded zygote," but students of Mendelian principles will approve the aptness of the simile. Without doubt Morley Roberts has widened the circle of his readers and admirers.

Yet to the medical profession, to those of us who remember *Time and Thomas Waring*, the antithesis in style and matter is not so wonderful, and one recalls with professional pleasure the detail of operation theatre, symptoms, sensations, the operation, the anæsthetist, the surgeon: and one recognizes that he who could so describe a carcinoma of the transverse colon (for that is what *Waring* must have suffered from) is no tyro in medicine or its allied sciences.

Warfare in the Human Body is divided into eleven chapters, each chapter an essay, each essay the groundwork of what might be a volume. "Method in Science" is followed by thirty-two pages on "Malignancy," which the author concludes with the suggestion that the cause need not be sought for in transplantation nor infection, but in the altered interrelation of connective and epithelial tissue, and is linked to the balance maintained by endocrine activity.

"Repair in Evolution," "Inhibition and the Cardiac Vagus," and "The Theory of Immunity" are subsequent chapters, and indicate the wide horizon viewed in the book. The warning to bacteriologists against the coining of new terms which closes the chapter on Immunity is not unmerited, and might well have been associated with a plea for the consideration of existing terms and their reconstruction to indicate their inclusion.

Evolution, heredity, and the physiology of consciousness are dealt with in a manner which is at once enlightening and attractive, and the book closes with three appendices on the infective theory of cancer, the peroneus tertius, and Marcus Terentius Varro.

Warfare in the Human Body is a clever book well worth respectful study, and we give it our hearty recommendation.

It is preceded by a "Foreword" which is altogether admirable.

DIAGNOSIS OF DISEASE

By Hobart Amory Hare, M.D., B.Sc. Eight Edition. Pp. xii+562, illustrated. London: Henry Kimpton. 1920. Price 36s. net.

The handling of general diagnosis of disease in this volume is very commendable. The emphasis which is laid on the symptoms and signs is all the more striking by the omission of laboratory methods. The various pathological phenomena of disease are taken up rather from the standpoint of locality than in divisions which come under various methods of examination. It gives the student of medicine, whether under-

graduate or graduate, a good description of the signs and symptoms as they occur. There has been little attempt to explain the phenomena whereby the various signs and symptoms have been produced. If this had been done it would have made it much more interesting and profitable for the student.

TREATMENT OF THE NEUROSES

By Ernest Jones, M.D., M.R.C.P. London: Baillière, Tindall & Cox. 1920. (10s. 6d. net.)

This is in many ways a most interesting and readable book, of considerable practical value. Starting with an admirable introductory chapter on the nature and importance of neurotic states, the author goes on to a systematic, if slightly unorthodox, classification of the neuroses, with an account of the symptoms, pathogenesis, diagnosis, and treatment of each type. More than half the book is devoted to hysteria, and under that heading is given, to avoid repetition, a full discussion of psychotherapeutic treatment in general, suggestion, re-education and psychoanalysis being successively dealt with. The indications and advantages, the contra-indications and limitations, of each method are dealt with at length. The arguments are interesting and well worked out (though a good deal is sometimes taken for granted), but the book as a whole is one-sided, giving an impression of skilfully disguised special pleading, as, of course, the author is well known to be the leading British representative of the school of Freud. His exposition of the teaching of that school cannot be said to be entirely convincing on all points. The genius of Freud, and the great value and importance of his work, are undeniable, and may be cordially admitted, but many of his doctrines, while they may be true, are so revolutionary that something more definite in the way of proof of their accuracy is required than is here provided. It simply will not do to charge cities with ignorance or malignity, with dark hints as to unconsciously motivated antipathy. The burden of proof still lies on those who make the assertions criticised. The author does not apply to psychoanalysis the same acute and penetrating criticism which he directs against other methods. "Freud has shown . . ." becomes a few lines further on, and without further examination of the statement, "Now that we have realised . . ." The distinctions between facts and theories, between facts and the interpretations put upon them, are time and again ignored. Such sweeping and misleading statements as "Everyone who has seriously investigated the facts has confirmed Freud's views," do not inspire confidence. The fact that some of the Freudian

theories are unpalatable as well as revolutionary should not negative their general acceptance if they are indeed true, but some more convincing demonstration of their truth than has yet been made may justifiably be demanded. Psychoanalysts cannot reasonably expect us to accept at once such surprising and dogmatic statements as "The source of the morbid fear present in most cases of war neurosis appears to be repressed narcissism"—that is, infantile self-love, which is "genetically related to the usual form of sexuality," or "The essential morbid agent in alcoholism is probably always repressed home sexuality." They may be true, and actual proof may in the nature of the case be difficult, but at present the critics appear to have ground for their attitude. In spite of what we have said, however, the book is to be recommended as a clear and compact review of the subject, biased though it be, and it deserves the attention of all who have to deal with sufferers from neurotic complaints. There is a full classified bibliography, in which the proportion of German works is noticeably large.

THE ASSESSMENT OF PHYSICAL FITNESS

By Georges Dreyer, M.D., in collaboration with G. F. Hanson. Pp. xii+116. London: Cassell & Company. 1920. Price 10s. net.

The method of estimating physical fitness advocated by the writers depends on correlating the weight, the length of the trunk, the circumstances of the chest, and the vital capacity. Standard methods of obtaining these measurements are carefully described, and then from the tables given (which form the greater part of the book) it is a comparatively simple matter to calculate how far an individual deviates from the normal. For purposes of grading, individuals are classified on this basis as belonging to one of three groups. The whole method appears to be based on sound principles, and to be worthy of extended investigation here and in other countries.

AIDS TO ELECTRO-THERAPEUTICS

By J. Magnus Redding, F.R.C.S. London: Baillière, Tindall & Cox, 1920.

This handy little book purports to be a practical guide in the art of electro-therapy. Its object has been well attained by the author, whose style is clear and concise without omission of essential details. The whole, very extensive field of electro-therapeutics, including *x*-ray and radium therapy, is covered in 196 pages. As the purpose of the book is to serve as a guide, the omission of a bibliography is a serious one. If this were added the little work would serve its purpose admirably.

HOSPITAL NOTES AND REVIEWS

OCCUPATIONAL THERAPY

This term, which is fast coming into general use, signifies two sorts of restorative treatment of hospital patients: those who are suffering in medical hospitals from abnormal physical conditions long protracted, and those who have become inmates of hospitals for the insane. One of the valuable by-products of the war is the great advance made in surgery by medical men who but for it would never have had a chance to see operations that are seldom performed in times of peace; the other is the discovery of the fact that getting people either chronically invalid or chronically insane to become interested in occupations quite frequently effects a cure. Now that the war is over, and that the soldiers capable of being restored to normal conditions are becoming less numerous than they were, it is interesting to know that the work is rapidly increasing in extent in the hospitals for the insane, whose numbers are constantly growing.

Comparatively few people are aware that there is in existence, though not yet in very active operation, a chartered organization, under the name of the "Ontario Society of Occupational Therapy," the motive of which is to secure as speedily as possible more extensive use of this method of treating abnormal people in the ordinary hospitals for both the injured and the insane. Presumably the movement referred to will receive a much-needed impulse from the very successful meeting recently held in Government House. It should not be forgotten that occupational therapy is really a mode of education, and that it differs in no essential respect from the methods of the kindergarten and of analogous work in more advanced school classes, where hand work is introduced for not vocational but cultural purposes.

THE ÆTIOLOGY OF COMMON WARTS

Hyperkeratosis resulting in the formation of warts, may be produced by the tubercle bacillus, by the gonococeus, or by the implantation of foregin bodies, like glass or steel. Variot and Jadassohn, over twenty years ago demonstrated by experiment that the common wart was contagious. Recently Wile and Kingery have published experiments which show that the infective agent is filterable (*Jour. Amer. Med. Assoc.*, February 12, 1921.) Ordinary lesions of verruca vulgaris were removed by curettement and ground up in a mortar with a small amount of saline. The mash thus obtained was then filtered in the finest Berkefeld

filter. The sterility of the resultant filtrate was demonstrated by adding portions of it to various culture media; the remainder of the filtrate was then injected subcutaneously into several human subjects. Following an incubation period of four to eight weeks, extremely small papular lesions appeared at the site of the injections of the sterile filtrate. Some of these lesions, after remaining stationary for a time, underwent spontaneous involation. Others gradualllly increased in size until they had attained the dimensions of a split-pea. Using the lesions thus produced a second generation of growths was obtained whose histological characters were those of typical warts.

THE WONDERS OF THE HUMAN HEART

From Geneva comes the story of a man's heart which ceased to beat for fourteen hours and then resumed operations to the surprise of the mourners preparing for its owner's funeral. That good man had suffered from heart disease for years, and now his doctor says he may live a long time. The rest seems to have done his heart good.

If any human organ deserves a rest—and they all do, if they could get it—the heart would appear to be the one in the most need. Charles Nevers Holmes has been telling the world something about its big job in the Scientific American.

Mr. Holmes calculates that the heart beats on an average 75 times per minute, 108,000 times daily and 39,000,000 times yearly. He explains how the heart-engine contains four compartments, two auricles and two ventricles. "The auricles are reservoirs, which supply the pumping ventricles with blood. Therefore, the dynamic energy of the heart resides in the right and left ventricles. When these ventricles contract, the right ventricle sends its supply of impure blood to be purified by the oxygen in the lungs, and the left ventricle forces its supply of purified blood to circulate in the body."

Mr. Holmes estimates that the hard-worked heart pumps 750 cubic inches of blood every minute, or more than 225,000 cubic feet of blood per year. "Were the heart a water pump instead of a blood pump, it would expel, inasmuch as a cubic foot of water weighs about 62½ lbs., approximately 7,000 tons of water during the course of one year."

Again relying on Mr. Holmes' teestimony, if we were to collect in a cubical reservoir the blood a single heart pumps in a year, that reservoir would have to be about 61 feet in each of its dimensions.

Any one who is statistically inclined may now calculate how much energy the heart was spared that took its fourteen hours' rest.

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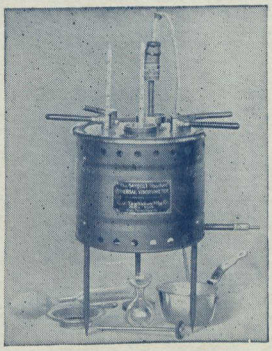

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