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No. 7.

ORIGINAL ARTICLES.

THE BLOOD IN DISEASE.

By Dr. Gordon Bell, Bacteriologist to the Provincial Government of Manitoba.

The routine examination of the blood in disease has been very generally neglected by the busy practitioner, and little wonder, for the imperfect technique given in most of the text books, and the uncertain results obtained, were to say the least, discouraging.

Yet from this source, information of untold value may be derived and by modern methods, with comparatively little trouble.

Acting as the carrier of nutritive substance to all parts of the body and bearing from the tissues to the excretory organs the waste products of metabolism, the blood must of necessity be gravely affected in any serious derangement of the organism.

Many of the changes produced by disease are so subtle as to be at present beyond our means of recognition, but wonderful progress has been made in the last few years in this field so that now from a study of the blood, one often gets light on the most diverse pathological conditions.

The examination may be practically brought under four heads, omitting the estimation of the specific gravity and re-

action, which are of minor importance.

- 1st. Enumeration of corpuscles.
- 2nd. Estimation of Hemoglobin.
- 3rd. Examination of fresh unstained preparations.
- 4th. Examination of stained preparations.

The corpuscles are best counted by the hæmoeytometer of Thoma-Zeiss, or fairly accurately by the hæmatocrite, one of which generally goes with the ordinary centrifugal apparatus used for obtaining urinary sediment. It consists practically of two fine graduated capillary tubes with a frame to hold them, the ends of the tubes being closed when fixed in the frame by little spring buffers.

The small tubes after being slightly warmed, are sucked full of blood by means of a small rubber tube, quickly transferred to frame and made to revolve at a high rate of speed for several minutes.

The corpuscles gravitate to the outer end of the tube, and their proportion can easily be read off.

For the estimation of hæmoglobin, the apparatus of Von Fleischl is the most satisfactory.

A little cylinder with a glass bottom is divided into two compartments by a vertical partition, under one of these compartments, a long narrow wedge of color-

ed glass is arranged to move backwards and forwards by means of a screw. Each compartment is then half filled with distilled water and into the outer one a small capillary tube full of blood is introduced, both chambers are then completely filled with distilled water. The instrument is so arranged that when the index is at 100, the tint in the compartment overlying the colored wedge of glass, exactly corresponds with the tint of the compartment to which the capillary tube full of normal blood has been added. Should the blood be deficient in hæmoglobin or contain an excess, the wedge is moved slowly backwards and forwards under the compartment until the tints exactly correspond, when the number on the scale is read off. The result is generally indicated as follows (accepting 5000000 red blood corpuscles per c.m.m. as normal) 5000000 c=Von Fleischl 100=color index 1 so that color index of normal blood is 1. Take for example however, blood in a case of chlorosis, where you have the hæmoglobin diminished, here you may have say 5000000 c=Von Fleischl 75 color index .75. Again in pernicious anæmia where you have a diminution of corpuscles with a relative increase in amount of hæmoglobin, you may have 25000000 c= Von Fleischl 60= color index 1.2. The color index then is merely a convenient way of indicating the richness of each corpuscle in hæmoglobin.

It will be found easier to use this instrument by artificial light, and a good plan is to look down on the compartments through a tube made by rolling up an ordinary piece of foolscap.

In the preparation of specimens for microscopical examination, the essential thing is to have ones cover glasses and slides absolutely clean. This is accomplished by boiling in strong sulphuric acid, and then washing in a mixture of

equal parts of alcohol and ether, drying and protecting from dust.

The slightest amount of grease or moisture or foreign bodies, such as particles of cotton fibre, will seriously interfere with results. To obtain blood the finger, or better the lobe of the ear, after having been cleaned carefully with ether, is pricked with a sharp lancet or one of the needles specially prepared for the purpose.

The drop of blood should not be larger than the head of a small pin, and should be obtained without squeezing, as by this means it is said to be possible to produce an artificial leucocytosis, by forcing the corpuscles out of the lymph spaces.

When a suitable drop is obtained the centre of the cover glass is brought lightly in contact with the drop and immediately laid gently on the glass slide. The blood should spread evenly to the extreme edge of cover glass. On no account should pressure be used and for holding cover glass during operation, a pair of forceps bent on the flat are to be recommended.

Much can be learned from fresh specimens of blood prepared in this way, such as, alterations in shape of corpuscles, or any important increase in the number of leucocytes, and the formation of fibrin can be watched.

The procedure in the case of permanent specimens is practically the same, only that the cover glass is laid on another cover glass so that they over-lap to about two-thirds of their extent. When the blood has spread out evenly between them, they are rapidly drawn apart. The best way to do this is to bring the elbows together, with the cover glass held by their projecting ends, between the fore finger and thumb of each hand, on a level with the eyes. The fore arms are then quickly and evenly separated, so that the cover glasses are slid apart as nearly as possible in the same plane. The films of

blood on these are allowed to dry in the air, and may be kept for a considerable length of time if protected from dust.

To be continued.

INTERESTING CASES OCCURRING IN
THE PRACTICE OF DR. O. GRAIN
OF SELKIRK, MAN.

P.S. aged 32, fell about 32 feet. I found him suffering from a certain amount of collapse with quickened pulse, swelling shortly appearing with great distension over the region of the liver. This became so great that on the sixth day I introduced an aspirating needle, draining off from 20 to 30 ounces of bile. This much relieved the pain and urgent symptoms. The fourth day after I again aspirated draining off a similar quantity. The bile again accumulating I determined to operate and use a Murphy button. Diagnosing a rupture of the gall bladder. After making an incision and carefully manipulating I found that the gall bladder was intact. During the operation a large quantity of bile escaped. I found several large portions of liver semi-detached, proving this organ to have been extensively ruptured. I introduced a glass tube for drainage purposes, stitching the peritoneum to the integument. Considerable sized pieces of liver were discharged through the wound, pushing out the drainage tube which I did not again introduce. To my surprise few untoward symptoms presented themselves, subsequently. The wound healed kindly, and the man progressed to perfect recovery and has resumed his former occupation in a fish freezer.

A. T. was out shooting and was carelessly leaning on a loaded gun. A child was fiddling with the trigger and discharged the fowling piece, charged with No. 4 shot, into the muscles of the back, driving the wads deep into the muscular structure. The shot penetrating the lung. The hæmorrhage was alarming, and collapse extreme. I had

little hope of saving the patient but managed to extract all the wads and a large portion of shot which had lodged in the axilla. The man's condition prevented any prolonged operation, and after arresting all bleeding I hermetically closed the wound. About two weeks after, the patient going on favorably, in consultation with Dr. Blanchard, who was his usual medical attendant it was decided to bring him in to the Winnipeg General Hospital, where, after a convalescence of some months he completely recovered and has resumed his occupation as a street car conductor. The severity of these injuries and their complete recoveries from their effects are the chief points of interest in the above cases.

SELECTED ARTICLES.

EXPERT TESTIMONY.

Dallas Sanders, of the Philadelphia Bar, read by invitation, before the Philadelphia County Medical Society, May 25, 1898, a paper upon this subject, in which he said:

"No clearly definite rule is to be found in books as to what constitutes an expert. According to the 'Century Dictionary,' an expert witness is 'in law, a person who, by virtue of special acquired knowledge or experience on a subject presumably not within the knowledge of men generally, may testify in a court of justice to matters of opinion thereon, as distinguished from ordinary witnesses, who can in general testify only to facts.' Justice Sharswood said in 1869, in *The Ardesco Oil Company vs. Gibson*, 63 Pa., 148, that a court would not allow the opinion of the witness, not a doctor, as to the effect of an injury to the plaintiff's health, to be admitted as evidence. *Water Co. vs. Stewartson*, 96 Pa., 436. It is proper, however, for a physician, after he had described the injuries found on the body of the deceased, to state what, in his opinion, caused her death and how the injuries were inflicted. *Commonwealth vs. Crossmire*, 156 Pa., 304.

"The opinion of a witness who neither knows nor can know more about the subject

matter than the jury, and who must draw his deductions from facts already in the possession of the jury, is not admissible. Were it otherwise, the opinions of the jurors upon the most obvious facts might be always shaped for them by testimony of so-called experts, and thus would a case be constantly liable to be determined, not by the opinions and judgment of the jury, but by the opinion and judgment of the witnesses. *Dineoski vs. Coal Co.*, 157 Pa., 273.

"Before a doctor was asked to give his professional opinion as to whether a fractured limb had been skilfully or unskilfully treated, he had testified that he had graduated at a medical college and had subsequently served as a surgeon for three years in the army, and that he had examined and treated the plaintiff's injured limb. The court held that he was competent to testify as an expert. *Olmsted & Baily vs. Gere*, 200 Pa., 127.

"A witness called to testify as to the chemical purity of certain whisky stated that his profession was that of an attorney-at-law-- he had practiced it for forty years, and had never been a practising chemist. It was decided that he was not qualified as an expert. *Hass vs. Marshall, S. C.*, May 22nd, 1888, C. P. of York County.

"Witnesses, except experts, who are produced in court and examined, are not allowed to give their opinions or their beliefs. They are merely produced in court to testify as to the facts that have come under their actual knowledge, but an expert can give the jury and the court the benefit of his opinion and of his belief. Therefore, physicians and surgeons when produced to testify in court, not as to an injury that they have seen or at which they were present when it took place, but as to their belief as to the result of that injury, or as to the condition of the party, have higher rights: that is, what you might call higher rights: they stand on a different plane from ordinary witnesses, and it is very important that the medical profession should realize the position that they hold before the court and jury, for their testimony may take away a man's liberty or his life or his property or his

possessions.

"The difficulty that I have seen in expert testimony of the medical profession is that it is hard to make the jury realize the standing of the men who are testifying, and the thoroughness with which some have followed their profession as against others who have not been so careful. In the presentation of a case by doctors as expert witnesses on the one side and on the other side, the standing, the ability and the thoroughness of each man should, in some way or other, be shown, so that the jury could realize whose opinion should have the greatest weight. English judges probably present this more clearly and more emphatically to the jury than our judges do.

"The criticism that I have to make of medical experts is that they are inclined to testify that a possibility is a probability, that is to say, when a man has been injured, there is a possibility that he may be permanently injured from the accident, or that he may die from it, but the expert, becoming a little over-zealous or too much interested in the cause which he has at heart, will state to the jury that a man probably may die from his injuries, when the history of such case will probably show that he will get well, and probably not die, but that there was a possibility of his being permanently injured and a possibility of his death.

"According to the Act of 1895, a physician cannot be compelled to testify as an expert.

"According to the Act of June 25th, 1895, Section IV., no physician is allowed in any civil case to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity, which shall tend to blacken the character of the patient without his consent.

"The testimony of an expert is of great importance to the man who is employing him. The technical terms in your profession are much more numerous than the legal profession, and they are very difficult even to a lawyer who has paid some little attention to accidents and to medical matter, to follow: therefore, it is much harder for a jury to follow these terms, and it is of importance that medical expert testimony shall be de-

livered in careful, plain English that every man in the jury, whether he is a bricklayer, or whether he is a coachman, or whether he is a merchant, or whether he is a professor in college, may understand it. That has as much weight in the success of a case, in the view the physician gives as almost anything else. I think the profession realize the growth and the importance of expert medical testimony. The courts, certainly in this country, have had more physicians before them in the last ten years than they had twenty-five years ago. The most eminent men in the profession are called frequently, and I have seen them in court, and it is a very important branch of your professional work. Probably there is some criticism employed, one or the other differ in their expert opinion as to whether a man is sane or insane, whether injured permanently or not, whether he will die or live from the effect of an accident. It might be better if the court could pass rules that there should be a certain number of experts on each side, that their fee should be recovered as part of the costs of the case, and regulate the fee and rule that the number of witnesses should be the same on both sides, except where an accident happens, where the family physician comes in. In this instance the family physician would be presented by himself on one side, and then the other side should have a right to call a person opposed to him. I have always found in the trial of accident cases that the family physician generally gives a very fair and truthful statement of the case. The greatest source of difficulty when expert medical testimony is brought into court is to find on one side able men who have one view of the case, and on the other side able men who have another view. Even when it holds with our theory of the case, we are sometimes startled by the testimony given by distinguished physicians, who are known as specialists, either alienists or neurologists, for instance, when they tell you a man, who is looking perfectly well, is doomed to live a life of misery or to die. It is very difficult to understand. At the same time I must admit that when I have been on commissions to determine whether a man

was sane or not, and from my own conversation with and examination and observation of the man, I, as a layman, could not clearly decide as to the insanity, having confidence in and relying upon my medical associates, I have felt perfectly satisfied that our views on the subject, when they said the man was insane, were correct. They could give me reasons I had not known of how the man we were examining was insane. So, when a jury is treating a question of insanity, they do not see any particular defect in the man's eye or peculiarity in his manner, but still the physician can come forward and tell them and they are convinced. Thus, I say, the medical profession, in the line of experts, is every day becoming more and more important in their bearing on man's life and liberty and upon his retaining business and his property, and I feel a great interest, and am very much gratified at being called to say these few words before the medical profession, for my brother members of the legal profession have the highest regard for the work that you gentlemen are doing.

"Years ago the expert testimony of physicians did not have the great weight that it does to-day, so the profession should be profoundly impressed with their grave responsibility as expert witnesses."—Philadelphia Polyclinic.

OPERATING GLOVES.

Dr. W. B. Brinsmade said that the question of operating-gloves was attracting considerable attention in the surgical world and he wished to exhibit the gloves which were being used at St. John's Hospital. He said that at first cotton gloves were used, and while his experience is too short to say anything very definite about them, yet they have been used with great success, and with a certain amount of moral certainty that the nurses and assistants have clean hands. He stated that one feels much more comfortable with these gloves on.

Another style is the seamless rubber glove, pressed rubber, a little cheaper than the more elaborate ones exhibited by him, but not made as well. The ideal glove at present, in his judgement, is the thin rubber

glove already referred to. They can be worn for an indefinite length of time. When properly taken care of they will wear a month, operating every day; and when worn they can be repaired. They are very easily sterilized in boiling water in two minutes. Dr. Brinsmade experimented with these gloves and found that they could be easily and satisfactorily sterilized after being dipped in the pus of an abscess. He has received the following pathological report based upon bacteriological tests made by Dr. Archibald Murray:

The following experiments were made in order to determine the length of time necessary to sterilize rubber operating-gloves by means of Shering's Formalin Sterilizer:

Two kinds of culture media were used:

1. Löffler's medium: Blood-serum and sugar beef-tea.

2. Agar.

In experiment No. 1 a rubber finger, previously sterilized by boiling, was smeared with pus and blood from an infected wound of the hand. Two pieces were immediately cut out with sterilized scissors and forceps and one piece placed in a tube containing Löffler's medium, and one in a tube containing agar. The rubber was then placed in the sterilizer. Two five-grain paraform pastilles were placed in the cup and the lamp lighted.

In six and one-half minutes the light went out and the rubber was allowed to remain in the sterilizer three and one-half minutes longer, making the total length of time in the sterilizer ten minutes.

With sterilized instruments pieces were now cut out of this sterilized rubber and one piece placed in a tube containing Löffler's medium, and one in a tube containing agar. These four tubes were placed in an incubator at 37.5° C. for twenty-four hours and then examined. The tube containing Löffler's medium with the non-sterilized rubber showed a well-marked growth, consisting of light-orange colored colonies.

The agar tube with the non-sterilized rubber showed a well-marked growth consisting of small white colonies which at the end of forty-eight hours had turned to a light

orange color.

Mounts from the growths in these two tubes showed a staphylococcus probably *staphylococcus phogenes aureus*. The tube of Löffler's medium and the tube of agar in which was placed the sterilized rubber, showed no growth at the end of twenty-four and seventy-two hours.

Experiment No. 2 was conducted in the same manner as No. 1. Pus from a small abscess over the eye was used.

Two five-grain paraform pastilles were used as in the first experiment. The lamp burned for six minutes and the rubber was allowed to remain in the sterilizer one minute longer, making the total length of time in the sterilizer seven minutes. As in the first experiment, portions of the non-sterilized and sterilized rubber were placed in tubes containing Löffler's medium and agar and these were placed in the incubator at 37.5° C. for twenty-four hours.

Colonies and mounts from the two tubes containing the non-sterilized rubber were identical with those in experiment No. 1.

In the tube containing Löffler's medium and the sterilized rubber there was no surface-growth but the culture medium showed a large number of pittings, but no liquid. A mount made from the centre of one of these pits showed a few cocci evidently those which were put in on the rubber and killed by the sterilization.

This pitting of the culture medium was probably due to evaporation. To determine whether there was any growth in this tube, scrapings from a number of these pits were put into a tube of beef-tea and this was put in the incubator at 37.5° C. for twenty-four hours. No growth appeared. In the agar tube with the sterilized rubber no growth appeared. Both of these tubes, after being examined at the end of twenty-four hours, were put back in the incubator for forty-eight hours more, making a total of seventy-two hours, as in experiment No. 1. The results of these two experiments show that while rubber gloves covered with ordinary pus-organisms can be sterilized in seven minutes, a stay of ten minutes in the sterilizer would be safer.

Dr. B. B. Mosher observed that if a surgeon goes to the dissecting-room, or to a septic case, and from there to an operation, and feels sceptical about his hands, why should he not wear the gloves in the dissecting-room and in the septic case and keep the hands clean, and then go without gloves in the operating room?

Dr. W. B. Brinsmade said that Dr. Mosher's idea and his about the cleanliness of the hands are a little different. It has always seemed to him that the major part of infection in clean wounds came from the fingers of the operator and his assistants, and it is in the desire to get the fingers absolutely clean that we want to adopt something of this sort; and perhaps now the best thing in the eyes of the surgical world is the glove. The same precautions in washing the hands are taken here, and in the use of the cotton gloves they have to be changed during the operation, which is an objection to the cotton glove. The object of gloves is not to save the hands, but to insure greater cleanliness.

COCAIN IN OPHTHALMIC PRACTICE

Dr Theobald, in the *Johns Hopkins Hospital Bulletin*, writes a word of warning about the too free use of cocain in the treatment of diseases of the eye. It has come to be quite common for the general practitioner to use cocain in eye inflammations, the inducement being that it diminishes the pain temporarily and so causes a measure of relief. The conditions in which it is used are various. He says:

"I have met with many instances in which it was prescribed in simple catarrhal conjunctivitis. There seems to be no indication for its employment under such circumstances, and it is capable of doing much more harm than good. Because of its pronounced disturbing effect upon the nutrition of the cornea, cocain is not a remedy to be used carelessly in eye diseases. It acts, as you know, through the sympathetic nerves, or chiefly in that way, and, besides anaesthetizing the eye, it dries the cornea to a remarkable degree. The cornea not only becomes dry, but the epithelium becomes loosened, so that it is

easily rubbed off, sometimes by the friction of the lids, or from the slightest touch of the instruments used. Any agent that has so marked an effect as this upon the nourishment of the cornea certainly seems not to be a safe one to use, unless there is a clear indication for its employment. The field of usefulness for cocain, apart from its anaesthetic action, is extremely limited. I scarcely think, indeed, there is any occasion to prescribe it as a remedy in eye diseases, though it may be used sometimes to increase the action of other drugs; for instance, atropia, or homatropia, will dilate the pupil more quickly and powerfully if combined with cocain. Even here I prefer to keep the solutions separate, and to instill the cocain first, and then the atropia. It is also useful as preliminary to the application of astringents or caustics, like the sulphate of copper or nitrate of silver, as it greatly lessens the discomfort, but this is only another phase of its anaesthetic action."—*Journal of the Am. Med. Association.*

DIPHTHERIA OF THE EYE.

McCollum, writing on "Antitoxin in the Treatment of Diptheria" (*Boston Med. and Surg. Jour.*, for August 18th.) mentions fifteen cases in which the sight would undoubtedly have been lost except for the heroic administration of antitoxin. In only one of these cases was there destruction of the organ, and this was in abnormal condition at the commencement of the attack. "When a diphtheritic membrane appears in the eye the effect of antitoxin on the membrane can be more carefully studied than when it appears in the pharynx. In some of these cases 2,000 units were given as the initial dose, and this was repeated in six or eight hours, if there was not a marked improvement." Except in very young infants, he believes the initial dose should be 2,000 units, and in severe cases 4,000 units may be given; the more concentrated the better, as the possible source of danger lies in the amount of fluid, and not in the inherent property of the antitoxin.—*Ophthalmic Record.*

TRENDELENBURG'S OPERATION FOR VARICOSE VEINS.

Custom (*Annals of Surgery*, May, 1898) regards Trendelenburg's operation as the ideal method of treating varicose veins of the lower extremity associated with extensive ulceration. Trendelenburg found by experiments that the veins of the leg, after they had been temporarily emptied by elevation of the limb and compression of the trunk of the saphenous vein, are refilled slowly by the return blood coming from the arteries, and instantly by a blood wave coming from above downwards. The conclusion that the veins in the leg are distended by great central pressure led this surgeon to advise ligature of the saphenous vein at two points and excision of the vessel between the ligatures. An incision about four inches in length is made over the saphenous trunk, beginning just above the union of the lower with the middle third of the thigh. The vein having been exposed is carefully freed with a blunt dissector, and all branches going off from the vessel are ligatured. A ligature is then placed on the venous trunk at the upper, and another at the lower angle of the skin incision, and the portion of vein between these two ligatures is cut away with scissors. Custom's experience has led him to the conclusion that Trendelenburg's operation is certainly the greatest advance that has ever been made in the treatment of ectasis of the saphenous vein and, although every case submitted to this treatment has not resulted in a complete cure, it is almost always followed by marked improvement with rapid cicatrization of the ulcers.

THE MENOMETER.

This is a new French machine which is supposed to register a man's will power and show the intensity of his thought. When a person near it goes against a hard mental proposition, the registering needle jumps around in an agitated manner, but in the presence of an idiot the needle clings to zero and takes no further interest in matters.—*London Monthly Magazine.*

STEAMING INSTEAD OF CREMATION

Cremation, though often a very convenient, is after all a very wasteful process for the disposal of the refuse of slaughter-houses and fish markets, to get on without which is a great difficulty in town sanitation. The same is the case in regard to many business processes connected with the preparation of foodstuffs. To destroy infection and to deprive these diseased and decomposing bodies of all power of doing harm, the glowing heat of a furnace is, however, by no means a necessity. A steam heat does all that is required. So at *Essa*, in Westphalia, instead of cremating all this refuse, they just steam it, extracting the gelatine and the fat, and using the residue as a harmless and well-cooked manure.

There is a jacketed, steam-heated cylinder, in which a perforated cylinder revolves. Into the inner cylinder the refuse is thrown, steam is turned into the outer jacket, and thus the whole is warmed, the vapours which are given off being pumped out and burned in a furnace. Then steam is turned into the cylinder where the revolving drum is grinding up and centrifugalising the refuse. This is thus thoroughly heated, the fat and gelatine flow away, and ultimately, the steam being turned off from the inner cylinder, air is passed through it, by which the well-cooked compound is dried, and any disagreeable exhalations are carried into the furnace for consumption. Nottingham is about to adopt this system of steaming the refuse of its abattoirs. Health.

A SPECIFIC FOR HICCOUGH.

Dr. Henry Tucker recommends the use of the following very simple remedy in the treatment of hiccough, namely: Moisten granulated sugar with good vinegar. Of this give to an infant from a few grains to a teaspoonful. The effect, he says, is almost instantaneous, and the dose seldom needs to be repeated. He has used it for all ages from infants of a few months old to those on the down-hill side of life—and has never known it to fail. The remedy is certainly a very simple one, and although no theory is advanced to account for its wonderful action, it merits trial.

THE EPILEPSY OF NAPOLEON.

Taken from *The Medical and Surgical Bulletin*,
Nashville, Tenn.

No life in its singularity better supports my theory that epilepsy is fundamental to genius, than that of Napoleon, as he was surely one of the most complete examples of genius. He not only had motoria convulsions, followed by sleep and unconsciousness; excessive violence without cause, so common to genius, but the phenomena rarely noted in psychic epilepsy—momentary mental absences. Nor was an hereditary cause lacking. It is well known that epilepsy is often inherited through parents addicted to alcohol. Napoleon himself confessed to Antommarchi that his father drank, and he died young of a cancerous affection. He was talented, intriguing, and lacking, or almost entirely so, in moral sense. It was known he was an old friend and follower of Paoli, whom he abandoned at the time of his exile, and thenceforth became a client of the French governors. Napoleon's sisters were very immoral, especially Pauline, who was hysterical; it was she who allowed herself to be sculptured nude by Canova. Lucien was selfish, avaricious and sensual. The mother, however, was a woman of solid character, resolute, intelligent and imperious.

Napoleon was short of stature, barely five feet tall, though he measured five feet six and a quarter inches from finger-tip to finger-tip; which is considered by the alienist, a mark of degeneration. The mesocephalic head, with depressed temples, was not lacking in anomalies, especially the heavy jaw, with the pendant lemuria that is familiar to us all, the salient cheekbones, arched zygomatic bone and scanty beard, which one sees in his youthful portraits, before adulation had transformed the expression of his face. The upper and lower parts of his body lacked proportion, the legs being too short in comparison to the trunk; the head sunk between the shoulders, and the back slightly curved. He had hyperesthesia to such an extent that he had his room heated as late as July. He perceived odors

when no one else noticed them. He suffered from frequent migrains, and had an exaggerated form of what I call meteorologic sensibility, causing him to feel the approaching changes in the weather, from which he suffered, becoming ferocious when it was damp. As is frequent with epileptics, he had muscular contractions, especially when under strong emotion. In anger the muscles of his calves twitched. When he treated of new schemes he was addicted to what are called Jacksonian convulsions, twisting the right arm and raising the right shoulder, with contortions of the lips and grinding of the teeth. From his youth he had regular epileptic convulsions. At one time at school in Paris, he was to have been punished for insubordination, by wearing coarse clothes and by eating on his knees, but he was seized with such a serious attack of convulsions that the punishment had to be spared. In a journal of travel to Margonza in 1804, kept by an unknown lady of the court, and in Constant's *Memoirs*, it is stated that on September 10, Napoleon had one of the nervous attacks to which he was becoming subject. Josephine called for assistance and after many hours of anxiety it passed over. The Emperor forbade its being spoken of. Another time Constant saw him in an attack between epilepsy and incubus, lying on his elbows in bed, shaking and screaming; he was awakened with much difficulty, and pretended to have dreamed that a bear was tearing his chest. Talleyrand saw him in a more marked attack, when in 1805, he went with the Emperor to Strasburg. One afternoon he saw him go into Josephine's room; soon afterward he came rushing out, grabbed Talleyrand by the arm, almost dragging him into a near room, confusedly asked him to close the door, when he dropped upon the floor as if dead. "He trembled and foamed with convulsions, which lasted about a quarter of an hour. Soon after, he began talking then rearranged his clothes, and recommended silence to us: half an hour later he was on his way to Carlsruhe." Like many epileptics, he had a very slow pulse, 48, and later 60 to the minute.

Great were his mental absences. Wolsley

declares a military plan was adopted at Borodino which insured success, and that the victory was lost by the actual mental paralysis of Napoleon. At Dresden, as after the battle of Moscow, he lost the fruit of the battle by a sudden mental absence which prevented him from making a decision: at Moscow he did not decide to comply with the request of his generals and order out the reserve to pursue the Russians. His mind certainly was not clear when, at Vassarvi, simply because he was affronted at not receiving a reply from Alexander, he decided, almost without preparation, upon a plan of invasion against a solid war like people, protected by the steppes, the cold, and above all by intense patriotism.

He was entirely lacking in moral sense, as is common with epileptics, which Taine justly says, made him a great leader. Thus at Cherasco he said to the Savoyard general with whom he was treating for an armistice: "I wanted to demand in the treaty that was being closed, a fine picture of Gerard Dow, which belongs to the king, and is one of the masterpieces, but I could not see how to put a picture in an armistice, and I feared it would seem a strange freak, especially having the fortress of Coni attached to it." It is the language of a brigand raking a redemption. In his talk with Metternich at Dresden, when the latter remarked that the late war had cost 200,000 lives, Napoleon answered: "What are 200,000 men to me?" Napoleon's complete lack of moral feeling was reflected in the phrase, although purely official, of the bulletin issued from the horrible Russian carnage: "The health of the emperor was never better." No Asiatic despot, even in ancient times, could have dictated a sentence more jarring on the mournful scene of death from which it was issued. Madame Remusat relates of Napoleon's having said in a conversation with Josephine: "I am not like other men; moral and social laws were not made for me." Upon another occasion, in reprimanding the Bishop of Grand, who did not wish to give his oath, as it conflicted with one he had already sworn, Napoleon said: "*Eh, bien monsieur*, your conscience is nothing but stupidity." The evening of the 13th ven-

domiaire, being present at the arrangements of the insurrection of the sections, he said to Junot: "Ah! if the sections would only place me at their head, in two hours I would install them at the Tuilleries, and would clear out all the miserable conventioners." Five hours later he headed the conventioners and had opened fire upon the Parisians. These qualities did not develop late, but were manifested at an early age: even in college he was reticent and deceitful. His worthy uncle, Corso, prophesied a splendid future for Napoleon, because he was master of falsehood: the eulogium which Napoleon reversed upon Metternich.

His baseness reached the point that at a public banquet he spilled some oil on the gown of a great lady, of whose honor he wished to rob her, that he might have a pretext to retire with her into the next room. One should read his recently published correspondence to see how, aside from the monumental Cæsarean style of his proclamations, he used a coarse, slangy language. It is known that many of the worst letters have been suppressed and will never be seen. How unfortunate that he should have shown these qualities even in treating with sovereign and foreign ministers of state; insulting them in his proclamations, his letters and his audiences; revealing their love intrigues, whether actual or supposed. The bulletins 17, 18 and 19 after the battle of Jena, openly accuse the Queen of Prussia with an intrigue with Alexander of Russia.

His unlimited selfishness was shown in Egypt and Russia when, at a time when everything depended upon him, he abandoned the army for the sake of saving himself. He would never have raised his brothers and brothers-in-law and many of his generals, except to have them as instruments in his hand, as reflectors and magnifiers of his own light. He thrust them cruelly against their people for his own interests. When he crossed into Italy the first time, he began with the phrase "my soldiers" and "my army," and finished by talking of "my people," "my senate," and even of "my bishops," and "my cardinals," as though they were his puppets. For arranging, directing and mastering the practical affairs of life, such incomparable

and lively passions form a tremendous force. This force was Napoleon's selfishness: not the inactivity of the many, but active, aggressive selfishness, developed to the point of creating an infinite Ego, so that in the vast domain in which it acts it cannot suffer another existence, unless it be an appendage or an instrument of its own. As a child this characteristic existed in him in embryo. He was rebellious at every reproof; without scruples, without conscience; intolerant to rivals, ready to fight any one who would not give way to him, while he accused others of attacking him. He considered the world as a magnificent banquet open to all, where to be well-filled it is necessary to have long arms and help one's self first, letting others have only what is left. Man, according to him, is dominated with his same selfish passions of fear, cupidity, self-love and emulation. Napoleon never departed from these ideas, nor could he: they being a part of his character, he saw the man as he chose to see him.

His selfishness, reflected in ambition, took such possession of him as to kill his conscience, and ambition finally caused his downfall. It was not enough that his functionaries were active and zealous; after having killed every critical sense in the man, he must belong to him body and soul; and in the slightest observance he suspected a conspiracy or an attempt upon his majesty. He demanded every agreement of service from his functionaries even though criminal from the falsification of the Austrian and Russian notes in 1809 and 1812 to the projection of an infernal machine against the Bourbons, in 1814. Gratitude was unknown to him: when a human instrument no longer served him he cast it away. Peace for him was an armistice during which he prepared for a new campaign. It was for this reason that all Europe, taught by experience, united after 1809 in turning against him. Napoleon instead of considering his own personality secondary to the State, considered the State secondary to his personality. He had no regard for the future and sacrificed it to the present. "If my successor is an imbecile, so much the worse for him." He made the press a slave to Censorship, and even pro-

hibited works of statistics and economy, if they appeared to cast doubt upon his infallibility. It was the same with the schools. He wrote to his councillors of State: "In establishing a corps of instruction my aim is to have a means of directing public opinion in politics and morals." As Renan said, school was for him the vestibule of the academy. G. Gorion was sent to prison for having called his coronation with the iron crown an absurdity, and Lattanzio was committed to the insane asylum for saying Napoleon would make himself king of Italy. His brother Joseph said Bonaparte would have had no peace if he could have supposed that after his death everything would go on quietly and smoothly. He forced France into an abyss, conscious that he was deceiving her: by misdeeds and an abuse of confidence there grew by degrees the divorce between his own interests, such as he understood them, and the public interest.

Napoleon ended by becoming the slave of his monstrous conceptions and his limitless ambitions. Even though the expedition into Russia had not ended disastrously, some other misfortune would have overtaken him. In order to carry out such an enormous campaign it would have been necessary to have a tremendous combination of forces. The fate of Napoleon's subjects was reduced to a military career or obligatory administration. In 1810 there were 160,000 men who refused to serve, and in 1811 and 1812 60,000 were arrested. Meantime he had made 4,000,000 victims: France was reduced by two foreign invasions, made a suspect of Europe, surrounded by menaces of odium and envy. This was the political work of Napoleon: the outcome of selfishness supported by genius. With his false image of glory he promoted what may be called the military and bureaucratic degeneration of France: the worst calamity that can overtake a civilized nation. In all this he showed an impulsiveness and above all a brutality common to epileptics. As Bonfardini says, he mistook brusqueness for dignity, his own caprice for moral law, anger for justice and insolence for truth. It is told that he kicked Volney when he said that France wanted the Bourbons, and gave Bertier a cuff when

he saluted him inopportunately, as "Roi de France." While the treaties of peace were being made with the Count Cobentzel, Napoleon suddenly broke a valuable vase, saying, "I will break your monarchy in pieces like that." At Boulogne, when the admiral refused to collect the fleet on account of a menacing storm, Napoleon raised his lash upon him, which he had already used several times on some of the grooms. He writes to Prince Eugene, "You will await orders from H. M. were it only to change the ceiling of your room, and if Milan were on fire you should await orders, although the whole city burn while you are waiting." He once violently thrust his brother Louis out of the door. In Dresden, in 1813, he brutally asked Metternich, at a time when he was indispensable to him, how much England had paid him to represent her interests as he was doing. Intolerant of delays, he would throw clothes into the fire if he did not easily succeed in putting them on. He scrawled, he did not write. He dictated with unusual rapidity, and if asked to repeat would fly into a passion, which his secretaries sometimes provoked for a rest. From childhood he was violent and impulsive. He boasted to Antommarchi that as a child he feared no one, struck and scratched every body, especially his brother Joseph, whom he would bite and kick until interfered with.

A leader of high talent, between the alternatives of the throne and the gibbet, he made a game of peoples, religions and governments, with an incomparable skill and brutality. His gigantic intellect was abnormal for his size. Marbot, a reliable authority attests that he had marvelous nervous force. He could spend ten or twelve hours on horseback, with barely four or six hours interrupted sleep, being wakened for his signatures, only to fall immediately to sleep again; and this upon the eve of battle which would keep him in the saddle all day. At Paris, after a day of intense work, he could rise in the middle of the night, dictate to many secretaries, who changed with the precision of sentinels; and in this way go from a conference with his ministers to an audience

with literati or artists. "The quantity of facts," wrote Taine, "which his mind stored up and retained, the number of ideas which he produced and elaborated, seemed to surpass human capacity; and always as one of experience, of a practicality which contrasted with the abstractions and theories of his Latin education."

"I think more rapidly than any other man," said Napoleon. In the art of mastering men his genius was superhuman. All his sayings are fire flashes: "Liberty," he exclaimed, "is the necessity of a small and privileged class, endowed with higher faculties than those of the mass of mankind, therefore you can lessen or infringe upon it with impunity. Equality, on the other hand allures the rabble."

He possessed a faculty which carries us back to the Middle Ages, an astounding constructive imagination. What he accomplished is surprising, but he undertook far more, and dreamed much more even than that. However vigorous his practical faculties may have been, his poetic faculty was still stronger; it was even greater than it should have been in a statesman; greatness was exaggerated into immensity, immensity growing into madness. He was great, yes, but his greatness became a monstrosity. What aspiring, gigantic conceptions revolved, accumulated, superseded each other, in that magnificent brain, "Europe," he said, "is but a mole hill. Only in the Orient, where six hundred millions of men live, can one establish great empires, excite great revolutions." In Egypt he dreamed of conquering Syria, of re-establishing the Eastern Empire; returning to Paris by Adrianople and Vienna. The Orient allured him with the mirage of omnipotence, and in the Orient, he, the new Mahomet, caught a glimpse of the possibility of creating a new religion, while in Europe he dreamed of re-ouilding the Empire of Charlemagne; of making Paris the physical, intellectual and religious capital of Europe; assembling within its precincts the princes, kings and popes who should have become his vassals, then extending his domain through Russia to the Ganges and the Indian supremacy.

From the turmoil of politics rose the

artist, creating the impossible in the field of the ideal. One sees a recognizes him for what he is, a posthumous brother of Dante and Michael Angelo, though they worked on paper and with marble; he worked upon the sensitive, suffering flesh of living man. Neither in the *Malatestas* nor the *Borgias* does one find such an impulsive brain, in which the internal tempest is so continuous, so menacing, so sudden in its flashes, capable of such electrical changes and discharges, and so irresistible in its shocks. In him no idea remained in a mere state of speculation, each was equivalent to an inward convulsion, which immediately extended into an act." This wonderfully reproduces the epileptic mind in its greatest hypertrophy.

Although he traveled through Europe so much he never had a clear idea of the social conditions of the people. He thought that in a hundred years Europe would be Russian or republican. He was blind to the facts of social life. His was an intense intellect, with rays of light in various directions, rather than a solar intelligence which sheds light upon all; he felt the truth in an attack of clearness, or he understood nothing. There were many odd contradictions in his politics, as when he re-established the catholic religion and seized the pope. He forbids Gerardin to appear at court, because he is divorced, and later Napoleon is himself divorced. He declares the glory of his race to have risen at the battle of Marengo, and then affects regal pomp and heraldry. One of his oddest caprices was his passion for making marriages; the number he made and imposed was extraordinary. When convalescent at Valencia he married the daughter of his attendant to a young acquaintance. He married his brothers, his sisters, his nephews, almost all his generals. When someone refused one of his sisters, he offered her to another, and obliged the marriage to be consummated in two days. At St. Helena he continued to make marriages among his attendants, and among the children of the generals and governors of his suite. Even in his will, in a codicil, he asked the Duke of Istria to marry the daughter of Duroc. He believed that a star guided him, and at St. Helena he showed fear of a

comet. He was superstitious about Friday. When he broke the glass of the picture of Josephine, which he always carried with him he feared for her life. In making war he always selected propitious days. He had the rudimental form of doubting insanity, and was not able to go through a street, even at the head of an army, without counting the windows in pairs. There is in this great man the combination of genius with convulsive and psychic epilepsy, which is manifested by impulsiveness, mental absences, cynicism, excessive selfishness, and megalomania. And by this example, which cannot be an isolated case in nature, one can believe it possible that epilepsy is the substratum of genius.

If we further analyze the phenomenon of genius under the light of the new theories upon epilepsy which are being solved to-day by the clinics and experimentalists, we see the justice of the conclusion that genius is a form of psychic degeneration, of the species epileptoid. The lesser number of women of genius supports this theory, as women are more rarely degenerate and more rarely have psychic epilepsy. It is proved by the frequent anomalies of asymmetry of the cranium; moral insanity, which I have demonstrated in "Criminal Man" as being a variation of epilepsy; hallucinations, intellectual and venereal precocity, somnambulism, double personality, which has two and sometimes three opposing natures; sometimes obtuse, sometimes exaggerated sensitiveness; the anomalies of the field of view, bluntness of perception, the frequency of suicide, which is very common in epilepsy; and above all, amnesia and analgesia. It is also demonstrated by a roving tendency and strange fears by which one is seized; misanthropy, and an affinity to criminality, the point of union of which is moral insanity. Add to it the origin and descent from criminals, inebriates or from imbeciles, which often marks both the genius and the epileptic, and which is seen in the families of the *Cæsars* and of *Charles V.* It is shown by insensibility and a lack of moral perception which is common in geniuses. One might doubt the conclusion who does not know the extent of the field of epi-

lepsy in modern times, since intermittent hemiplegia, scialorrhœa and amnesia are now recognized as epilepsy. Many forms of monomania are but a guise of the disease, at the appearance of which all other pre-existent traces of epilepsy often disappear. It is enough to mention the number of geniuses of the first order who were taken with motoria epilepsy, vertigo or passionate anger, in which they lost themselves absolutely; besides Napoleon there were Molière, Julius Cæsar, Musset, Petrarque, Peter the Great, Mahomet, Handel, Swift, Richelieu, Charles V., Flaubert, Dostoyewski, Guerazzi and St. Paul. Those who suffered from vertigo were Dickens, Swift, Herschell, Faraday and Marlborough. Vertigo is simply cortical epileptoid which is accompanied by loss of memory or paralysis, as in Dickens and Faraday, and by convulsions as in Marlborough. As to passionate anger, we recall Peter the Great, the Parricide, and Byron, who from childhood fell into such paroxysms that it was sometimes feared he would die of suffocation.

For one who understands the binomial law, according to which no phenomenon is isolated, but always the expression of a series of less marked though analogous facts, such frequency of epileptic phenomena among the greatest men indicates that it is more extended among geniuses than any one would at first think, and that the nature of genius itself must be epileptic. It is important to note how seldom in their lives they have convulsions, and that in such cases the psychic equivalent (which creates genius) is more intense and frequent. Above all, the identity of the two great phenomena is proved in the analogy between the epileptic attack and the moment of inspiration; the unconscious and violent activity which creates in the latter, acts motorially in the former. Most convincing of all is the analogy of the creative inspiration which is sudden, intermittent; frequently associated with unconsciousness, irregularity of the pulse and often somnambulism, and not seldom accompanied by convulsive movements of the limbs or followed

by amnesia. It is often occasioned by conditions which provoke or increase cerebral hyperæmia, and is followed by hallucinations.

The close connection between inspiration and the epileptic attack is pointed out more directly in the words of a great statesman, Beaconsfield: "It often comes into my mind that there is but a step between intense mental concentration and insanity; I cannot easily describe what I feel in that instant, it then seems to me that my senses wander and that I am no longer sure of existence. I recall often having been obliged to refer to a book to see my own name written to assure myself that I lived. During this state my sensations are incredibly acute and intense. Every object appears animated, and it seems to me that I am conscious of the rapid movements of the earth."

A modern novelist says: "It is a fatality that dictates the idea; an unknown force, a supernatural will, a sort of necessity to write which directs the pen and in such a way that when the book is written it no longer seems yours, and you wonder how such a thing could have existed in you and of which you had no consciousness; such is the feeling I had in creating 'La Sœur Philomine.'"—*Journal de Goncourt*.

THE PULSE IN SEPSIS.

Do not place too much reliance upon the temperature in diagnosing septic infection, no matter whether it be puerperal or not. The pulse will be found to be a much safer guide, as while you almost never will see a case of sepsis without a quickened pulse, you will not rarely run across cases in which there is almost no noticeable rise in temperature; I, myself having seen several cases in which the temperature did not rise over 99.5° F. Where you have a rapid pulse, headache, foul tongue, and dry, hot skin in a puerperal woman, look out for septic infection, no matter what the temperature indicates.—*Dr. Lockhart, in Montreal Med. Jour.*

EDITORIAL.

The late trial for murder held in this city presents many points of interest. It is the third death sentence pronounced in Winnipeg and it is to be hoped will have a deterrent effect in keeping from our prairie province an influx of the vicious and depraved characters of other nationalities. The murderer discharged his pistol so close to the head of his victim as to drive some grains of unexploded powder into the flesh. It might reasonably be supposed that the ball, a 16calibre would crash through the brain and possibly find a point of exit at the opposite side, but the proverbial thickness of the negro skull had no doubt much to do with the deflecting from what would be its natural course under similiar circumstances in a white man. Dr. Todd who performed the post mortem examination gave the following evidence:

"Bullet entered right side of head about an inch and a half behind angle of eye, crossed to sphenoid bone, entering left temporal sphenoidal lobe, crossed through and lodged on the opposite side in contact with the bone."

The convict is evidently a low type of humanity but nevertheless was very far from betraying any symptoms which in medical or legal considerations could be pronounced as insanity. His ostentatious objections to be not considered insane would seem to have been used by him with a view to the enquiry as to his sanity leading up to that conclusion, recognizing that this plea would alone save him from the gallows, trusting to the doctrine of chances in the future. But he did not consistently play up to the role, and so often gave evidence of considerable acumen that any close observer could read beneath the surface, and no one present at the trial could come to any other con-

clusion than that, which the jury arrived at. The case was ably conducted both by the Crown, and the Counsel "Mr. Bonnar" employed by the Crown for his defence. The Deputy Attorney General who conducted the prosecution, while placing before the jury in the plainest manner, all the facts of the case, with the legal construction to be placed upon them, never unduly pressed his evidence, but conducted the prosecution throughout in that spirit of justice and fair play which distinguishes the pleader in the courts of Great Britain, and we can justly say with great ability. Mr. Bonnar entered upon an up-hill undertaking, as he no doubt recognized himself, almost a hopeless one, but he nevertheless handled his case in the most masterly manner, leaving no point untried which could be used in the prisoner's behalf. His address to the jury was looked forward to with much interest by many people, but in this they were disappointed, as this duty was undertaken by the gentleman associated with him in the defence, Mr. Leach, whose line of argument was not specially calculated to influence a jury of twelve sane men. He was dissatisfied with the Judge, who ruled on a point of law, he accused the Crown, who was paying him and the witnesses for the defence, of keeping back some prisoners in the Penitentiary, who could have given evidence in the accused's favor. It was however shown by the Crown that he might have had any number he asked for brought in in the course of two or three hours; but probably his remarks to the jury as to the injustice, unfairness, and cruelty of British law were never paralleled by a British lawyer, addressing a British jury in one of Her Majesty's Courts of Justice. But, as that age and experience which he now affects to sneer at, comes to this young advocate, he may yet blossom into a Denman, a Brougham, a Campbell or a Stephens.

Among the selected articles in this issue, a paper read by an eminent Philadelphia Barrister before the Philadelphia Medical Society will be perused with interest. The testimony of medical expert witnesses in the law courts of this province demand the attention of our profession. Up to the present time the crown, in all prosecutions when medical expert testimony has been called for, has, in its pecuniary treatment of such witnesses, acted in a most niggardly manner. The fee of four dollars a day, though a most inadequate one for ordinary testimony, we are content to receive, that is, when called upon to state the bald facts of the case as an ordinary witness. But testimony so remunerated should end there, and the medical witness should refuse to go beyond it without a distinct understanding as to the fee he is to receive for his skilled evidence, founded on research and experience. No medical man called as an expert witness should accept less than \$25 a day for each day of his attendance. The practice hitherto prevailing in this province of summoning medical men as ordinary witnesses, and then tapping their brains for expert evidence for the miserable remuneration of \$4 is one that the profession should no longer tolerate. The crown engaging a lawyer gives him a fee of seventy-five dollars a day. We have yet to learn on what ground the remuneration of the lawyer should be over seventeen times that of the doctor, on whose evidence so many cases turn. Of course medical men called for the defence make their own terms, but that the governing authorities should descend to such mean subterfuges to cut the medical profession of their just fees is a blot on their administration, and medical men in this province should early come to such an understanding as will render it as impossible in the future as it has prevailed in

the past. The willingness of the medical profession to work without remuneration is gradually educating the general public into the idea that the honor conferred by soliciting his opinion is sufficient remuneration for a physician. This is altogether our own fault. What other profession is required to give certificates for one thing and another gratuitously? With what a smile of derision would the bar regard such a proposal. But the bar is integrate while the medical profession is disintegrate. Such has been so in the past. There is multiplying evidence that if we desire to hold our legitimate position in the battle of life in the future it behoves us to act in unison, to bear in mind Aesop's fable of the bundle of sticks, to thoroughly decide as a body on what we ought to do, and what we ought not to do, and once that decision is arrived at, carry it out in the spirit and the letter, when governments and individuals will have to cease playing on our generosity and taking advantage of our want of cohesion.

We read in the dailies that the Dycevo Indian Hospital is in need of funds. Before making this appeal to the public the officials should make a statement of the number of patients admitted, died or discharged since its formation so that the public may know what they are subscribing for.

LIBRARY TABLE.

Rheumatism, Gout, Rheumatic Arthritis and allied affections, by Edmund L. Gros, M. D., Paris.

New medical publications, Lea Brothers & Co., Philadelphia.

Climates and health resorts of Canada, issued by the Canadian Pacific Railway.

Anderson's Physical Education, Wilson & Co., Toronto.

MISCELLANEOUS.

W. F. Howard & Co. have moved into more commodious quarters in the same block in which they have for many years carried on their extensive business as Druggists. The entrance to their present store being the first door on Bannantyne Avenue, a few feet from Main St. No doubt the increased accommodation producing increased business, will compensate Mr. Howard for this inconvenience of moving, necessitated by the C. P. R. requiring the entrance on Main street to their new offices. The energy of this gentleman was demonstrated on the celerity of the change, the old store was in full blast up to closing time at night and the present store was open and ready for business at the usual time on the following morning.

The Winnipeg Rubber Company keep a large assortment of surgical gloves on hand they also have in stock every article used by physicians and surgeons that is manufactured in rubber. Call at the store, near bank of Montreal, and see the gloves and finger cots. No surgeon or accoucheur should be without them.

THE CARE OF SCHOOL ROOMS.

The Michigan State Board of Health respectfully recommends to all school boards and other officers and persons having in charge assembly rooms, that they cause to be observed the following methods of care, in the interest of public health.

That the regular care of school rooms includes sprinkling the floor before sweeping, the subsequent dusting of desks or wiping them with a clean damp cloth, and the airing of the room before its use.

That interchange of books be allowed only under such conditions as render the transmission of disease impossible. That the use of slates be discontinued.

That persons known to be affected with tuberculosis of the lungs, or who persistently

cough and expectorate, be denied the privileges of such rooms, either as teacher or pupil. That all spitting upon the floor by any person be strictly forbidden, and that proper conveniences for receiving sputa be supplied.

That, at least once a year, the room and contents be thoroughly disinfected, the wood-work and floor washed with an antiseptic solution, the walls whitewashed, and the plumbing and ventilating inspected." *Texas Medical News*, September, 1898.

Experiments of an interesting nature have recently been made at the instigation of the Prussian War Office to endeavor to decide the question as to whether the consumption of small quantities of sugar renders the tired muscles capable of renewed exertion. In order to obtain a practical result the person who was made the subject of the experiment was kept totally ignorant of the object of the experimenters. On one day a sweet liquid was administered, containing 30 grammes of sugar; on the next day a similar liquid, containing a sufficient amount of saccharine to render it indistinguishable from the other as regarded taste. After a very large amount of muscular work had been performed, it was found that better results could be obtained on the days when the sugar was given than on the days when the saccharine was given. The blood had become very poor in sugar in consequence of the severe muscular effort, and the administration of a comparatively small quantity of it.

TREATMENT OF COUGH IN PHTHISIS.

The following prescription is given by the *Journal de Médecine de Paris*:—

R Fluid extract of *hydrastis canadensis*,
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Four or five times a day, after food, administer thirty or forty drops of this solution in a little water.

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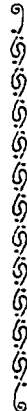
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