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CANADA MEDICAL RECORD

JULY, 1898.

Original Communications.

WHAT CLASSES OF INJURIES TO THE HUMAN BODY DEPENDENT ON VIOLENCE ARE CAUSED BY ALCOHOLIC EXCESSES.*

By THOMAS H. MANLEY, M.D., New York.

Professor of Surgery at the New York School of Clinical Medicine, Consulting Surgeon to Columbus Hospital, to Fordham Hospital, Yonkers Hospital for the Aged, Staten Island Hospital and Yorkville Infirmary for Women.

Anyone who has had a surgical service in a general hospital well knows that among adults a considerable proportion of the cases coming under his care, of a grave traumatic character, are either immediately or remotely the result of that curse of mankind, the excessive indulgence in alcoholics.

In order that we may the better appreciate how the lethal effects of alcohol operate in these cases it becomes necessary that we should first understand what the pathological action of this chemical is.

MODE OF ACTION ON THE CEREBRO-SPINAL SYSTEM, ON THE BRAIN AND SPINE.

Alcohol in large or repeated doses simultaneously acts on the brain and spinal cord, with varying intensity and manifestations in different individuals, and in the same individual, under various circumstances.

EFFECTS ON THE BRAIN.

Its most constant and unvarying property is to weaken the will power and the faculty of reflection and judgment.

*Read before International Temperance Congress at Prohibition Park, Staten Island, N. Y., medical session of the American Medical Temperance Association.

Loss of control of impulse and perversion of the reasoning faculties are always among the more dominant features of alcoholic intoxication. Carried to an extreme degree, the unbridled frenzy of passion is set loose, reason is dethroned, and the man or woman is an irresponsible maniac.

EFFECTS ON THE SPINAL NERVES AND NERVES OF SPECIAL SENSE.

Alcoholic libations carried to the point of inebriation act with great energy on the nerves of special sense and the spinal.

Vision is dimmed, hearing is obtunded, anesthesia sets in, the reflexes are palsied and ataxia of the voluntary muscles is always present when full inebriation is reached. Finally when very large quantities of intoxicants are imbibed, ataxia or want of muscular control is succeeded by the unconscious state and paralysis.

From the foregoing very brief and incomplete account of the toxic and paralyzing action of alcohol on those central ganglia which preside over all the mental actions of man, and on the nerves which animate function and vitalize muscular action, it becomes at once evident that the category of accidents and of physical injuries, trivial, severe or mortal, sustained or inflicted under alcoholic passion, paresis or paralysis, must, indeed, be of diverse and colossal proportions.

Sundays and holidays provide the hospitals with a large crop of surgical cases, the primary etiology or cause of which is alcoholic imbibition.

Murderous wounds, as stab, gunshot and concussive, are inflicted under the frenzy of alcoholic excitement; fractured skulls, dislocated joints, broken bones, bruises or lacerations of the soft parts occur from the same cause, or from loss of or imperfect control of the muscles. Probably, if the full truth were known, the immoderate use of alcohol is responsible for the greater number of serious collisions of the trolley car, the bicycle or vehicle, especially on Sundays and holidays.

In my own experience, in an active surgical service in hospitals, I am satisfied that alcohol is responsible for the great preponderance of grave surgical cases on the non-working days of the year.

With a man's faculties blunted and his powers of locomotion but imperfectly under control he is oblivious of danger, and when it is impending is not always able to escape it, and therefore we marvel, not why there are so many accidents, but why there are so few.

Alcohol augments the mortuary list in extremes of climate or season. In the summer a large number of the most serious cases of insolation ensue through over indulgence in alcoholic beverages.

As the fierce rays of the sun beat down on the unfortunate victim he becomes conscious of a sense of oppression, when he resorts to a "bracer," probably in our time and country, to cool lager, ale, or some of the fabricated "cocktails." A temporary sense of exhilaration follows, the libation is repeated again and again, until the lethal action of the stimulant and the intensifying effects of caloric overwhelm him. Perchance the victim may drag himself to his home or into some byway before he sinks into unconsciousness.

The resources of art can do but little for these cases, because the medical attendant is confronted by a mixed pathological state; the caloric fever may be readily reduced, but the system is surcharged with a poison which we may not be able to eliminate.

Many of the worst falls and frostbites in winter result from the alcoholic state. One drinks and drinks of pungent stimulants "to keep warm," as is said, or rather to benumb the sensory nerves; but the depressing influence of the freezing blast is in no manner mitigated, and alas! should the unfortunate in his stupid state step aside to some sheltered place, the sleep of death may set in to close the scene. In less grave cases the anaesthetic action of alcohol so obtunds sensation that while the free drinker enjoys a most grateful sense of comfort, his hands or feet may be frozen stiff.

THE EXCESSES OF ALCOHOLICS AND PATHOLOGIC SURGERY.

Excesses in alcoholics lead to the necessity of surgical intervention only through their influence on the nerve centres, deranging the mind and inhibiting or enfeebling nerve conduction; never by any specific or local action on an organ or structure.

This has long been noted, although every one knows that confirmed drinkers are bad subjects for surgical operations, as shock, collapse or delirium follows with them in a far greater ratio than in the temperate or total abstainer.

In forensic medicine the influence of alcoholic excesses is given extensive study. That phase of it which deals with traumatism or injuries is of special concern to the surgeon or practitioner, because in so many instances his testimony is often mainly depended on, when the question of responsibility or irresponsibility is raised. A man is found on the sidewalk or roadside with a fractured skull in an unconscious state; one has sustained a fatal stab wound, has been crushed by the street cars or has committed a homicide or attempted suicide. In these and many other similar cases the proof of the presence or absence of alcoholism is often of the greatest importance. Especially is this so, since the confirmed alcoholic habit has come to be regarded by many of our most eminent alienists as a disease which renders the afflicted as irresponsible agents. This view of late years is coming to be recognized and shared by the Courts, who regard a homicide acting under alcoholic influence as temporarily *non compos mentis*.

THE APPLICATION OF TREATMENT IN THE INEBRIATE STATE.

The question arises, should we ever, while one is grossly intoxicated, take advantage of the anesthetic state to manipulate parts carefully with a view of clarifying diagnosis, or even perform a surgical operation?

For the former, certainly, but the latter in some instances is doubtful.

While one is intoxicated dislocations may be reduced or fractured bones set, but if a limb is so mangled that the question of amputation is raised we have no right to proceed and sever the limb until reason is restored and consent is given.

THE RECOGNITION OF THE INEBRIATE STATE IN THE INJURED.

The above aspect of the alcoholic question is one of important consideration in many medico-legal cases. Our

late lamented *confrère*, the distinguished New Jersey surgeon, Dr. Isaac N. Quimby, came to his death through the severe strain and exposure incurred while defending himself against the extortionate claim of a tenant who sustained an injury on his premises, while it was alleged she was in an intoxicated state.

These civil actions in our time of popular government and a political judiciary for every conceivable sort of an injury, imaginary or real, are becoming so common and so oppressive that the owners of property are in constant peril of having their small inheritance or perchance the earnings of a lifetime swept away by a single suit for damages.

Was the plaintiff intoxicated at the time of injury, was it then through contributory negligence, and, if so, death resulting, what *rôle*, if any, did the alcoholic state play as a factor in causing it through its operations on the system?

These questions are often very difficult to answer, indeed, although under many circumstances we may gain much valuable knowledge by a proper investigation and a critical examination of the injured. Caution must be observed, however, that in our connection with the case an error may not be committed and injustice imposed.

For example, it is a very general custom with the laity, when one suffers from syncope or shock, from any cause whatever, to at once administer alcoholics with an unstinted hand.

Hence, should one have lost much blood or be very young, a comparatively small quantity of liquor may produce marked intoxication.

It is my experience in hospitals that there were few patients admitted with fractures of the limbs who had not been given alcoholics before they were sent in. But in these it is not exceptional to observe positive symptoms of intoxication unless there was evidence of free drinking before injury.

But in quite a few of them injured, when we see them early, they are boisterous, hilarious or unmanageable and present other indubitable evidence of pre-traumatic intoxication.

If we are in doubt, then, we should note the odor of the

breath, the state of the pupils, the condition of the reflexes; besides, if the patient be in a conscious state, press for accurate information from himself if possible.

My own experience has been that when one has been injured in the sober state if we interrogate he will explain how it occurred without difficulty. The drunken man may tell us he has been drinking, but how he was injured is often a blank to him, and he can throw no light on it.

THE EFFECTS OF ALCOHOLIC EXCESSES ON REPARATIVE PROCESSES AFTER INJURIES.

Hard drinkers rally badly from deep shock. They are prone to delirium tremens after severe operations and injuries, and are very much more liable to septic infection after lesion of the soft parts through the deteriorated state of the blood and tendency to diabetes.

Complications with them, as pneumonia, nephritis and diarrhoea, are common. Their tissues are more vulnerable; congestion tends to run into inflammation; this spreads into heterogenous structures, often running a chronic course. These cases are characterized by a malnutrition or defective tissue metabolism, imperfect assimilation and defective elimination, all of which makes an impression on the integrity of the machinery of man when subjected to any violent shock or disorganization.

SOME LEADING EUROPEAN GYNECOLOGISTS AND THEIR WORK.

By A. LAPTHORN SMITH, B.A., M.D., M.R.C.S., England, Montreal, Can.

My last letter described very briefly what I saw in Paris; this letter will speak of some well-known gynecologists in Florence, Vienna, Prague, Dresden and Berlin.

Pestalozza, of Florence.—Having heard that he was doing a large amount of good work, I left the beaten track and went to Florence to see him. He received me most courteously, and invited me to come next morning, which was Sunday, at 7 o'clock, to see some operations. He has an immense clinic, being in charge of 40 gynecological and 80 obstetrical beds. Ten of the latter are reserved for isolating infected cases coming from outside. Among his own

cases he has had no death from sepsis since several years. The first operation was abdominal hysterectomy for multiple fibroids in a woman who had also prolapse of the vagina; he left a small portion of the cervix to which he afterwards stitched the upper part of both broad ligaments in order to draw up the vagina. He used isolated silk ligatures for the two ovarian and two uterine arteries, and he operated very quickly. The silk was prepared by first soaking it for 12 hours in ether to extract the fat and then sterilizing it in steam for 2 hours, after which it remains indefinitely in 2 per 1000 sublimated alcohol. As it appeared to be particularly good, I took down the address of the manufacturer: Bouti, Silk Manufacturer, Porta Rossa, Florence. He afterwards removed a cervix which had been left after hysterectomy two years before, and which had now become cancerous. Some of the old silk ligatures were found encysted and calcified. He then took me over to his hospital, and showed me about 20 patients convalescing from laparotomy. I would strongly advise those who intend to visit gynecological clinics in Europe to spend a few days with this talented gentleman.

Schantá, of Vienna.—During my short stay I was unfortunate in not seeing him operate, but this was amply compensated for by seeing his first assistant, Dr. Schmidt, perform a vaginal extirpation of the uterus and appendages for pyosalpinx. He opened the anterior vaginal fornix first and then the posterior, sewing the peritoneum carefully to the vaginal edge in order to avoid hemorrhage, after which he placed just six silk ligatures in the broad ligaments completely controlling the bleeding, of which there was almost none. By cutting off the lower half of the uterus he obtained more room for the difficult task of detaching and bringing down the densely adherent appendages. I spent another profitable morning with

Dr. Gustave Kollischer, recent assistant to Professor Schantá, who is quite celebrated for his work on the bladder. He catheterized the ureters, and gave me a fine view of the bladder with the catheter in the ureter, by means of his cystoscope, which is a modification of Nitze's and Brenner's. I was so pleased with its easy working after seeing it used on several cases that I procured one at Leiter's instrument

maker, Vienna. It has many advantages over examination by speculum, the principal one being that it does not require any dilation nor external light. All you have to do is draw off the urine, fill the bladder with clear warm water, introduce the cystoscope and touch the button for connecting the current from a little 5 cell battery, when the whole of the bladder is beautifully lighted up and the smallest foreign body as well as the openings of the uterus can be easily seen. There is a small channel adjoining the optical apparatus through which the elastic bougie is passed and can be guided into either ureter. He also showed me a beautiful little curette for removing granulations and also little scissors for cutting off polypi and forceps for seizing calculi. He told me that he had removed several wandering silk stitches from the bladder, which had ulcerated into it after laparatomies and vaginal fixations.

Pawlik, of Prague, received me very kindly, and put me in a good humor by mentioning many of my papers. Speaking of electricity he said he had employed Apostoli's method in a great many cases and with very good success in arresting hemorrhage, in diminishing the size of fibroids and expelling some of them from the uterus, but he had given it up because he could not be sure of the result in any given case. He removed a large ovarian cyst by the abdomen, using catgut for ligature and burning instead of cutting off the tumor in order to avoid adhesions to the bowel and also to lessen risk of sepsis. He closed the abdomen with two rows of buried catgut and a third of superficial silk sutures. He prefers the abdominal route for ovaries and pus tubes. I saw them using 3 per cent. of ichthyol in glycerine in the out-patient department. Pawlik is a great linguist and speaks English, French and German perfectly besides three other languages, but what he excels in is catheterising the ureters. He showed me the instruments which he used twenty years ago in Vienna, where he told me the proceeding was employed for the first time, and by him. His skill in using the ureteral catheter is wonderful; he seemed to introduce it into the bladder and up into the ureter with one gliding movement. No dilator; no endoscope; no artificial light; not even by sight, but merely by the sense of touch.

I asked him to measure the catheter, and it was found to be 32 centimetres long. In a case of pyonephrosis he first injected 200 grammes of water to distend the bladder, and then introduced the ureteral catheter and injected 130 centimetres of 1-3000 nitrate of silver solution, which he gradually increases after some days to 1-1000. Sometimes he uses sublimate solution. The patient told him when her kidney was distended, and on removing the rubber pipe the solution spurted out of the catheter. On making intermittent pressure on the kidney the liquid could be made to spurt out in jets. He also showed me the woman from whom he had removed the whole of the cancerous bladder.

Leopold, of Dresden.—As my train did not get in until 9.30 a.m. and I did not reach the hospital until 10, I was too late to see him operating, which he begins every morning at 7 o'clock. He is a firm believer in total extirpation of the uterus whenever both ovaries and tubes are severely diseased. He gave me his recent paper on the results of 67 such cases, with a mortality of one and a half per cent. Also another paper giving results of 100 cases of removal of the uterus by the vagina for myoma; with a mortality of four per cent.

Olshausen, of Berlin.—I studied under him 10 years ago, and was pleased to see that he had not aged at all since then. He gave me a kind welcome, and invited me to an operation next morning at 8. When he has several operations he commences sharp at 7, so one has to rise at 5.30 or 6.00 to be there in time. The case was a woman of 65, who had a bleeding polypus, which on removal and examination a few days before was found to be cancerous. He opened the two pouches and sewed the peritoneum to the vagina. He used nothing but catgut throughout, but he always ties three knots on the arterial ligatures. The ligaturing of the broad ligament was greatly facilitated by his having the best needle I have ever seen, known as Olshausen's "Untenbiudungsnadel," and much superior to Deschamp's. As he trusted entirely to catgut, I asked him how it was prepared: 1st. Soaked for 6 hours in sublimate water 1-1000; 2nd. The water is removed by soaking for 24 hours in sublimate alcohol 2.1000; 3rd. Matured for several months in absolute alcohol and used

directly from that. After the operation he took me over his wards and showed me a great many cases convalescing nicely from laparotomy. In the latter he closes the abdominal wound with four layers of catgut in fat patients or three in thin ones. He objects to through and through silk worm gut for fear that it will lead pus into the peritoneum; although another operator, Landau, told me of a woman having died on the 16th day, owing to being closed up by layers of catgut; the pus could not get out, and so broke into the peritoneum, which would have escaped to the skin if she had been sewed up with through and through stitches. Olshausen dresses the abdominal wound with a very little iodoform and a single little strip of gauze over which collodion is painted, so as to completely seal the wound, and this remains undisturbed for 12 days. I saw several of these first dressings removed and they looked very well; the catgut was all absorbed and the knots could be brushed off. As I thought that the buried catgut would cease to hold the wound after a few days, I asked him if he ever saw hernias? He replied that they would happen in spite of any method of suturing. I told him that I used silk worm gut and left it in a month. He does ventrofixation by passing a silk worm gut stitch around each round ligament near the uterus and fastening it to the abdominal fascia and having it buried there. I saw him introducing a pessary and sending a woman away who was brought for operation with a freely removable retroverted uterus, which he first replaced. Next day he did abdominal section for an ovarian tumor with twisted pedicle, and another case of pus tubes and ovaries also by the abdomen, taking great care to wall up the bowels with quantities of sterilized gauze.

No one here flushes the abdomen with water, and they have also abandoned constant irrigation in vaginal work, using instead great numbers of little gauze sponges, which are thrown away as fast as used. Olshausen did not remove the uterus, but carefully closed all bleeding points and left it in. On the walls of the operating room he has two cards: NOLI TANGERE and FAVETE LINGUIS. He told me he was going to get another one with "not to expectorate" in Latin. He showed me two cases of eclampsia, of

which he has about 60 a year, sometimes as many as six at a time. As is well known, he is the first authority in Germany on Obstetrics, and is accoucheur to the Empress.

Martin, of Berlin, still stands at the top of the Gynæcological ladder in Germany. He operates at his private hospital every day at twelve, which is a great boon for visitors, as it enables us to see two or even three other operators each day, and he did two or three a day during the whole week. The first was a vaginal hysterectomy for cancer of the cervix, using catgut for the broad ligaments. It would have been a very difficult case for any one else, but was quite easy for him. The second case was vaginal fixation in a lady who had been wearing a pessary for retroversion for many years without being cured. He is the quickest operator I have ever seen, only taking ten minutes for this pretty operation. The same running catgut suture went through vagina and peritoneum, and the fixation stitch was of catgut. The third case was one of cystic ovaries in which he opened the abdomen by the vagina, brought out the ovaries, found them diseased, removed four-fifths of them and carefully sewed up the remainder with catgut, and put them back again. After closing the vaginal incision he did an anterior and posterior colporrhaphy on the same patient. Next day he did vaginal hysterectomy for a small fibroid, which was difficult on account of the senile attresia. I made particular inquiries whether he had ever known of a case of post operative hæmorrhage, and he replied not for several years, because they tied it tighter. Next day he did two vaginal fixations for retroversion with fixation. He was greatly aided by an instrument I have never seen before, consisting of a forceps, the posterior blade of which was a stout uterine sound, and which being introduced was used as a lever to lift the uterus forward while he was opening the vesico-vaginal plica or fold. He then detached the appendages and removed them, and, after carefully closing the torn surfaces on the back of the fundus, he attached the uterus at the level of the internal os to the vaginal wound. The bad results of pregnancy following the operation in the early cases to fastening the top of the fundus to the vagina, the uterus thus being held upside

down. In another case he brought out the appendages, emptied some cysts in the ovaries and replaced them and then did vaginal fixation. The next day I saw him cauterizing an inoperable cancer with a very pretty electrical cautery made by Hirschman, 15 Johannis Strasse, Berlin. It consisted of a sharp porcelain tip, heated by platinum wire, and was supplied with current from a small storage battery not larger than a cubic foot. It was quite portable, and only cost \$60, including a cystoscope and a head lamp for operating on dark days.

Landau, of Berlin, is one of the leading teachers there. He is assisted by his brother, and he has a large and handsome private establishment in the Phillip Strasse, near the Charité. The pathological department is looked after by Dr. Pick, who speaks English fluently. He has a beautiful method of preparing specimens, which are first hardened in 4 per cent. of formaline and then stretched on wire netting. They have the specimens of every case, both macroscopical and microscopical, from whom they have removed anything, even down to curettings and vaginal discharges, systematically indexed for ready reference. I have never seen anything like it anywhere. Dr. Pick gives a course of microscopy to physicians. I saw Landau remove large double ovarian tumors, which Dr. Pick took sections from and mounted and stained while the operation was going on, and showed us in a few minutes carcinoma. Landau used silk to tie the pedicles and through and through silver wire for the abdomen. Another day I saw him remove pus tubes by the vagina in a case of retroversion with fixation. He split the uterus up the middle with his scissors, and after digging out the pus tubes he put two or three clamps on the broad ligament on each side and cut them off. I was very favorably impressed with the method in this case. But immediately afterwards he did another patient in whom the pus tubes were much higher up in the pelvis, and he had tremendous difficulty in getting them out by the vagina, and I felt sure that he could have done it much easier by the abdomen.

Duhrssen, of Berlin, seems by common consent to be acknowledged as the ablest among younger men of note.

He is not much over forty, but his large private hospital at 25 Schiffbauerdamm, filled with important cases and maintained at his own expense, testify to his ability and energy. He received me most courteously, and patiently answered my very numerous questions. He showed me a patient from whom he had removed the uterus by the vagina for hæmorrhage due to hæmophilia, which interested me particularly because three years before she had come to him for the same thing and he had employed *Sneguiroff's* steam cure, which cooked the mucous membrane so well that she did not menstruate at all for three years. He kindly set it going for me. It is a little boiler fitted with a thermometer, so as not to let it get hotter than 120° Centig., and the steam is conveyed into the uterus by means of a double catheter during a quarter to four minutes. The cervix must first be thoroughly dilated, and there must be a rubber tube over the steam pipe so as not to burn the cervix, which would cause a stricture. He is an enthusiast for vaginal laparotomy, and claims to be the inventor of vaginal fixation for retroversion, he having published his first fifteen cases before anyone else published one. I was very much opposed to the operation before coming here, but since I have seen Duhrrsen doing three in an hour, as well as several other operators doing it very quickly, and after hearing its manifest advantages, I have been most favorably impressed with what I have seen of it. He opens into the peritoneal cavity in two minutes or less, hooks out the ovarian tubes and uterus, destroys all cysts by ignipuncture, replaces them, passes a silk-worm gut ligature through vagina, into peritoneum, uterus, and out again on other side through peritoneum and vagina. This is left untied until he has sewed up the opening in the peritoneum with a running catgut and the vagina with another row of catgut, after which the fixation ligature is tied. I made many inquiries about Alexander's operation, but nobody here does it. When I told Olshausen that I could generally find the round muscle with my eyes shut he invited me to do the operation on a case, but, on examination, her uterus was found to be fixed and therefore unsuitable. Next day I saw Duhrrsen remove the vermiform appendix and double pus tubes by the abdomen, which he does in about 25 per cent., and by the vagina in 75

per cent. Next day he removed a pair of very angry gonorrhœal pus tubes by the vagina. There was recent peritonitis. As she was a young woman, he left the uterus and one ovary. This was a very nice case, as he did it very quickly and all outside of the vagina.

Mackenrodt, of Berlin, is one of the coming great men, if not already one. He appears to be under 40 years of age, and is a fine operator. I saw him doing a Cæsarean section and subsequent total extirpation of the uterus for cancer. The child, about 8 months, was taken out alive and did well. There was hardly any bleeding. As soon as the child was removed through the opening in the uterus he put on two ligatures on each side and a few temporary ones on the uterine side and cut between them until he came to the uterine arteries, which he tied. He then separated the bladder and freed the uterus until he had it and the vagina like one tube, free almost to the vulva. He felt for the large cervix and cut the vagina below it, not with a knife, but with a large cherry red electrical cautery, his object being to prevent it from infecting the peritoneum. The current measured 17 amperes, and was obtained from the street. The asepsis of himself and assistants was most thorough, spending 20 minutes by the clock in disinfecting their hands. He and most of the operators here stand on the patient's left, so as to use their right hands.

Koblanok, of Berlin, is Olshausen's first assistant, whom I saw removing a large fibroid by the abdomen. The case was an easy one, but he did it beautifully.

Gusserow, whom I was anxious to see, did not operate while I was in Berlin. Neither did Nagel, his assistant.

In closing my letter from Berlin, I must truly say that I have seen more here in one day than I have ever seen in any other city, and I cannot speak too highly of the kindness with which I was received by one and all. Nearly every day I was up before six a. m. in order to get to Olshausen's by seven, and from there I went to Landau's, and from there to Duhrsen's or Mackenrodt's, and from there to Martin's, where I remained till nearly two, by which time I felt that I

had seen enough for one day. As all these places are within a few minutes of each other, Berlin offers especial advantages for a post-graduate course. My next letter will speak of Sanger, Zweifel and Jacobs.

Selected Articles.

NEURASTHENIA.

By Prof GILLES, DE LA TOURETTE.

Hôpital Hérold,

To-Day we shall discuss an affection of which one hears so much, though it has been but recently added to our nosological list, viz., neurasthenia. I am not sure, however, that the term is very appropriate, for neurasthenia taken in its general sense is hardly a morbid entity; it is a condition, or rather a combination of conditions which must be distinguished the one from the other if a proper prognosis is to be made.

For instance, between the *true neurasthenic condition* and the *constitutional neurasthenia* described by the late Professor Charcot, there exist differences so considerable as regards their evolution that it behoves one to attribute to each a particular significance. In spite of common symptomatic expressions which help to confound them both under the same description, consequently I am of opinion that the question of neurasthenia is much less simple than is generally supposed, and to solve this somewhat serious problem, the physician should bring all his attention to bear on the case before him.

Before sketching a general description of the affection, it is indispensable to enter into some details of its history.

As you may already know, it was Beard, of New York, who first drew the attention of the medical world to neurasthenia (nervous exhaustion) in a paper published in 1869, in one of the medical journals of Boston. At the time little or no notice was taken of it. Nine years later, however, he read a paper on the same subject before the Academy of Medicine of New York, and in 1890, he published a book in which he gave a succinct description of the affection. Still later Beard produced a work on sexual neurasthenia, which has been translated into French. Although I concede to our American *confrère* the honor of being the discoverer of neurasthenia, yet it cannot be denied that the works of Erb and Arndt, in Germany, of Playfair in England, and Professor Charcot in France, had anticipated this nervous condition, and inspired by these authors and by my observations, I lay before you to-day a description as complete as possible of the nervous exhaustion of Beard.

Neurasthenia is an everyday affection that you can observe at the hospital, either in the pure state or associated, as frequently

happens, with other morbid distinguishing features. It is especially in private practice, however, that you will meet it under its different aspects, among patients who work more mentally than physically, although among all classes of society, the hereditary or constitutional form is to be met with. You will meet it in adult men and women, but not in children, unless in a modified form of hereditary condition. Everything that tends to depress the physical and moral elements is susceptible of provoking neurasthenia. The description I am about to give you is full of difficulties, and would have been more so if Charcot in his masterly study of the subject had not done for neurasthenia what he had previously done for hysteria. He extracted from the complex symptoms a certain number of important signs to which he gave the name of *stigmata*, a knowledge whereof is of essential importance as they are always found more or less associated in the neurasthenic conditions.

These stigmata are of psychical and physical orders, physical especially, and that fact renders their interpretation the more difficult.

One of the most frequently observed of these signs is *headache*. Lafosse in his thesis recorded it forty-one times in forty-five patients. It consists of a pain which appears in the morning on awakening, and ceases, or becomes considerably attenuated, at night, and inversely to what has been observed in other headaches, it is always relieved at meal time, but returns with intensity during the process of digestion. There are, however, patients who seem to suffer continually, provoking a mental condition which I will describe presently. The headache has two points of predilection; it is either bi-temporal, squeezing the head as if in a vice, or, more frequently, affecting the occipital region, embracing the posterior region of the cranium like the helmet of Minerva, hence the name of *galeati* that Charcot gave to these patients. Frequently a kind of crackling sensation is said to be felt in the back of the neck, and the patients will ask you to put your hand on the spot in order to confirm their assertion. The cause of the phenomenon is altogether obscure, and you will do well to accept the fact without trying to explain it. I have already said that the headache ceased or became attenuated when the patient went to bed, but it does not follow the *sleep* of neurasthenics is of the best, on the contrary, insomnia is the general rule. After the evening meal the patients are seized with lassitude and a desire to sleep. Immediately they lie down, they fall into a dead sleep without dreams or nightmares, in contrast with what is observed in hysteria. But this sleep rarely lasts beyond two or three hours. They awaken towards midnight, then commences a most painful period of insomnia. They become agitated, turn from side to side, complain of lancinating pains in their limbs, pruritis, and a numbed sensation in their arms, which troubles them considerably. These phenomena subsequently disappear, and after a short time return again, and so on during the rest of the night. Towards morning they fall into a troubled sleep, and finally awaken more fatigued than when they laid down at night.

Another stigmata is *vertigo*. This phenomenon presents certain characteristics that you ought to know. It is a sensation of empti-

ness in the head, accompanied by weakness in the lower limbs, which makes the subject totter at times in walking. A mist comes over the eyes, everything seems to turn around, and distant and near objects are confounded in the same plane. This vertigo is felt in the morning on awakening, and like the headache, is relieved at meal times. It disappears generally in the evening, and is not felt at all in bed. A third stigmata is a pain in the back at a point corresponding to the articulation of the sacrum with the last lumbar vertebra. The patients complain of a kind of paresis in the legs simulating paraplegia. To these troubles of the general sensory apparatus become joined diverse perturbations of the great visceral functions of the economy, in which those of the digestive functions take the first rank. That which predominates generally in the neurasthenic, is a torpid and difficult digestion, especially after the two principal repasts of the day. The light (French) breakfast taken in the morning causes no trouble; on the contrary the patient feels better in every way after it, as I have already remarked. It is even necessary that the second repast should not be too late, otherwise a dragging sensation is felt at the pit of the stomach, yawning takes place, and a general lassitude seizes the individual. The neurasthenic, in fact, requires to eat often, though little at the time, for the appetite is replaced by a sensation of want, which must be satisfied. Unfortunately, such patients do not observe this rule, their midday meal is generally too abundant, and although the repletion of the stomach seems to give relief, that relief is of short duration. In a few minutes they will complain of a painful sensation in the epigastrium, a physical and intellectual torpor, tympanism, acid regurgitations, in short, all the signs of dyspepsia. After a few hours of more or less suffering, the neurasthenic gets relief, until he eats again. These digestive troubles influence materially the functions of the intestines. Some patients suffer from obstinate constipation, others from diarrhoea, but it frequently occurs that each of these troubles alternate in the same individual. It is not surprising that the general condition of the patient suffers from this state of things; nutrition languishes, and, although in some cases the embonpoint is preserved, it more frequently happens that the person loses flesh; the features are drawn, and the complexion becomes sallow.

The urinary function is not less disturbed; at one time the secretion is clear, limpid, and abundant; at another it is much less abundant, and high-colored. The quantity of urea is generally small, but phosphaturia is constantly present, indicating an exaggerated elimination of the elements which the nervous system requires for its normal function. Neither sugar nor albumen exist in the urine.

The heart is more or less affected by this general disturbance of the functions of the organism. The arterial pressure is always low in neurasthenics between meals, but under the influence of digestion it becomes exaggerated. Hence, the rapid pulsation of the cephalic arteries and the congestion of the face so frequently complained of. Besides this habitual condition, it happens frequently that the central organ of the circulation is the seat of symptoms bearing a strong analogy to angina pectoris, with this differ

ence that the pulse, instead of being small and intermittent, is full and regular.

The genital functions are also affected by the general depression. The physiological act can be accomplished, but it is almost always followed by a sensation of extreme fatigue, so that complete loss of sexual desire is frequently the result.

I will close this long nomenclature of the physical symptoms by drawing your attention to a peculiar tremor frequently observed in persons suffering from nervous exhaustion. It consists in small oscillations affecting the lower and upper limbs. The mental state of these patients is important to note, for the affection is in reality of psychical origin. The cerebral activity is considerably diminished. All intellectual occupation is a burden, but none of the faculties are perverted. The neurasthenic is capable, if he makes an effort, of recovering the plenitude of his faculties, but finds it difficult to come to a decision in any affair that requires prompt action. However, no matter how prolonged this state may be, it leads but rarely to mental alienation.

I think, that now, after exposing all these elements in the diagnosis of neurasthenia, you will have a fairly correct idea of the interesting affection. In another lecture I will enlarge on the diagnosis, and discuss the treatment.—*The Medical Press*, March 9, 1898.

THE CENTRIFUGE AS AN AID TO DIAGNOSIS ; WITH A DEMONSTRATION OF THE URINE- SEDIMENTOR, HEMATOKRIT, AND THE SPECIAL APPARATUS FOR THE EXAMINA- TION OF MILK AND SPUTUM.*

By HENRY P. DE FOREST, M.D., Brooklyn, N. Y.

A short time ago I was asked by one of the members of this Society to make an examination of the blood and urine of a patient of his, a young woman who had recently come to the city from her home in the West Indies. Chyluria was a marked symptom, the urine looking like yellowish milk, and the existence of the *filaria sanguinis hominis* was suspected. No sediment was deposited from the urine after standing, for the chyle was, of course, of lower specific gravity than the fluid in which it was emulsified. Ordinary filtration was of no avail. Some other method was, therefore, required in order to clear the urine and separate the parasites, if any were present. In the examination of the blood another difficulty arose from the fact that the parasites are usually few in number and appear only at night. My efforts to overcome these obstacles led me to investigate the centrifuge as an aid to diagnosis, and it occurred to me that the information upon

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the subject gathered from a variety of sources would be of sufficient interest and possible assistance to others to justify its presentation before this Society.

Centrifugal force has been recognized for ages, and for many years its mechanical effects have been utilized in the arts and sciences. The centrifugal clothes-drier used in steam laundries and the separation of cream from milk by centrifugation in large dairies are examples of its practical value. In sanitary work it is used to facilitate the analysis of numerous samples of milk, and to determine the sediment in potable waters. Still more recently special forms of apparatus have been devised for strictly medical work.

In this last-mentioned field of usefulness the centrifuge was first used to separate the solid ingredients of urine. Next, the principle was applied to the examination of the blood. When the scientific diagnosis of pulmonary tuberculosis was found to depend upon the presence or absence of the tubercle bacillus in the sputum the aid of the centrifuge was again invoked. Last of all, with the introduction of more accurate methods of infant-feeding, the analysis of mother's milk has been aided by its use. Other forms of analysis might be mentioned, but as these four fluids are the only ones up to the present time for the examination of which special forms of apparatus have been devised, I will confine myself to their consideration.

Apparatus.—Before speaking of the technic involved in these processes, it will be necessary to describe the forms of apparatus that are now available. These vary in construction according to the motive power employed.

The pioneer centrifugal machines were put in motion in much the same way as a boy spins his top. A heavy rimmed wheel, from one to two feet in diameter, fitted with spring clips to hold the tubes, and enclosed in a tight-fitting thin metal cover to diminish air resistance, was supported horizontally upon a thin vertical spindle. This spindle was held in cone bearings at its upper and lower end. The fluids to be examined being in place and the cover fastened down, a long cord was wound tightly around the spindle, and then quickly withdrawn. The wheel with its heavy rim would spin for several minutes, and then, if desired, the process could be repeated.

Another form had a system of gears connected with the spindle by a simple interlocking device, and was set in motion by means of a hand-crank. When the highest possible speed was secured the gears were disconnected, and the wheel allowed to run down as before. A well-constructed machine would often run fifteen minutes.

Machines of these types were in vogue in Vienna in 1891. They were efficient and fairly satisfactory for hospital purposes, but had some disadvantages. They were very heavy and bulky, and their velocity was greatest at the beginning of the process, and steadily decreased until the wheel stopped.

Other machines of large size were soon constructed for hospital and laboratory use. The wheel was as large as before and similarly placed. It was made of a solid plate of metal about an inch in thickness. Just within the periphery a number of slots were cut an inch apart, and each corresponding in its long axis with the radius of the wheel. The milk, urine or water to be examined was placed in a glass tube within a metal protector. These protectors were supported on paired pivots which rested in notches cut in the upper walls of the slots. Water, steam, gas, or electricity was used as a motive force, and as the rapidity of revolution increased the tubes swung into a horizontal position, and were quite concealed within the thickness of the wheel. Air resistance was thus reduced to a minimum, and great economy of power gained.

For use in places where the Edison current or galvanic or storage batteries can supply power, two forms of electric centrifuge are now manufactured. They require for their proper use a suitable rheostat, and proper connections. By this means the amount of current can be regulated and the rapidity of revolution be so adjusted as to secure the best results with any given fluid. Such instruments are of great value in hospitals or laboratories where a large number of examinations are made daily. They are practically noiseless and economize time and strength. On the other hand, they cannot be taken to the bedside, and are thus of little use for the examination of the blood, since such an examination must be made before there is time for coagulation. They are much more expensive than other instruments and they cost more to operate them. They are especially apt to be damaged if the current is too strong, and are, in general, more liable to damage.

The Purdy electric centrifuge was first in the field. It gives good results, but is needlessly heavy, the tubes strike against the base, and the motor is a poor one. Its price is \$37.

A better centrifuge is the Heiman electrical centrifuge. Through the courtesy of Dr. Van Cott I am able to show the instrument itself. It has been used at the Hoagland laboratory for some time, and gives entire satisfaction. It is compact and well-constructed. It costs \$35.

Still another centrifuge is on the market. It is handsomely mounted upon a mahogany case that encloses the motor. Its speed is not constant, and it is not recommended even by the manufacturers themselves.

For the general practitioner none of the centrifugal machines thus far mentioned is to be recommended. For his purposes the centrifuge of choice must have certain special qualifications. It must be compact and portable, and of as little weight as is compatible with ease of running, strength and durability. Its action should be as noiseless as possible. It should be easy to clean and to keep clean. If used for milk, water and urinalysis only, with a moderate effort it should develop 2500 revolutions of the spindle per minute; if for blood and sputum examination from the same effort 10,000 revolutions should develop. The length of the arm is of practical importance, since "the centrifugal force of two equal bodies, moving with equal velocity at different distances from the centre, is directly as their distances from the centre." In other words, the longer the arm the greater the centrifugal force which develops with the same number of revolutions. The urine-tubes should be so arranged that they do not strike the handle of the machine when it is at its highest point, nor should they strike against the standard when the motion stops. If this happens, the sediment is apt to be disturbed. The machine should be provided with a clamp, so that it may be easily and firmly fastened to a suitable firm support, and, by the way, a sewing-machine or typewriter-table makes an excellent one. Esthetics should be consulted in beauty of finish. Last, but by no means least, the price should be moderate.

I have succeeded in securing more or less satisfactory pictures of a variety of centrifugal machines. Like every other mechanical device, there is a choice. Some are superior in one particular, others in another. With each picture will be found a summary of the points just mentioned, and you can draw your own conclusions.

While these plates are being examined let us turn our attention to some of the practical details involved in the use of the centrifuge.

Urinalysis.—As is well known, the results obtained by allowing urine to deposit such solid ingredients as it may contain within a conical dish, relying solely upon the force of gravity for the rapidity of the process, and then examining the sediment with the microscope, is exceedingly fallacious. The reasons for this fact are very simple. No matter how much care is exercised in the collection of urine, it soon becomes contaminated with bacteria and fungi, always float-

ing in the air. These multiply rapidly, and by the time sedimentation is complete—that is to say in from twelve to twenty-four hours—numerous changes, due to decomposition, have occurred. The reaction is often changed. The crystals found are, for the most part, secondary products, and did not exist within the body at all. Sugar, if originally present, may have entirely disappeared, owing to the action of yeast-ferment. The more delicate forms of casts are also apt to decompose early. The fungi themselves may assume strange and unknown forms, and our final conclusions may be entirely erroneous.

All of these errors may be avoided by the use of the centrifuge; for with this instrument at our disposal we have a method of securing the casts, crystals and other solid ingredients in such a form that they can be examined at once—within five minutes from the time when the liquid is placed in the sediment-tubes. No chemical changes will have taken place, and the normal and pathologic elements can be easily determined.

For the proper precipitation of the sediment 2500 revolutions per minute for three or four minutes gives the best results. A higher speed than this is apt to distort or break the hyaline casts. The number of revolutions of the crank necessary to obtain this rate can easily be calculated with each machine, and with a watch at hand the desired result can be easily obtained.

The urine-tubes should contain a trifle over fifteen cubic centimeters. The lower ten cubic centimeters should be divided into 100 equal parts by accurate scale. The percentage of sediment may thus be read off. If the exact percentage of the chlorids, phosphates, sulphates, albumen or sugar is desired, the upper five cubic centimeters should be used for standardized reagents. If it is not convenient to carry bottles of liquid reagents, reagent-tablets are now to be had which give excellent results. A small urinometer can also be procured that will easily go inside one of the tubes.

The shape of the tubes is also important. Many of the tubes have a slight curve at the top. This makes them more convenient for pouring purposes, but care should be taken that they do not rest upon this lip when in the aluminum guards; the great strain upon the unsupported glass will often cause them to break. Neither should they be too long, for then they will catch within the metal arms when, during revolution, they become horizontal; when the motion ceases the urine will spill over the machine, the operator, and the floor, and the analysis of anything, except profanity, will be a failure. The simple, straight tubes give very good results.

If expense is not considered the tubes devised by Jacobi, having a bulb at the bottom like that of an urinometer, may be used. These favor the removal of the liquid, and collect the sediment well, but they break easily and are difficult to clean. They are, however, of great value in examining milk, urine or water for typhoid or tubercle bacilli, for the upper fluid can be poured off, and the contents of the bulb still further concentrated in the sputum tubes.

If the amount of sediment is small and it is desirable to increase it, the upper twelve cubic centimeters may easily be decanted after sedimentation, and as this is practically filtered may be used for chemical tests, while the tube is refilled with non-sedimented urine. In this way half a pint of fluid may easily be sedimented in a few minutes.

Whatever the size or shape of the tubes used, it is essential that they should each contain the same amount of urine. If this is not attended to, the distribution of the load will be so uneven that the machine will vibrate badly, and the spindle may possibly be bent.

Milk Analysis.—The centrifuge is of use in the analysis of milk. In the first place, it enables one to make a fairly accurate reply to the question, "Are there bacteria present in this milk?" The means by which this can be accomplished has already been indicated.

In the second place, the determination of the amount of fat or cream that is present in any given sample of milk can be determined with greater rapidity and accuracy with the centrifuge than in any other way. To do this requires a special form of glass tube. Two forms are to be had. They are practically the same, the peculiarity of these tubes being that owing to the lighter specific gravity of the fat the scale used to indicate percentage must be at the upper end of the tube; and, in order that the scale may be easily divided, this end of the tube is much smaller than the lower part, and of uniform caliber.

Although the cream will separate by simple rotation, it has been found that for the accurate determination of percentages certain additional steps are required. The technic finally adopted is substantially as follows :

By means of a suitable pipette 5 c.c. of the milk to be examined is poured into the milk tube; to this is added one centimeter of a mixture containing fifty parts by volume of hydrochloric acid, thirteen of methyl alcohol, and thirty-seven of fusil oil. Sulphuric acid of a definite specific gravity (1.3) is then added drop by drop until the tube is filled to the zero mark. The mixture should be well shaken at each addition. The other tube is then filled in the same way, and the two

are rotated for three minutes at a moderate rate of speed (2000) revolutions per minute. The fat collects in the inner end of the tube, and when the machine is brought to a standstill the percentage can be read.

Very rich milk or cream may be diluted with one or four volumes of water before being examined, care being taken to multiply the result accordingly.

Sputum Analysis.—For the perfection of this method of concentrating the crystals, spirals and bacteria in sputum we are chiefly indebted to Drs. Ashton and Stewart, whose joint paper upon the subject was published in *The Medical News* in the issue of October 6, 1894. To quote from their valuable paper: "Undoubtedly the most important evidence that a destructive process is taking place in the pulmonary structure is to be found in the discovery of the elastic fibers in the sputum. For the purpose of demonstrating their presence and in the examination of the sputum for tubercle bacilli when these exist in very small numbers, the value of the centrifugal machine can scarcely be overestimated. Again and again have our observations demonstrated to us the facility whereby in such cases the presence of bacilli can be discovered by the aid of centrifugation, and in cases, too, in which, at the same time, they were found only after much trouble and repeated examinations by the ordinary methods. Such diagnoses, even, which were made after other methods had failed to detect the bacteria, have later been confirmed by the autopsy."

The technic for this procedure involves the use of certain special apparatus. The centrifuge must give a rotation of 10,000 revolutions per minute to secure good results with a sputum-tube carrier of the ordinary length, though with the very long-armed instruments already mentioned 5000 revolutions is sufficient. The tubes themselves are usually of the same length as the blood tubes in order that the same frame may be used. The usual length is 50 millimeters, with a diameter of $2\frac{1}{2}$ millimeters. Many tubes are simple glass cylinders ground smooth at the end, which presses against the occlusive pad. These tubes chip off around the edge very often in removing or in placing them in the frame. This difficulty is to a great measure obviated if the tubes are also ground around their terminal circumference for a distance of five millimeters.

The sputum to be examined need not be diluted in any way. It should be placed in a clean glass or porcelain dish and stirred with a glass rod till all flocculi are broken up and the sputum is of fairly uniform consistence. Then by means of a small pipette or medicine-dropper, with an inch or two

of rubber tubing at its end, the sputum should be drawn into the sputum-tube until it is quite full. A tube is then placed in each end of the carrier and centrifugation completed. The sputum will then be found in two layers: one clear, at the proximal end; the other opaque, at the distal end. The tube is removed, and slight pressure at the proximal end will suffice to expel the solid contents upon a cover-glass, where they can be fixed and stained in the usual manner.

Care must be taken with each examination to have the glass tubes quite clean, and it is better to provide a clean washer at the distal end of the tube for each examination in order that bacilli will not be carried over from one examination to the next.

Blood Analysis.—By far the best original work upon this subject, so far as the centrifuge and hematokrit attachment are concerned, has been done by a countryman of ours, Dr. Judson Daland. Dr. Daland's first article embodying the result of his researches was published simultaneously in German and in English in 1891, and has been the basis of a number of shorter articles that have appeared in various places and by various authors since then. The clinical studies were made in the wards by Professor Von Jaksch in Austria. He very soon found that the type of centrifuge then used in Vienna to which allusion has been made was not well adapted to his purpose, and it is largely to Dr. Daland's inventive powers that the attachment now known as the hematokrit was devised.

Since one object of the procedure was to do away with the necessity of using the hemacytometer for counting purposes, it was soon found that certain factors must be constant. The tube in which the blood is held must be of uniform caliber, must be graduated accurately, and must develop a constant quantity of centrifugal force dependent upon the distance from the centre of rotation and the rapidity of revolution.

The spindles first used made 104 revolutions per minute and for each turn of the handle. The tubes were 33 millimeters long and 1 millimeter in diameter. They contain 27.5 cubic millimeters of blood. On the outside is a scale divided into 50 equal parts. In his original article the author recommended that for convenience of computation these dimensions be modified so that the tube be 70 millimeters long and 5 millimeters in diameter, and provided with a 200 division scale. The tubes now manufactured are 50 millimeters long and 5 millimeters in caliber, and are divided into 100 equal parts. The tubes should rotate with a uniform velocity of 10,000 revolutions per minute. Most instru-

ments are now so constructed that a rotation of the handle 77 times per minute will produce this effect. These figures are of much importance, for, as the computation of percentages depends upon Dr. Daland's experiments, any variation in these factors would give widely different results.

At first the blood was diluted to avoid coagulation, and, though this now is rarely done, it may be well to remember that after a great variety of fluids had been used for this purpose a 2.5 per-cent. solution of bichromate of potash gave the best results. It does not decompose, it prevents coagulation, preserves the shape of the corpuscles, hardens them, and has a good contrast color. It can be used with the hematocytometer as well.

The technic is simple, but there are some minutiae that should be borne in mind. Although the ear or ball of the thumb is recommended as the best places to puncture for the blood required, I prefer the little finger of the left hand as being the place most convenient and least likely to be noticed by the patient after the cut is made. The finger must be well cleaned, and rubbing it with a piece of cotton soaked in ether, just before making the puncture, is advised in order to remove all fatty material. These precautions may also prevent infection, which, if it occurs, is an annoyance.

The pin, the needle or the lancet may be used to make the incision. I have preferred to use a small, spear-shaped instrument. Recently, the question has been nicely solved by Dr. Veranus A. Moore, of Cornell University. The instrument devised by Dr. Moore is really a spring lancet, using a spear-shaped blade fastened to a spring trigger, and secreted in a small brass tube, the end of which can be adjusted to the depth of cut required. This he calls a hemaspast. It is particularly advantageous with children and nervous persons, who dread anything resembling a knife.

The tubes must be exactly filled, and this requires some little practice. A capillary tube 50 mm. long is closely connected with the blood tube by a rubber tube 1 cm. long, and with the mouth by a long rubber tube. This capillary tube acts as a window to show when the blood tube is filled; and also serves to prevent the suction acting too suddenly. When the blood tube is filled, be careful to place the finger tightly over its free end before removing the rubber. It will prevent displacement.

Centrifugate two tubes at the required speed for two minutes, read off the scale carefully (most tubes now have a magnifying index like a thermometer) and add five cyphers to get the number of red blood corpuscles. A black background is a help to read the scale.

When it is necessary to carry the blood away for examination, dilute with the bichromate solution and carry in the pipette used for counting white blood cells.

To clean the tubes, use water first, then absolute alcohol, and finally ether. If the pipette contains a large clot it should be filled with a concentrated solution of caustic potash or soda and placed in a test-tube filled with the same solution. In a few hours the clot is usually dissolved.

According to Daland, "The hematokrit gives results as accurate as, if not more accurate than, the Thoma-Zeiss hemacytometer, requires less skill, calls for no eye-strain, and the volume and number of red blood-corpuscles per cubic millimeter and the volume of white blood-corpuscles may be determined within ten minutes."

These, then, are the claims that the centrifuge has as an aid to diagnosis. That portion of the practice of medicine which consumes the greatest amount of time is diagnosis; after that basis is made thoroughly secure, prognosis almost speaks for itself, and treatment, although the most important part of the science of medicine, is, in most cases, simple. Any means that will assist us in forming a diagnosis quickly and with increased accuracy is always regarded with favor by the medical profession, and a knowledge of the manner in which this assistance can be secured should be as widely known as possible.

I have stated the claims of the centrifuge to be regarded as such an assistant. I trust you will agree with me that its use may oftentimes be of great value.

During the discussion on the paper instruments from three manufacturers, Messrs. Richards & Co. of New York, James G. Biddle of Philadelphia, and Bausch & Lomb of Rochester and New New York, were exhibited and their use demonstrated.—*The Brooklyn Medical Journal*, June, 1898.

Progress of Medical Science.

MEDICINE AND NEUROLOGY.

IN CHARGE OF

J. BRADFORD McCONNELL, M.D.

Associate Professor of Medicine and Neurology, and Professor of Clinical Medicine
University of Bishop's College; Physician Western Hospital.

UREMIC AND OTHER ULCERS OF THE BOWEL.

Uremic, dysenteric, typhoid, tuberculous and follicular ulcers, and the ulcerations due to the administration of corrosive sublimate, phosphorus and other poisons are, pathologico anatomically, classified under the general head of diphtheritic ulcers. This purely anatomic classification in the nomenclature of which the etiologic factor remains unconsidered has, in some instances, been the cause of confusion on the part of physicians and medical students. That a tissue may be in a state of diphtheritic necrosis, leaving a diphtheritic ulcer after the necrotic tissue has separated from the healthy tissue, although the patient does not suffer from a diphtheritic infection or inoculation, or that an individual may have a croupous deposit upon any of his mucous membranes without suffering from croup in a clinical sense, would seem, at first sight, paradoxical. The same is true of the seemingly incompatible conditions where, for instance, a croupous membrane may form as the result of a general diphtheritic infection, or a diphtheritic necrosis, respectively ulcer, as a result of croup in a clinical sense. These seeming incongruities are at once converted into complete harmony after it is borne in mind that the pathologic anatomic nomenclature of these conditions is separate and distinct from the etiologic nomenclature. Thus the designation of diphtheritic ulcer was applied by Virchow, and this usage has become universal, to typhoid, dysenteric, follicular, tuberculosis ulcers, etc., and to the ulceration produced mechanically by pressure of hardened feces, or by certain poisons, such as corrosive sublimate and phosphorus, as well as to the ulcer resulting from diphtheritic infection. All ulcers of mucous membranes, then, which are the result of a superficial necrosis, were called by Virchow diphtheritic. While this term is very convenient, in an anatomic sense, it becomes misleading unless the etiologic classification receives simultaneous con-

sideration. That this is not always the case would appear from the discussions of medical societies whenever, for instance, croup and diphtheria form the objects of debate.

In the pathologic anatomic sense, then, the uremic ulcer is also classified under the general head of diphtheritic ulcerations. The leucomaines which are excreted in uremia by the intestinal mucous membrane are the poisons which seem to cause superficial necrosis, and upon separation of the necrotic tissue an ulcer remains which cannot be anatomically distinguished from any other diphtheritic ulcer, while etiologically and clinically it is a distinct and separate entity.

Of considerable interest is the method of production of dysenteric ulceration and the ulcer produced by corrosive sublimate poisoning. They are identical, pathologic anatomically as well as with reference to their location. In dysentery, as well as in sublimate poisoning, the ulceration extends along the transverse and longitudinal folds of the large bowel. Formerly it was generally supposed, and this presumption seems *a priori* a reasonable one, that the necrosis of the folds of mucous membrane was caused by the corrosive action of the bowel contents, until it was demonstrated by animal experiments conducted by Grawitz and Poelchen that when the severed small intestine is united to an abdominal wound in the form of a preternatural anus, and the distal end of the severed intestine, after being sutured, allowed to drop back into the abdominal cavity, the characteristic ulceration may be produced in the large bowel by the inunction of the skin with mercurial ointment, although no salt of mercury can enter the bowel with the saliva or the bile. From these experiments the conclusion was reached that upon the excretion of mercury from the blood was the combined action of the hyperemia of the bowel, muscular contraction, ecchymosis, and the bacteria present in the lumen of the bowel causes the necrosis in the folds of mucous membrane that protrude into the lumen of the large bowel.

The conditions producing uremic ulcers are much more complicated than those arising from corrosive sublimate inunctions. Uremic ulcers are principally located in the small intestines. Secondary necrosis occurring in tuberculous ulcerations of uremic individuals are in all probability due to disintegrated constituents of the urine. In such cases the ground of the ulcers is coated with a thick, green necrotic mass. Ulcers of this kind may, upon superficial examination, be mistaken for typhoid ulcers. Uremic ulcers are not confined to certain locations, but extend in all directions, and

may reach deeply into the submucosa. They are, according to Grawitz, probably produced by a corrosive fluid within the lumen of the bowel. Nothing distinguishes uremic ulcers from ulcers due to other agencies, and they can only be recognized by their combined characteristics. If, according to Grawitz, ulcers are found in the mucous membrane of the bowel in cases of more or less sudden suppression of the function of the kidneys, or where, upon the weakening of a considerably hypertrophied left ventricle, which played a large role in the compensation of a crippled secretion of urine by contracted kidneys, an abundance of urinary salts are excreted into the lumen of the bowel, such ulcers may be designated with a high degree of probability as uremic ulcers.—*Medical Review.*

THE X-RAY "BURN," ITS PRODUCTION AND PREVENTION. HAS THE X-RAY ANY THERAPEUTIC PROPERTIES?

Dr. Charles Lester Leonard, of Philadelphia, skiagrapher to the University Hospital and assistant instructor in clinical surgery, University of Pennsylvania, discusses this subject in the *New York Medical Journal*, July 2, 1898. From his study of cases he is of the opinion that the so-called therapeutic action and the X-ray burn are not due to some unknown quantity of this ray, but are due to the destructive action of the electric currents or static charge induced in the tissues of the patient. In a case of inoperable cancer, an eight-inch spark from a Queen self-regulating tube, held six inches from the surface, the surrounding tissues being protected by sheet lead and a grounded sheet of aluminum placed between the tube and the patient to convey the static charge to the ground. Exposures of 25 minutes daily for three weeks resulted in no X-ray burn nor therapeutic effects. The opposite was the result in a case of lupus vulgaris, with exposures of 20 minutes during 10 days; a burn with deep ulceration followed. He gives the following conclusions:

The X-ray "burn" is, therefore, not the result of the action of the X-ray, nor can it be produced by the X-ray; but the dermatitis produced is the result of the static currents or charges induced in the tissues by the high-potential induction field surrounding the X-ray tube.

The therapeutic properties attributed to the X-ray do not belong to it, but are due to the static charges and currents induced in the tissues, which have long been known to be capable of producing similar results.

The X-ray *per se* is incapable of injuring the tissues of

the patient, and the dermatitis, which has been called an X-ray "burn," is the result of an interference with the nutrition of the part by the induced static charges.

The patient may be absolutely protected from the harmful effects of this static charge by the interposition between the tube and the patient of a grounded sheet of conducting material that is readily penetrable by the X-ray—a thin sheet of aluminum, or gold leaf spread upon cardboard, making an effectual shield.

CHINOSOL.

F. Hobday, of the Royal Veterinary College, London (*Journ. Comp. Path. and Therap.*, March), discusses the therapeutic and toxicological effects of chinisol. Chinisol, which is a light yellowish powder, is stated to be a pure chemical compound belonging to the quinoline group, readily soluble in water, and having for its formula $C_9H_6NKSO_4$. Its properties are represented as antiseptic, disinfectant and deodorant. During the past nine months the drug has been extensively used in both the canine and the equine clinic. As regards its antiseptic properties, wounds of all kinds were treated with solutions of from 1 in 60 to 1 in 1200 with the the most satisfactory effect, the strength which was found to give the best results being from half a grain to a grain to the ounce. Upon fetid ulcerating wounds a proportion of 1 in 480 speedily caused a healthy appearance and entire absence of pus, the application being made once or twice daily. In several cases the effects of solutions of this strength could be compared (in treating wounds in the same animal) with solutions of lysol and creolin, the chinisol giving decidedly the best result. In the form of powder, as a dry dressing, when mixed with boracic acid, zinc oxide, or starch, and compared with idioform used similarly, the sequelæ appeared about the same. When the pure powder was applied to wounds, the effect was to cause a good deal of pain, the animals showing signs of great irritation for two or three minutes, and the raw surface turning a blackish-brown color. As a disinfectant to the hands, skin and suture threads, it was employed in solutions of from 1 to 1,000 to 1 in 60 without any signs of irritation either to the hands of the operator or the skin of the patient. With instruments, however, care must be taken, and the solution used should be carefully measured. On several occasions when this precaution was neglected the instruments lost their edge, the steel parts became coated with greenish-black spots which were very troublesome to remove, and in those which had white bone handles the latter became discolored and rough to the touch. The

solution recommended for this purpose consists of 1 in 1,200. and, if the instruments are to remain in it for anything like an hour, this strength certainly should not be exceeded. As a deodoriser for the hands or for foetid wounds, solutions of the same strength as those used for the disinfectant purposes acted satisfactorily. Details of several illustrative cases are given, and the author sums up the conclusions to which his experience has led him as follows:—(1) That chinisol acts well as an antiseptic, disinfectant, and deodorant when used in certain proportions. (2) That its action is better marked when used as a lotion than when used as a powder. 3. That the powder is not suitable for use on fresh wounds unless diluted in some way or other. (4) That for the disinfection of instruments care must be taken not to make the solution too concentrated. (5) That the drug possesses toxic properties. (6) That if used subcutaneously in too concentrated a form it will produce local irritation and swelling. The strength recommended for subcutaneous injection in human practice is from 1 in 600 to 1 in 200. (7) That the cat is very susceptible to its action, and that in this animal much more care is necessary to guard against toxic symptoms than in the case of the dog. In the cat, if subcutaneously injected, the extreme limit of dose should be one-sixteenth of a grain for each pound body weight, and in the dog one-eighth of a grain per lb. (8) That chinisol is not rapidly absorbed from the unbroken skin of the dog, and can be applied for several days in succession even in fairly concentrated solutions to the skin of this animal without producing eruptions or sores. (9) That the chief symptoms of poisoning are:—Sneezing and coughing, an increased flow of thick ropy saliva, subnormal temperature, staggering gait commencing with loss of motor power in the hind quarters, great prostration, and ultimately death from failure of the heart's action. (10) That the chief *post mortem* characteristic is the smell of chinisol on or in some part of the body; whilst another symptom to be looked for is the presence of frothy saliva in the pharynx, œsophagus or stomach.—*The British Medical Journal*.

MUSIC AS A SEDATIVE IN NEURALGIA.

Mr. Gladstone during the many weeks of acute neuralgia which ushered in the last phase of his fatal illness is said to have found great relief in music. Mr. Herbert Spencer is said to have had recourse to music for the relief of nervous disturbance; and the Empress of Austria is reported to have been cured of neuralgia by certain strains of sound repeated

at frequent intervals. Many other less illustrious sufferers have had their pain charmed away by the same sweet medicine. The "music cure" had considerable vogue some time ago in Germany, and a special hospital for its systematic application was, we believe, established in Munich. It is probable that music acts in such cases by diverting the attention, the pleasant impression overpowering and for the time obliterating the painful sensation. Attempts have, however, been made to show that music is something more than merely a sweet oblivious antidote. Nicolai, of Halle, a pupil of Hoffman, and a disciple of the intro-mathematical school, contended that the vibratory movements of the tympanum produced by musical sounds set up some kind of oscillatory movement in the nerves, and thus soothed the disturbed brain. Ferrari has quite recently suggested that the effect of music is to be explained by its acting on the organ of hearing in a manner analagous to massage, and so bringing the brain centres under the influence of "vibration treatment." An American physician, Dr. William F. Hutchinson, of Providence, Rhode Island, made a series of experiments as to the possibility of producing anæsthesia by very rapidly repeated blows, which may perhaps throw some light on the sedative effect of music. By arranging a number of small hammers with elastic handles on a revolving wheel, he was able to make a rapid percussion, each stroke representing a weight of 10 grains, and being repeated four hundred times a minute. This number of strokes did not materially lessen the sensibility of the part to which they were applied. Dr. Hutchinson afterwards succeeded in getting constructed an induction apparatus consisting of very carefully measured coils, and having a rheotome, made of metallic ribbon, which could be made to vibrate very rapidly. By means of very accurately made tuning forks he measured the number of vibrations which this "singing rheotome" made in a minute, and found that when it sounded the note of C major, representing 540 vibrations per second anæsthesia was produced, but, if the interruptions were made still more rapid, this effect was lost. The change in the number of vibrations was produced by altering the tension on the rheotome, and this tension was so great, 740 pounds to each centimetre in length, when tuned to C major, that steel was not strong enough, and it became necessary to make the metallic ribbon of phosphor-bronze. Three Burnley cells were used to run the apparatus. By experiments on himself and others, Dr. Hutchinson had found that with the number of vibrations corresponding to A major, 540, one minute was sufficient to produce numbness; on stopping the current there was a

rapid return of sensation. An attempt was then made to produce local anæsthesia on a patient suffering from a whitlow on the finger. The finger was placed in a metallic tube partially filled with sponges moistened with salt water. Starting with A major and running up to G major during a period of three minutes, it was found that the sensibility had been scarcely diminished; but when the rheotome had tuned to C major sufficient anæsthesia was produced in three minutes to allow of an incision being made in the whitlow without the patient suffering any pain whatever. In a case of *tic douloureux*, in which galvanism and franklinism had both been tried and had proved useless, the induced current from this machine was tried, the rheotome being adjusted to C major, and the negative electrode being applied to the nape of the neck and the other to the forehead. In five minutes the pain had sensibly diminished, and in ten minutes it had been completely relieved, and the patient was able to enjoy the first sleep for two days. In Dr. Hutchinson's experience every kind of pain yielded equally well to the currents produced when the rheotome was adjusted to C major. It would appear, therefore, that the note C major produces vibrations which neutralise the disordered vibrations in the affected nerve. It might, perhaps, be worth while to try the effect of airs in which C major predominates in cases of neuralgia. It would, however, be prudent for the experimenter first to assure himself that the patient is not one that hath not music in himself nor is not moved with concourse of sweet sounds; otherwise he might find himself made the subject of experiments in rapid percussions and vibrations tuned to D major, which would have an effect the reverse of anæsthetic.—*The British Medical Journal*.

CHOREA: ITS SYMPTOMATOLOGY, ETIOLOGY AND TREATMENT.

Each year, with a constancy which is equalled only by time itself, there is, during the spring months, an up-cropping of chorea which at times suggests almost a state of epidemic prevalence. Collateral to this fact and in proof of its truth, there is each year at about the same time an unusually abundant literature upon this subject, which literature seems, by the way, to be limited to no clime or country. Among an exceedingly large number of papers upon chorea which have recently come within our editorial notice, three which are especially worthy of comment and review are contributions by Weir Mitchell and Rhein and by Leonard Guthrie (Treatment, March 10, 1898, Abstract by Blackader,

Montreal Medical Journal, April, 1898) and a paper by Sajous (*Monthly Cyclopædia of Practical Medicine*, April, 1898.)

Symptomatology.—Dr. Mitchell, in collaboration with Rhein, has been making a study of the motor manifestations of chorea with the result that they find that the disease is divisible, as regards this symptom, into five clinical groups, as follows :

1. Cases in which during voluntary muscular inaction, choreiform movements are almost continuous, but in which these movements disappear entirely when muscular acts are performed. This appears to be a phenomenon quite beyond the influence of the will, and suggests that inhibition for the time is increased.

2. Cases in which choreiform movements are continuous during rest, but become greatly increased with intentional effort. It is impossible for one suffering from this variety of the malady to complete satisfactorily any voluntary muscular act.

3. Cases in which choreic manifestations only become evident on attempts to perform a muscular act. The hands at rest move, if at all, only slightly, and at rare intervals, but on attempting to use them, the twitchings become sufficiently active to prevent, or greatly to interfere with, the performance of the act. These cases are comparatively rare. So also are the next class.

4. Cases in which the movements, continuous during rest, are but slightly altered by the tests employed.

5. There are also cases which present during their course at different times more than one of the types described.

Guthrie advocates a much less elaborate division into two types or classes.

1. Sthenic, or explosive, in which the predominating character of the symptoms is violence, and wide range of movements.

2. Asthenic, or pseudo-paralytic, in which the movements are feeble in character, and the patient appears to have some loss of muscular power, or of will power, to execute voluntary movements. These two main groups may be further subdivided into severe and mild forms.

The sthenic type may, and often does, pass into the asthenic. The symptom picture differs widely in these two forms as described by Guthrie, as do also both prognosis and treatment.

Two of the sub-varieties of the sthenic form, says

Guthrie, "require some consideration. (a) Cases which, after being confined to bed for some weeks, cease to improve. Sometimes the movements continue whilst the patient is at rest, and cease when voluntary action is attempted (Weir Mitchell, Group I.) This is an indication for encouraging voluntary movements, by getting the patients out of bed and allowing them to go about. They then often speedily improve. (b) Sometimes the movements occur only when the child is being watched whilst at rest, and when it attempts actions requiring manual dexterity, under supervision. These children are usually timid, self-conscious little creatures. They gain confidence if patiently encouraged to use their muscles, and soon lose their ataxy. Simple drill exercises can easily be invented to meet the case. Drill exercises are also of use when the ataxy only occurs on voluntary movements, whether the child is being watched or not."

Monroe, quoted by Sajous, has also been studying with especial interest the motor symptoms in chorea. He believes motor weakness of a pseudo-paralytic character to be much more common than is generally believed. "Sometimes," he states, "it is practically the only symptom, and the diagnosis then is somewhat difficult." Sheffield (*Ibid*) notes among the rare motor phenomena of chorea the occurrence of rapid alternations of contraction and dilatation of the pupils in a choreic girl, the ciliary muscles acting several times per minute in this way.

Etiology.—As regards the etiology there is evidence in the literature of a progressive tendency towards the acceptance of the theory of some toxic or infectious agency as a cause. Among those advocating this view are Legay, who believes the exciting cause to be always some recent infection, Napier, Mei and Bishop. Rheumatism is considered the most constant and important etiological factor, by London, Marfan, Simon, Churton, Guck, Meyer and Kraft Ebbing. Sanson, on the other hand, denies the relationship, while Kraft Ebbing thinks it is more important as a factor in England than on the Continent, and he does not believe that the endocarditis *per se* is ever a cause, though it may be an accompaniment.

Quite a remarkable unanimity appears to exist with regard to the causative relationship of scarlet fever to chorea. Napier, Marfan, Cornell and Priestly all cite abundant clinical evidence in support of this belief. Priestly goes so far as to question whether chorea should not be considered a sequel of scarlet fever. In an analytical study of 125 cases of chorea published by the writer (*Medical News*,

August, 1897), twenty cases were attributable to this cause, to which fact especial attention was called at the time.

Both Mosler and Massalongo, also quoted by Sajous, cite examples of what they describe as "alcoholic" chorea. Dakin found in seven cases of chorea occurring in pregnancy a mitral murmur invariably present. Burr and London find from laboratory studies that very important blood changes are to be noted in all cases of chorea. The anæmia is of the chlorotic type according to Burr. The hæmatology of chorea is believed by London to be of the greatest value in treatment and prognosis.

Treatment.—Kraft Ebbing says that arsenic is second to no other remedy in its value in chorea. In this opinion he is sustained by Sinkler, Spiller, Marfan, Renai and Lewis. The necessity for large and ascending doses is advocated without exception. Renai indeed is quoted as recommending that the drug be commenced in doses of 20 drops of Fowler's solution in children and double that amount for adults. While the writer believes in the use of arsenic carried up to the extreme tolerance in chorea, such a dosage as 20 drops to begin with seems dangerously unsafe and unnecessary. Rest in the early stages with nutritious diet and later light exercise in the open air are measures of treatment upon which a general agreement seems apparent. Kraft Ebbing condemns without qualification the use of electricity, while Renai, McKenzie (*Canadian Journal of Medicine and Surgery*, March, 1898), Graucher and Guthrie especially emphasize the value of gymnastics. Averend employs belladonnæ with great confidence and in enormous doses. Thirty drops of the tincture every four hours for ten days to a child is perfectly justifiable he says, provided certain precautions as to the kidneys are observed. Guthrie and Graucher are among a large number who have found antipyrine of value. Of the newer remedies the evidences as to positive value are so inclusive as scarcely to justify reference to them at all.—*The New York Polyclinic.*

CERVANTES AS PATIENT AND AS PHYSICIAN.

It is related that Sydenham, being asked by Blackmore (afterwards pilloried in the *Dunciad* for his epics "writ to the rumbling of his chariot wheels") what works he should read to improve his medical knowledge, answered "Read *Don Quixote*. It is a good book. I read it still." It is probable that our English Hippocrates merely wished to snub a pert youth; but, rightly understood, the advice might with ad-

vantage be followed by physicians more largely than it is, especially in these days, when the absorbing pursuit of the microbe tends to make us forget that there is also a macrobe which deserves attention. The physician has to deal with man as a whole, and the human body, whether it be regarded as a piece of "foolish compounded clay" or as "the Lord's anointed temple," is something more than a happy hunting ground for bacilli. The great creative works of literature in which human life is depicted by men who, in the words of Matthew Arnold, have seen it steadily and seen it whole, and in which the workings of the complicated machinery of man's nature are made visible, can, if rightly studied, give the physician a knowledge which he will find most useful in his practice, and which cannot be got from medical books or learnt in the laboratory or the dead-house. For those who appreciate the value of such knowledge, *Don Quixote* is indeed "a good book." It is a proof of the broad-minded view which the University of Paris takes of the art of healing that the other day it accepted a thesis, entitled "Cervantes, Patient and Physician," from a candidate for the degree of Doctor of Medicine. The author, M. J. Villechauvaix, has not, we are bound to say, made the most of his subject, but his essay is interesting as far as it goes, and he appends a bibliography likely to be useful to anyone who may wish to make a deeper study of the creator of *Don Quixote* in his medical aspects. Cervantes was born on October 9, 1547, and died after a life full of suffering, ill-health and evil fortune of all kinds on April 23, 1616. He contracted malaria during a visit to Rome early in life, and on the very morning of the famous battle of Lepanto (September 7, 1571), he was so ill with ague that the captain of the ship on which he served tried to induce him to remain below. He insisted on fighting, however, and received three arquebuss wounds, two in the chest and one on the left hand, which was permanently disabled. He was six months in hospital at Messina, and his wounds were yet incompletely healed when four years later he was made prisoner by Algerian Corsairs on the high seas on September 26, 1575. For five years he was held captive by the Moors, suffering much ill-usage at their hands, but at last forcing them, out of fear of the influence which his indomitable spirit gave him among his fellow-prisoners, to set him free. He died of dropsy, which M. Villechauvaix surmises to have been of cardiac origin, but there is really no evidence on the point. There is a tradition that Cervantes studied medicine, and there are in his works many passages which show that he had a considerable acquaintance with the art of healing as it

was understood in his day. During his Algerian captivity he ministered to the needs of his fellow-prisoners in sickness with a skill which bespeaks, if not special training, a considerable experience in dealing with disease. How close and accurate an observer he was is shown by the wonderful picture of delusional insanity which he gives in *Don Quixote*. M. Villechauvaix points out that he anticipated Pinel in the rational treatment of insanity. The books of chivalry which had disordered the brain of the Knight of the Sorrowful Countenance are destroyed, and every effort is made to create a new mental environment for him, his very delusions being skillfully taken advantage of to this end. It is somewhat strange that M. Villechauvaix should have made no reference to Sancho Panza's famous physician, who in his strict views as to diet may perhaps be looked upon as the scientific forerunner of Sir Andrew Clark. He quotes, however, an epophtegm that the "stomach is the laboratory in which health is manufactured," which shows that Cervantes had very sound views as to the important relations of the digestive to other functions of the body.—*The British Medical Journal*.

ONE HUNDRED CASES OF PULMONARY TUBERCULOSIS TREATED WITH LARGE DOSES OF BEECHWOOD CREOSOTE.

Dr. Charles Lamplough, Resident Medical Officer, City of London Hospital for diseases of the chest, discusses the subject in the *British Medical Journal*, May 28, 1898.

The drug was given by inhalation and internally, beginning with small doses, and increasing until 40 to 60 minims were taken three times daily after meals, and in some cases larger doses, and he thinks that even larger doses could be given. In sixty-eight cases the symptoms either partially or entirely disappeared, the patients increased in weight and the temperature fell. Average stay in hospital was two months. The physical signs improved in these cases, but not in proportion to the symptoms. Albumen disappeared from the urine in cases where it was present, and it does not induce this condition. But little discomfort comes from swallowing these doses, and anorexia, nausea and sickness are rarely complained of. If it occurs on account of the oil, a spirituous solution may be substituted, or the emulsion may be given in milk, sucking a lemon after or taking beef tea or fruit juice. Creosote tends to act as a laxative, and does not tend to produce hæmoptisis but rather acts as a hæmostatic in phthisis. Creosote is excreted by the kidneys as guaiacol and cresol.

combined partly with sulphuric and partly with glycuronic acid; it is decomposed chiefly in the stomach.

Having compared the objections raised against the administration of beechwood creosote in phthisis with the results obtained at this hospital by treating 100 cases with this drug, he suggests that the following points are worthy of consideration and further investigation.

1. The best beechwood creosote can be given with benefit, in amounts varying from 120 to 240 minims daily, in cases of pulmonary tuberculosis.

2. The drug is best administered in cod liver oil or in a spirituous solution, and in some cases the "creosote chamber" or oro-nasal inhaler may be ordered in addition with advantage.

3. The dose should be small at first, but it can be rapidly increased to 40 minims three times daily for an adult. In 3 cases doses of 30 minims three times a day were well borne by children.

4. Large doses rarely cause any gastric disturbance; on the contrary, the appetite is frequently increased, symptoms of dyspepsia disappear, and cod liver oil is more easily assimilated. The cough, expectoration and night sweats are diminished, and the physical signs improved.

5. Owing to its disinfectant action in the alimentary canal the drug probably diminishes the risk of tuberculous enteritis by auto-infection when patients swallow their sputa, but owing to the increased peristalsis, which is created by creosote, it is usually contra-indicated in cases where the ulceration is already advanced.

6. The drug does not tend to cause hæmoptysis, but rather to prevent its recurrence.

7. Creosote does not irritate the normal mucous membrane of the genito-urinary tract.

8. Owing to its extremely small cost pure creosote can be given to a much larger number of patients than the carbonates of creosote and guaiacol, which respectively cost four times and twelve times as much as the older drug.

DANGER OF CHLOROFORM INHALATION IN THE PRESENCE OF ILLUMINATING GAS.

There has been during the past few years various references to the changes which take place in chloroform when its vapour becomes burned in a room lighted by ordinary illuminating gas. The carbonyl chloride, which under these circumstances becomes developed together with hydrochloric acid, produces dyspnoea, cough, and a feeling of suffo-

cation alike in operator and patient. In damp weather, or when fog is present, these discomforts are accentuated, and it is just at such times that more thorough ventilation becomes most difficult. However, temporary inconvenience appears not to be the only risk run in these cases. Dr. Mey, of Berne, has reported a death as resulting from the generation of these fumes. Dr. Mey found himself compelled to undertake a serious operation involving abdominal section, which occupied several hours. It had to be undertaken at night, and, besides the operator and patient, a colleague of the surgeon and two nurses were present in the room. Chloroform was administered, and coming in contact with the illuminating gas caused severe cough. Some hours after the operation Dr. Mey suffered from severe dyspnœa, which persisted for some time. The two nurses had similar seizures, and one of them eventually died from the effects upon her lungs. So serious a result is, we believe, a unique experience, and one which is likely to deter surgeons from an unguarded employment of chloroform when an open flame is the only means of illumination. The dangers referred to are minimised when the chloroform is given from an inhaler, such as Snow's, Clover's or Junker's. With such an apparatus comparatively little chloroform vapour escapes into the air, and, therefore, little, if any, is burnt. A further precaution is a thorough ventilation; a large room with an open fireplace and an efficient ingress for air will do much to obviate such untoward accidents. In hospitals there should be no possibility of either impure chloroform or of such crude arrangements being in use as unguarded gas lamps and chloroform given from a cloth or towel. With the simple means of testing and purifying chloroform, which Professor Ramsay has given, no excuse can reasonably be made for jeopardising the lives alike of the patients and of the officiating staff by using decomposed chloroform. It is to be hoped that to be forewarned will prove to be forearmed, and the occurrence of the death of the nursing sister at Berne will prevent the possibility of another fatality from a cause which seems distinctly preventable.—*The British Medical Journal.*

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Editorial.

COLLEGE OF PHYSICIANS AND SURGEONS OF THE PROVINCE OF QUEBEC.

The Semi-Annual Convention, which was held at the Laval University rooms, was an unusually quiet and uneventful meeting, and but little was accomplished outside of the regular routine work in connection with the conferring of licenses and the examination of candidates who had not the full qualifications necessary to exempt them from examination. A number of important notices of motion were to have come up for consideration, but the governors wisely decided not to discuss them at this meeting, as it was so near the time for the election of a new board. Hence, the attacks on the B.A. degree, the method of enforcing the Lodge Doctor, resolutions of the previous session and other subjects were left to be considered by the new board.

In striking contrast to the tameness of this meeting was the triennial meeting for the election of a new board. The Reform Committee in Montreal and Quebec had been instituting an active campaign with a view of breaking up the monopoly which had the reins for three terms in succession and had succeeded in rousing the members of the College throughout the province to a sense of their duty in regard to the method of electing the governors, the election by district

being the goal aimed at. The result was the largest meeting ever held by the College, and will be a red-letter day in its annals. Between four and five hundred members were present at the meeting, and nearly a thousand votes either directly at the meeting or by proxy, were polled. Seldom is it one's experience to witness such excitement and uproar as was exhibited by many of the more impulsive members present. The first clash came when a motion was made to change the order of proceedings, and after the President's annual report was read and that of the other officers, to proceed with the election of a new board.

When the vote was taken it was seen that the doom of the ruling *régime* was settled, as their supporters were in a hopeless minority. Although the presiding officer overruled the motion, his decision was appealed from, and he was not sustained. It was then that numerous theatrical scenes were enacted not soon to be forgotten, and one was carried back to student days. Certain speakers were drowned in the noise that greeted their attempts to make themselves heard. Half a dozen speakers at a time would endeavor to get the eye of the chairman, some doggedly remained on their feet, defying the crowd until they were permitted to speak. The following extracts from the press reports give a fair idea of the proceedings:

"Dr. Lanctot objected to matters being rushed with inordinate haste, and insisted that, in view of covert reflections and slanders upon the board, an opportunity should be given to offer a defence before attempting to reach a snap verdict. He had every confidence in the ability of each member of the board to repudiate and nail every slander and falsehood.

"Dr. Lachapelle denied the right of any member to precipitate a discussion before a vote had been taken. He wanted the rules suspended in order that visiting members could vote in time to return home that night.

"After some minutes' wrangling, Dr. Lachapelle's motion was adopted, after which Drs. J. A. Beaudry, Elder, Benoit, Johnston, Faucher, Perrigo and N. J. D. Gauthier were appointed scrutineers for the election of governors, and the meeting adjourned until the afternoon.

"It was after three o'clock when the scrutineers handed in their report, and the bear garden scene of the morning was at once resumed. Dr. Grandbois attempted to make a motion to the effect that the proceedings had been irregular and contrary to the by-laws of the college, and that the election be declared null and void. But he had barely read the first half dozen words when there were shouts of opposition from every quarter of the room, with intimations for him to be seated. He declined, however, to accept the advice, and Dr. George Villeneuve took a hand and tried to pacify him, but he only declared the more vehemently that he would be heard, and gesticulated the more vigorously. At last he quieted down so far as to allow the results of the election to be declared.

"The reform ticket swept everything, and those elected governors were: Dr. C. Marshall, Beauharnois; Dr. C. L. Cotton, Bedford; Dr. E. N. Chevalier, Iberville; Dr. M. S. Boulet, Joliette; Dr. T. Cypihot, Montreal; Dr. E. L. Quirk, Ottawa; Dr. E. H. Provost, Richelieu; Dr. E. Turcot, St. Hyacinthe; Hon. Dr. D. Marcil, Terrebonne; Dr. J. E. Baril, Dr. L. J. V. Cleroux, Dr. J. I. Desroches, Dr. S. Girard, Dr. A. R. Marsolais, Dr. J. A. MacDonald, Montreal; Dr. T. Fortier, Beauce; Hon. Dr. R. Fiset, Gaspé and Rimouski; Dr. P. E. Grandbois, Kamouraska; Dr. S. Bolduc, Montmagny; Dr. Jules Constantin, Chicoutimi and Saguenay; Dr. J. A. Izadiere, Dr. M. Brophy, Dr. J. P. Boulet, Dr. F. X. Dorion, Dr. C. Gingras, Dr. A. Jobin, Dr. C. C. Sewell, Dr. A. Vallee, Quebec; Dr. L. J. O. Sirois, Arthabaska; Dr. L. P. Normand, Dr. E. F. Penneton, Three Rivers; Dr. P. Pelletier, Dr. A. N. Worthington, Dr. T. L. Brown, St. Francis district.

"The result of the election was received with considerable applause, and immediately it was heard Dr. Grandbois again attempted to make his motion, but only to be shouted down as before.

"Dr. Lachapelle moved, seconded by Dr. Armstrong, that the report of the scrutineers be adopted; that the order of the day be taken up, and that as soon as that meeting adjourned the newly elected governors proceed with the election of their officers to the medical board."

Dr. Grandbois again started a scene by attempting to speak; he finally handed in an amendment, which was defeated, and the motion of the scrutineers was adopted. Most of the new board were elected by about nine hundred votes each. The reform committee had, with the aid of the proxy, voted out the Beausoleil combination by using the proxies in hand for each of the chosen candidates, the former's strength in the direction numbered about forty.

After the election the board went into private session and elected the following officials:—

President—Dr. Lachapelle.

First Vice-President—Dr. Craik, dean of McGill.

Second Vice-President—Dr. Catellier, Quebec.

Secretary for Montreal—Dr. John A. Macdonald.

Secretary for Quebec—Dr. G. P. Boulet.

Treasurer—Dr. Jobin, Quebec.

Registrar—Dr. A. R. Marsolais, Montreal.

It was announced that the representatives of the Universities were: for McGill, Drs. Craik and Roddick; for Laval, Montreal, Drs. Lachapelle and Demers; Laval, Quebec, Drs. Simard and Catellier; Bishop's College, Drs. F. W. Campbell and J. B. McConnell. Dr. Marsolais was requested to inquire into a report concerning the books forming the newly established library. The meeting then adjourned to meet in Quebec in September.

The Berlin correspondent of the *British Medical Journal* states that:

At the last meeting of the Berlin Society of Public Hygiene Herr Geheimrath Seinola reported on the progress made in the project of a new (fourth) municipal hospital for Berlin. The total expenses have been calculated at above 13 million marks (£650,000); the hospital is to be finished by 1903. It will occupy no less than 105 acres of land and is to consist of 62 buildings in all. There will be 26 one-storey pavilions of 46 beds each; the lying-in department and the isolation department are to be built more than one storey high. All arrangements for hydropathic treatment, baths of all sorts, and "medico-mechanical" treatment will be provided. Inmates of the lying-in department will be

allowed to remain till the twentieth day after delivery—a great improvement on the practice at the Charité, where they are dismissed after the ninth day. The medical staff is, to consist of a directing physician, two chief physicians directors of departments, besides an assistant physician for every fifty beds. The drugs, etc., will be under the care of three chemists. A training school for nurses is to be affiliated to the hospital.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

EIGHTH ANNUAL MEETING AT BUFFALO, N.Y., LIBRARY BUILDING, LAFAYETTE SQUARE, SEPTEMBER 13TH, 14TH AND 15TH, 1898.

PRELIMINARY PROGRAM.

A series of ten minute discussions on electrotherapy, of special interest to the general practitioner, including Effect of Electricity on Tissue Metabolism, Electro-diagnosis, Diseases of the Nervous System, Diseases of Women, Genito-urinary Diseases, Malignant Growths, Orthopædic Uses, Diseases of the Eye, etc.

The following papers have been promised, Dr. Apostoli, Paris, France, Note on New Applications of the Sinusoidal Current in Electro Therapeutics; Dr. Gauthier Paris (1) The Hydro-electric Bath with Sinusoidal Current in Disease, (2) On the value of the Hot Air and Light Bath in Disease, (3) Two years of Practice in Radiotherapy, (4) Electroply in Gynæcological Applications; Dr. Felice La Torre, Rome, Italy, Electricity in the Cure of Uterine Fibromyomata; Dr. J. Inglis Parsons, London, Eng., The Effect of High Tension Discharges upon Micro-organism; Mr. Nikola Tesle, New York, High Frequency Oscillator for Electro-therapeutic Purposes; Dr. Wm. C. Krauss, Buffalo, Case of Lightning Stroke without Serious Consequences; Dr. Lucien Howe, Buffalo, the Method for using Cathaphoresis in Certain Forms of Conjunctival Inflammations; Dr. John O. Roe, Rochester, N. Y., The uses of Electricity in Diseases of the Nose and Throat; Mr. J. J. Carty, E. E., New York Cathaphoresis; Dr. J. H. Kellogg, Battle Creek, Mich., the Electric Light Bath; Dr. M. A. Cleaves, New York, Metallic Electrolysis, with Laboratory Experiments, (2) Electrical Treatment of Inflammatory Exudates; Cathaphoresis and Metallic Electrolysis, by Wm. J. Morton New York; Dr. W. J. Herdman,

Ann Arbor Mich., Electricity in Gynæcology; Dr. A. D. Rockwell, New York, Diagnostic and Therapeutic Relation of Electricity to Diseases of the Central Nervous System; Dr. Grover W. Wende, Buffalo, Electricity in Acne Vulgaris and Acne Rosaceæ; Dr. Caleb Brown, Sac City, Iowa, Cataphoric Action of the Galvanic Current; Mr. R. G. Brown, E. E. Brooklyn, (1) New Electric Light for Diagnostic Purposes, (2) Surface Electrodes, How they Should be Made, Connector Cords, How They Should be made and Insulated; Dr. Robert Newman, New York, Electricity in Deafness and Strictures of the Eustachian Tube; Dr. R. J. Nunn, Savannah, Ga., Treatment of Uterine Fibroids by Small Currents Administered Percutaneously; Dr. Wm. F. Robinson, Albany, N.Y. Treatment of Certain Muscular Affections by Means of Electricity; Dr. G. W. Overall, Memphis, Tenn., True Status of Electricity and Allied Remedies in Treatment of Strictures and Prostatitis; Dr. W. S. Watson, Fishkill-on-Hudson, N. Y., Electricity and Medical Institutions; Dr. W. H. White, Boston, Mass., Static Electricity in Nervous Diseases; Dr. H. S. Jewitt, Dayton, Ohio, The Misuse or Abuse of Electricity as a Therapeutic Agent; Dr. W. Scheppegegrell, New Orleans, La., Electricity in Diagnosis of Disease of the Ear; X-Ray Burns, by Dr. W. H. Harris, Toronto, Ont.

An Illustrated Lecture on X-Ray will be delivered by Dr. Wm. J. Morton, New York.

An exhibition of electrical apparatus for diagnostic, therapeutic and radiographic purposes will be held in the same building.

A cordial invitation is extended to members of the profession.

CHARLES R. DICKSON, M. D., *President.*

JOHN GERIN, M. D., *Secretary.*

AUBURN, N. Y., July 26, 1898.

DEAR DOCTOR:

The Eighth Annual Meeting of the American Electro-Therapeutic Association will be held on Tuesday, Wednesday and Thursday, September 13th, 14th and 15th, 1898, at Buffalo, N. Y.

The Society of Natural Sciences has kindly placed at our disposal its rooms in the Public Library, Lafayette Square; a program of exceptional interest is assured; there will be an exhibition of electric apparatus for diagnostic,

therapeutic and radiographic work; a hand-book of information will shortly be issued by the Committee on Arrangements; Hotel Iroquois will be the headquarters, rates \$4.00 to \$5.00 per day, American plan; \$1.50 to \$3.00, European plan.

Among the many entertainments provided, there will be Tally-ho coach drives about the city daily, a public reception on Tuesday night, excursion down Niagara River and reception at Island Club, Grand Island, and other receptions, visits to industries of interest. Extra efforts are being put forth to make this in every way the best meeting that has been held, therefore you are particularly requested to attend. Kindly inform the secretary at as early a date as possible whether you will be present, if you will be accompanied by members of your family and the title of the paper you will read, also the names of persons whom you desire to propose for membership.

An excursion for members, exhibitors and friends from New York to Niagara Falls and return with stop-over privileges at Buffalo will leave the Hoboken Depot of the Delaware, Lakawanna and Western Railway on Monday morning, September 12, reaching Buffalo about 7 p.m.; a palace car will be attached. Tickets for the excursion, good for thirty days, to return on any regular train of D. L. & W. R.R., \$10.00; seat in place car, \$1.50 extra. Tickets and seats can be secured from Dr. Robert Newman, from whom all particulars may be obtained. Early application should be made, for, if a sufficient number can be secured, a special train will be run. Special hotel rates at Niagara Falls will be secured for all excursionists.

COMMITTEE ON ARRANGEMENTS AT BUFFALO.

ERNEST WENDE, M. D., 471 Delaware Ave., Chairman.
 WILLIAM W. POTTER, M. D., 284 Franklin St., Printing.
 NEWCOMB CARLTON, E. E., 109 White Building, Exhibits.
 ROSWELL PARK, M. D.
 HERMAN E. HAYD, M. D.
 H. R. HOPKINS, M. D.
 CHARLES R. HUNTLEY, E. E.

COMMITTEE ON EXCURSION.

ROBERT NEWMAN, M. D., 64 West 36th St., New York.

Very truly yours,

CHARLES DICKSON, M. D., *President.*

JOHN GERIN, M. D., *Secretary.*

68 North street, Auburn, N. Y.

Book Reviews.

Sajous' Annual and Analytical Cyclopædia of Practical Medicine. By Chas. E. de M. Sajous, M.D., and one hundred associate editors, assisted by corresponding editors, collaborators and correspondents. Illustrated with chromo lithographs, engravings and maps. Cloth \$5.00, half Russia \$6.00. The F. A. Davis Company, Publishers, Philadelphia. Volume I. Abdominal injuries to Bright's disease.

We have already given a notice of what was to be the character of this New Annual. The first volume has been issued for some weeks now; five others are to follow. The subjects are alphabetically arranged, and the whole range of Medicine and Surgery is to be included. Large type is used for the general descriptions of the subject which are similar to the articles in any system of Medicine; inserted in smaller type throughout the article are excerpts from the recent literature of the subject, illustrating and confirming the texts. The partial list of associate editors given in the first volume includes the names of some of the leading physicians of the United States, and augurs well for the character of the work which is offered in the present volume, and may be expected in the succeeding ones. As to how the subjects are treated, antipyrine may be taken as an example; in the large text a full description is given, its incompatibilities, dose, idiosyncrasy, contraindications, physiological action, antipyrine poisoning and its deleterious effects on the blood and organs, local use, hypodermic use, therapeutics, interspersed in smaller type are seventy-six condensed notes from various sources representing all the additional information gained during 1896 and 1897 and other excerpts bearing date as far back as 1888. The entire subject is thus very fully covered. Other articles have twice this number of excerpts. A monthly journal is also issued and sent free to the subscribers of the work for three years, containing a *résumé* of the monthly progress in the various branches of Medicine. This vast undertaking speaks volumes for the enterprise and courage of Dr. Sajous, his assistants and the publishers, and we hope the profession will give them the support they deserve.

A very useful feature is the numerous formulæ and methods of treatment which are included. The details in this respect in the article on alopecia might well be worth to a physician with a case to care for more than the value of the volume. We hope the remaining volumes will appear early, so that the final ones may not be out of harmony with the first, as would be the case if three years is to elapse before the series is completed. The book is well printed, has a number of cuts and colored plates. It is neatly bound in grey and black linen. It will be an invaluable work for the writer, teacher and practicing physicians.

The Diseases of the Stomach. By William M. Van Valzak, A.M., M.D., Professor of General Medicine and diseases of the digestive system in the New York Polyclinic Medical School and Hospital, and J. Douglas Nisbet, A.B., M.D., Adjunct-Professor of General Medicine and diseases of the digestive system in the New York Polyclinic Medical School and Hospital. Illustrated. Price \$3.50. W. B. Saunders, 925 Walnut st., Philadelphia, 1898. Canadian agents, J. A. Carveth & Co., Toronto Ont.

In this volume of six hundred and fifty pages we have a distinct addition of great merit to medical literature. An examination gives the impression at once of a *sui generis* production and the evidence of emanating from men possessing originality in a high degree and a true appreciation of what are the needs of the general practitioner and student. The classification is somewhat different to that adopted by most authors—it is more simple, and avoids describing as distinct diseases what are only the functional signs of disease.

There are six sections in the book; three are devoted to general subjects and three to special. Section two, on diagnosis and diagnostic methods, is one worthy of careful study, as the power to make a proper examination and a correct diagnosis must necessarily precede a properly directed and successful form of treatment. The authors warn against too much dependence on the results of the pathological chemistry of digestion to the ignoring of what can be learned by the older methods of investigation. Diagnosis thus explained is a logical method, proceeding by analysis, synthesis, comparison, and is a methodical procedure. They are considered here under the headings of clinical history, the physical signs, the functional signs, the bacteriological signs and the anatomical signs. Each of these subjects are considered in minute detail, and all the modern apparatus used in diagnosis, many of which are shown in cuts such as Ewald's Einhorn stomach lamp, Kuhn's pyloric sound, Strauss' apparatus for lavage and inflation, Boas' aspirator, etc. The qualitative and quantitative tests for the various secretions of the stomach are described with clearness.

The chapters on diet and general treatment are full and explicit. Two-thirds of the book is devoted to the consideration in details of the various special diseases of the stomach, beginning with the sensory dynamic affections; butimia, acarin, parorexia, anorexia, nervosa, gastralgia nervosa, hyperaesthesia, gastrica; then the dynamic affections of secretions: adeno-hypersthenia gastrica, hyperchylia gastrica. Adenasthenia gastrica, then the motor dynamic affections and myasthenia gastrica, then gastritis ulcer of the stomach and neoplasms and displacements. Section six is entitled the Vicious Circles of the Stomach, referring to the effects of derangement of the stomach on other organs and systems, and finally the affections which induce secondary diseases in the stomach. The physician who needs a modern guide in the affections of the stomach written in a clear style, thoroughly practical and fully representing the present status of our knowledge in this important and common class of ailments cannot do better than secure a copy of this excellent work.

Therapeutics of Infancy and Childhood. By A. Jacobi, M.D., Clinical Professor of the Diseases of Children in the College of Physicians and Surgeons, New York. Second Edition. J. B. Lippincott Company, Philadelphia, Pa.; Canadian Agent, Charles Roberts, 593 Cadieux st., Montreal.

The first edition of this interesting and useful book was issued in 1896, and, as would be expected from the eminent abilities of the writer as a teacher and writer on pædiatrics, it was warmly received and accorded the fullest praise by the profession and medical reviewers of the United States, Canada and in Europe. The present edition has new chapters and others entirely rewritten, and much additional matter and changes characterize the remaining portions of the work. The volume of over 600 pages represents the results of the author's personal observations, and reflects largely the present state of our knowledge of pædiatrics as expressed by its leading exponents on both sides of the Atlantic. The articles are eminently practical, condensed and pointed, and refer almost entirely to the prophylactic and therapeutic aspect of the subjects treated. Dr. Jacobi is undoubtedly a very conservative investigator. He was one of the latest authorities to regard diphtheria as a local disease rather than a general affection with local manifestations, and, in the discussion of the treatment of the disease in the present volume, the author depends largely on the old forms of treatment, Mercury and Iron, and speaks of the antitoxin treatment as if he had not had any experience of it himself, but grudgingly has to admit the effectiveness of the treatment from the results of other authorities. Dr. Jacobi questions the existence of the disease Rötheln. In his reference to disinfectants, in view of the vast resources available now, the meagre directions here seem insufficient; formalin is not mentioned. While the experience of others is largely drawn from Dr. Jacobi's book is a presentation chiefly of what he observes and does himself rather than what occurs beyond his own horizon. It is replete, however, with practical suggestions, and will prove a useful addition to one's stock of pædiatric literature.

A Manual of Legal Medicine for the use of Practitioners and Students of Medicine and Law. By Justin Herold, A.M., M.D., formerly coroner's physician of New York City and County, late house physician and surgeon of St. Vincent's Hospital, New York City, etc. J. B. Lippincott Co., Philadelphia, Pa. Charles Roberts, 593a Cadieux st., Montreal agent.

The subject of this work is not one in which there are as great a number of workers as in other departments of medicine, hence a new book devoted to legal medicine at the present time is especially welcome. Dr. Herold endeavours in this book to give the general principals and leading facts of medico-legal questions as accepted at the present time in a condensed form, drawing his information from the more elaborate and classic volumes now available, as well as from his own personal experience which has been not inconsiderable. The author states that in the present volume everything

that is practical and useful has been inserted, and all idle and superfluous questions which are still *sub judici* are dispensed with.

All the subjects usually considered in a work of this kind are taken up and given the most modern treatment, so that the general practitioner may even in the hurry which frequently characterizes his association with medico-legal cases become in a brief period posted in the latest information on the points at issue.

In the first part poisons are discussed in detail; the medical and legal definitions of poisons, such as evidences of poisoning, rules to be observed in poison cases, their classification. Each one is then taken up in detail. An interesting chapter is the one on ptomaines and other putrefactive products. A number of these are referred to, and the subject of embalming from a medico-legal standpoint discussed.

In the second part Forensic medicine proper is taken up and occupies the bulk of the book from pages 145 to 607. One learns here all relating to the powers and duties of Coroners, the Coroners' and Criminal Courts, evidence of ordinary and expert witnesses, signs of death, medico-legal autopsies, identity of living and dead, etc. Chapter 23, on Hairs and Fibres, is an interesting one, and discusses fully a subject scarcely mentioned in some of the older works. The character of the hair on different parts of the body is minutely described, and the diameter and length given in detail. The various fibres that might be mistaken for hair described, the hairs on animals are differentiated, the effects of reagents on hair described, and then a number of medico-legal questions in connection with hair discussed.

The examination of blood stains and everything relating to blood from a medico-legal standpoint is scientifically presented, and this may be stated of most of the chapters, especially those on wounds, hanging and drowning, criminal abortions, infanticide and rape. This work will prove a boon to the general practitioner, and is an ideal text-book for the student.

Yellow Fever Clinical Notes. By Just Touatre, M.D. (Paris). Former Physician-in-Chief of the French Society Hospital, New Orleans, member of Board of Experts Louisiana State Board of Health. Translated from the French by Charles Chassaignac, M.D. President New Orleans Polyclinic, editor New Orleans Medical and Surgical Journal, etc. Published by the New Orleans Medical and Surgical Journal, Ltd., New Orleans, 1898.

This monograph was written in French and then translated by Dr. Chassaignac and first published as the present original edition.

Dr. Touatre gives here his experience in treating over two thousand cases of yellow fever and covering a period of thirty years of study, during which time he made observations of nine epidemics.

The peculiar pulse rate in reference to the temperature is dwelt upon as being pathogenic of this affection. The pulse gradually falls during the first three days while the fever may be rising; some fifty charts are given which are of exceeding value as illustrating

this and other points in the course of this affection. Chapters follow on the disease as it occurs in children, its diagnosis, prognosis and treatment. He considers the discovery of Sanarelli to be genuine and his microbe the pathogenic bacillus of yellow fever. It is claimed that agglutination of the bacilli occur when exposed to the blood serum of a yellow fever patient, so that the same diagnostic test can be applied as in typhoid fever. This practical and exhausting monograph cannot but be welcomed by those who have to do with this scourge of the south.

Transactions of the American Pediatric Society.

Ninth session. Held in Washington, D.C., May 4, 5 and 6, 1897. Edited by Floyd M. Crandall, M.D. Volume IX., reprinted from the Archives of Pediatrics, 1897. Forwarded by Dr. Samuel S. Adams, Washington, D.C.

This forms a neatly bound volume of over two hundred pages. It contains lists of officers and members; the President's address on the evolution of pediatric literature in the United States and twenty-four papers, many of them being of the greatest interest and written by leading authorities in pediatrics.

PUBLISHERS' DEPARTMENT

SAMMETTO IN GENITO-URINARY DISEASES.

I have used Sammetto in my practice for the last five years, and find it has no equal in diseases of the prostatic portion of the urethra, in pre-senility, in that peculiar condition existing in anæmic and chlorotic girls just entering womanhood, and all abnormal conditions of the reproductive organs, in either sex, depending on a debilitated condition of the general system. Sametto has never failed me in senile prostatitis, or enlargement of the prostate gland in aged men.

J. L. SMITH, M.D.,

DURAND, Mich.

SAMMETTO IN HYPERTROPHY OF THE PROSTATE—ALSO IN CYSTITIS.

I have used Sammetto myself for hypertrophy of the prostate, from which I have suffered for fifteen years. My age is eighty-three years. I have found out the value of Sammetto, and am persuaded that this remedy will cure me entirely. I prescribed it for two of my patients who suffered with cystitis, one forty years of age, was perfectly cured from the use of two bottles. The other, sixty years of age, thinks he will never stop it. I think so much of Sammetto that I, for the first time in my life, feel induced to recommend the same to any physician.

ISAAC SAALFELDT, M.D.

CHICAGO, Ill.

THE PROPER TREATMENT OF HEADACHES.

J. Stewart Norwell, M.B., C.M., B.Sc., House Surgeon in Royal Infirmary, Edinburgh, Scotland, in an original article written especially for *Medical Reports*, London, Eng., reports a number of cases of headache successfully treated and terminates his article in the following language:—

“One could multiply similar cases, but these will suffice to illustrate the ef-

fects of antikamnia in the treatment of various headaches, and to warrant the following conclusions I have reached with regard to its use, viz. :—

- (a) It is a specific for almost every kind of headache.
- (b) It acts with wonderful rapidity.
- (c) The dosage is small.
- (d) The dangerous after-effects so commonly attendant on the use of many other analgesics are entirely absent.
- (e) It can therefore be safely put into the hands of patients for use without personal supervision.
- (f) It can be very easily taken, being practically tasteless."

Sir Henry Irving's lecture on The Theatre in its Relation to the State, delivered at the University of Cambridge June 15, is reproduced in full in *The Living Age* for July 30. No one could be more competent than the distinguished actor to treat such a subject.

An interior view of existing political conditions in Italy, and especially of the crushing financial burdens which are the cause of wide-spread discontent, is given in an important article translated from the leading Italian Review, the *Nuova Antologia*, in *The Living Age* for July 23.

The naval problems to be solved in the War are discussed by the English expert, Mr. H. W. Wilson, in an article which *The Living Age* of July 30 reproduces.

Recent novels of American life form the subject of an entertaining and on the whole discriminating paper in the *Edinburgh Review*, which American readers will find in *The Living Age* for July 16.

SOCIALISM AND THE SOCIAL MOVEMENT IN THE NINETEENTH CENTURY.

By Werner Sombart, University of Breslau, Germany. Translated by Anson P. Atterbury, pastor of the Park Presbyterian Church, New York. With introduction by John B. Clark, Professor of Political Economy in Columbia University.

THE GROUND WORK OF SCIENCE.

A Study of Epistemology. By St. George Mivart, F.R.S. This will form the second volume in "The Science Series."

STUDIES OF A BIOGRAPHER.

By Leslie Stephen, author of "Hours in a Library," etc. In two volumes. The work covers such subjects as National Biography, The Evolution of Editors, John Byron, Johnsoniana, Gibbon's Autobiography, Arthur Young, Wordsworth's Youth, The Story of Scott's Ruin, The Importation of German, Matthew Arnold, Jowett's Life, Oliver Wendell Holmes, Life of Tennyson, Pascal.