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TORONTO, FEBRUARY, 1880.

Selections: Medicine.

VERATRUM VIRIDE AND ITS USES.

BY DR. EDWARD H. SHOLL,
Of Gainesville, Ala.

This article is intended to formulate a comprehensive and consecutive use of this drug for twenty years.

DISEASES OF THE AIR PASSAGES

will be first noticed. Here the law that governs its use, and from which I record no safe deviation, is, that it must be limited in its application in bronchitis and pneumonia, more particularly in the latter, to the first ninety-six hours of the attack, unless taken prior to the time, when its safe use may be indefinitely continued. It is out of place after the lung has become consolidated by inflammatory product, or its vesicular substance condensed by mucus or other product.

If this law is carefully followed I avouch its safe use, as I have never found but one case where it gave any cause for any unusual care, and in this case the depression was readily relieved.

Its action is that of a depurant, and an equalizer of the circulation, eliminating by the kidney and mucous surface of the bowel, and co-ordinating arterial action, so as to relieve either visceral or capillary congestion, and bring about an equilibrium.

In acute laryngitis, acute bronchitis and pneumonia, the best method of administration is to give the full dose, according to age, every two hours, till three doses are given, after that prolonging the interval to three hours, and continue thus, with instruction to reduce dose and prolong interval if nausea or vomiting ensues, and as the patient improves. Unless otherwise indicated, I prefer giving it alone, in a little water, so as to complicate its action as little as possible, using a mercurial or other purgative, if required, and an opiate if violence of cough and pleuritic pain at the outset require relief. I never give quinine within three hours before or after administering it, not fancying its combined action, and seldom or never finding any imperative demand for so doing, for in competitive tests, often repeated, I find here, in a region of country malarial from July to October, and impressing its type in the modification of many forms of disease, and where presumably quinine would be most valuable, particularly in pneumonia, that it bears so little value comparable to the veratrum, that I seldom resort to it, and when I do, have generally had cause to regret it. The largest dose for an adult, at one time, given as above directed, need seldom exceed four drops. For an infant one year old I give one-fourth of a drop as a dose; at one month one thirty-second of a drop. I would here say that, if anything, I prescribe it more frequently in infants and children, their ready susceptibility to all catarrhal affections demanding its more constant use for relief of their wants. In those diseases of people advanced in life, I use it steadily, but in smaller doses, ordinarily giving at the same time a teaspoonful of a mixture of equal parts of syrup of lactophosphate of lime and sherry wine, to stay waste and gently stimulate. With the infant I use, in addition, in an aggravated case, mustard to front and rear of chest, repeated as needed, with hot foot-baths, and if it be of the croupous variety, small blisters behind the ears.

In the intercurrent pneumonia of typhoid fever it is not safe to use it.

Again, it cannot be safely used to any extent in cases of pneumonia with the negro; on the contrary, in a large and continuous practice among them for more than twenty-three years, I have learned to limit my remedies in pneumonia, with them, to whisky, Dover's powder, ammonia and quinine, useful in the order named, a common prescription being two tablespoonsful of whisky to an adult every two hours, sometimes increasing it, treating many grave cases, as pneumonia is by far the most fatal disease of adult life to them, with whisky and Dover's powder and good nourishment alone. Experience has taught me that in the administration of quinine in pneumonia, it is best to give all that is to be given during the twenty-four hours, from 15 to 20 grains in the adult, at the hour of lowest temperature, which is usually from 2 to 6 A. M., all at one dose.

I close the reference under this head with noting a variety of pneumonia, that of the steady, square drinker, who carries regularly his pint to a quart of whisky daily. This class of pneumonias here, however, comes exclusively under the domain of the undertaker, as I desire here to testify that the first case of recovery, by any method of treatment known to me, has yet to come to my notice. In my practice they have been in every instance fatal.

Opium Poisoning, Acute and Chronic.

Years ago, through the columns of the *Reporter*, I called attention to its value in acute opium poisoning, administered in ten-drop doses of the fluid extract or tincture, at intervals of ten minutes, in the adult. Further experience has convinced me of its value, as being so great that I have rarely believed it necessary to resort to other means.

A much wider and more benign field of usefulness and great good opens up in its pronounced virtue as an efficient and safe antidote in the chronic opium habit.

The evil has grown to enormous dimensions, marring the peace and happiness of many a household. Some of its slaves would willingly break their fetters, and I offer this to the profession of the world at large, and ask that they test this safe and simple method with those who desire to be relieved, protracting its use, as Dr. Giles did, sufficiently long to give it a valid test.

Chronic Valvular Disease of the Heart.

In aortic and mitral regurgitation, more particularly in the latter, with its distressing cardiac dyspnœa, and other attendant troubles, more relief will be found in the careful administration of equal parts of the fluid extracts of veratrum and digitalis, than in any remedies that can be administered. The doses must be tentatively and steadily given to the extreme limit that can be borne. Ordinarily eight drops of the mixture every three hours will suffice to meet the most urgent indications.

Puerperal Diseases.

In the *Reporter* of July 20th, 1878, I entered into detail on the subject of puerperal peritonitis, where the veratrum was certainly the controlling agent in the successful result of treatment. Several times, more recently in the *Reporter* of April 12, 1879, I have called attention to its efficient action in puerperal convulsions in connection with other treatment, and as in severe cases; one I have recorded in a colored woman, where bleeding was inadmissible, there being present a double pneumonia; it, with morphine, brought the case to a happy issue, the woman not becoming conscious till the fifth day; its value here was most admirably developed.

Epilepsy.

I have record of two cases, brought to a successful issue, in one of which restoration to health was complete, in this regard, the remainder of her life. In the other case there has been no paroxysm since 1867. These cases were treated with five drops of fluid extract of veratrum viride, with two grains of sulphate of zinc, three times daily. In one stage of one case the scutellarin was added. My experience here is too limited to be anything but suggestive. It has also been highly recommended in the most violent forms of chorea. Fortunately, I have no personal experience in this disease.

Wounds of the Abdomen.

When the cavity of the abdomen has been entered with a sharp cutting instrument, with-

out any serious lesion of the viscera, but with a severe peritonitis, and the intensest grade of fever possible following the injury, I have pushed the conjoined treatment of veratrum and morphine as steadily, rapidly and fully as could be borne, with the kindest and happiest results, giving here at times the veratrum in ten-drop doses, to combat as rapidly as practicable the violent inflammation. Reasoning from analogy, but not from experience, it is to be supposed that in the judicious use of the veratrum the ovariotomist would find, at times, a valuable addition to his resources.

Vertigo and Apoplexy.

In plethoric vertigo it has been my custom for years past to use it freely. Ordering perfect quiet, in the most comfortable position to the sufferer, ten drops are given at once. The same or a smaller dose is persistently given every three hours until relief is afforded, which is usually the case as soon as the least characteristic effects of the medicine is produced. It is then cautiously continued, due attention being paid to the secretions. In apoplexy with hemiplegia, I have used it freely during the last four years, for as many hours after the attack as were necessary to relieve the unsteadiness and tension of the pulse, with marked and desired results. With this résumé of its action and profitable uses, it is commended to the attention and practical scrutiny of the profession.—*Medical and Surgical Reporter.*

St. Thomas's Hospital men feel, we learn, no small pride that Mr. R. P. Smith, at present the house-physician of Dr. Ord, has carried off the gold medal in Medicine at the second M.B. examination at the University of London, inasmuch as he is not the first St. Thomas's man who has been first in medicine in several successive years. Such continuous successes can hardly be a matter of mere luck. It probably points to the admirable training in medicine for which Dr. Murchison, Dr. Bristowe, and Dr. Ord have rendered the medical wards of St. Thomas's Hospital widely and justly celebrated. Clinical teaching as a systematic art, whether in medicine or surgery, is often so imperfectly studied or so largely neglected in our hospital wards, that it is a pleasure to be able to point to a systematic and careful instruction reaping its due reward in public honours.—*Br. Med. Journal.*

MORBID IMPULSES.

BY HORATIO B. BIGELOW, M.D.,
Of Washington, D.C.

In an article written for the Cincinnati *Medical News*, in May, 1874, I offered the following explanation of the morbid impulse :—

"When the impulse becomes dominant, asserting itself despite the will, then it is that the person is pronounced insane. The mere existence of the *fixed idea*, so long as it be controlled by volition, is in no wise an abnormality. When the hemispherical cells cease to react upon each other harmoniously, when an idea prolongs its tension so as to 'tyrannize over the understanding, and become an absorbing entity,' illusions and delusions result. A man in this condition of mental erethism, acting under a delusion, would not be amenable to law, only in so far as his confinement in a proper asylum would be demanded. The *modus operandi* by which an idea becomes excited and active is this : The necessary external stimulus applied to the sensory ganglia is expressed outwardly as pleasure or disgust, while the residua furnish to the well-balanced mind the stimulus which was necessary to excite the particular idea in one of the numerous cortical cells. Just what stimulus was needed, and just what idea would obtain from its application are the lessons stamped on the mental growth by the experience of generations. The nervous action may become weakened by the vicious transmission of heredity, or the integrity of the nervous vitality of the centres may be upset by injurious practices."

A more precise observation has forced the belief upon me that a morbid impulse, which is always dominant and may not be controlled by the will, never originates *de novo*, but is the result of previous family instability. The underlying predisposition to the various conditions of mental erethism may always be found in a transmitted tendency of heredity, or, in women, in uterine disorders and misplacements. The hypochondria incident to acute dyspepsia is often the offspring of eccentricity (so-called) in either the father or the mother, and may, in turn, become the parent of a more pronounced form of mental unsoundness in the next generation. Each one, in his life's history, may

remember the existence of a transitory impulse, which, had it been realized outwardly in action, would have occasioned shame and disgrace. But such occasions only become matters of legitimate legal inquiry when they are offered in extenuation of crime. An influential consideration which must always be a prominent factor in the ultimate diagnosis is the social position of the patient. The commission of a criminal act by a person whose previous record has been untarnished, who has never been vicious or immoral, whose education has been elevating and whose associations such as tend to develop and strengthen the better sentiments of human nature, is much more apt to be caused by disease, than would be a similar realized impulse in one whose constant acquaintance with crime had lowered the moral tone and brought into prominence the brutal passions.

The law differentiates in the two instances with equity and good sense, consigning the one to an insane asylum and the other to prison. Morbid introspection, or the constant consideration of an impulse to commit an offence, will sometimes become so overmastering that the victim, recognizing the imminent danger to himself and others in a weakened will power, will request to be put under surveillance. Such a case, and of great interest, is fully described by M. Dagonet, in the *Journal de Médécine Mentale*, 1869, p. 317. It is also worthy of note that all the cases cited in the literature of mental disease as instances of morbid impulse have occurred in the middle or higher grades of society. The advance of civilization, rather than its absence or retardation, exerts a marked influence in their development. The greed of gain, the fluctuations of the money market, the exciting condiments of sumptuous tables, the sensual and demoralizing literature and art which delight the æsthetic young people of the period, are the necessary evils of our day and generation. Ignorance will foster superstition, debase the intellect and weaken the mental growth, but it will not disrupt the harmonious intercommunication of perception and will. Very rarely, if ever, has it been the case that a dominant impulse has obtained among the ignorant. When the existence of this condition of mental erethism is urged in the extenuation of crime, it should be the duty of the physician to inquire minutely into the inherited tendencies of the prisoner, to seek for parental eccentricities, to weigh well the previous mental states, the social position and early training; and should it be a woman, to examine carefully for uterine flexions. Many women have been confined in asylums for acute and chronic insanity, who have recovered almost immediately upon the correction of a mal-placed uterus. Disorders of the digestive apparatus may be the exciting cause in a person so predisposed by reason of a transmitted taint.

The relation of the morbid impulse to crime is an intimate one. The abuse of the plea in criminal courts should not blind our eyes to its frequent existence. Just when the court may make a discrimination, and differentiate between a crime committed with a calm and sane deliberation, and others committed on the impulse of the moment, or from the predominating assertion of a morbid impulse, is a matter of frequent and interesting medico-legal inquiry. The theory of mania transitoria, urged with so much ability and success in the Reynolds and McFarlane trials, could not bear the test of intellectual inquiry. While such states of mental unsoundness are incident to epilepsy and cerebral congestion, giving rise to transitory mania, no essential and primary disease of this kind is known in neurology. Yet a crime committed by a person who himself was a victim to epilepsy, or whose antecedents had been epileptic, might be condoned with propriety upon such a plea. The heat of passion occasioned by wrongs, imaginary or actual, does occasion cerebral hyperæmia, but such a plea could not be accepted in equity, by any court, as palliative of an offence committed. The immediate antecedent and subsequent mental condition of the prisoner, in relation to the crime, had been normal. He had no inherited disease, and the passion was self-caused and might have been controlled. No man may take the law into his own hands. To urge the plea of mania transitoria in such a case, because a condition of cerebral hyperæmia did obtain, is to stultify scientific medi-

cine. The desire of redress for wrongs inflicted is natural and general. The Christian fortitude to bear our ills with serenity—to suffer long and be kind—is rare. The constant contemplation of our troubles may lead to morbid mental states; but, except in rare instances, the criminal impulse may always be controlled by the will; and even where the will has become weakened we are always conscious of its approach, and our relations to society then demand that we should seek sanitary intervention. A morbid impulse beyond the control of the will never manifests itself without previous warning. A criminal act perpetrated under these conditions is to be taken cognizance of by the law, only in so far as the patient is criminal in not surrounding himself with necessary protection against the outburst. In advanced stages, even for such negligence, a man may not be accountable, as a will sufficiently weakened to fail in controlling any manifestation presupposes that it is equally weak in all things, and is not, therefore, capable of realizing its own insufficiency. Such a painful condition is true insanity, and should be treated as such.—*Med. and Surg. Reporter.*

Two Cases of Paradoxical Pulse.—Meixner (*Prager Viertel Jahrsch.*, 1879) a labourer, aged twenty-seven, was affected with left pleurisy, pericardial effusion with double pulmonary infiltration, presenting great frequency of the pulse without elevation of temperature. At first in the form of attacks (142 per minute, later persistent (136–148 per minute). Besides, during inspiration, the radial pulse became not only enfeebled, but also entirely disappeared. The autopsy confirmed what had been diagnosticated during life: that the suspension of the radial pulse during inspiration should be attributed to a pleuritic exudation, while the acceleration of the pulse was due to the compression of the left pneumogastric by a caseous lymphatic gland with which it was confounded; the nerve being also flattened and thinned. In a second patient the paradoxical pulse was produced by left, serous, pleuritic exudation; after paracentesis the paradoxical pulse disappeared to return and disappear again with the return and redisappearance of the pleural effusion; so long as the effusion existed the left radial pulse was also weaker than the right.—*Lyon Médical.*

CASE OF CONGENITAL ECTOPIA OF ABDOMINAL ORGANS.

BY T. W. MILLS, M.A., M.D.,
Resident Physician Hamilton City Hospital.

About ten days prior to delivery, M. W., aged 19, an unmarried woman, presented herself for admission, stating that she had walked between ten and fifteen miles that day from the country in order to reach some lying-in institution. Her appearance suggested hardships, though she seemed fairly healthy. According to her own account, her gestation had been accompanied by but few of the ills incident to this state; she did, however, complain of being unable to do hard work for some time past on account of feelings of weakness, accompanied by tremulousness, whenever she undertook to perform the same. Owing to this incapacity for the ordinary duties of a household domestic, and to being obliged frequently to change her place of service, she had evidently for some time past had rather a hard lot. She stated that she had never, during her pregnancy, received any injury by a fall or otherwise. There was a suspicion of syphilis; but beyond this the woman seemed healthy. The patient believed herself to have arrived at full term. On the 25th of December she complained of pains that indicated the commencement of labour; these continued during the night; the head presented in the first position, and about nine a.m. on the 26th, the course of the labour having been natural in every respect, the head passed the vulva, when the child was noticed to gasp once or twice rather faintly; after the entire body was expelled, the heart continued to beat for a few seconds, and the infant gasped still more faintly once or twice; but there was no cry or other sound, or any nearer approach to a respiration. The placenta was duly expelled, presented nothing appreciably abnormal, and the woman recovered well. On being asked if she could account herself for the small size of the infant, she replied that she did not know the cause, except it were "fretting."

Externally, the appearances were perfectly natural. The child was a well-formed male, and presented no structural evidences of imma-

turity, measuring 17 inches in length, but weighing only 3 lbs. 10 oz. To the above general statement there is one remarkable exception—both hands are bent upon the arm so that the carpus forms almost a right angle with the radius, the palm looking directly inwards and suggesting the common deformity —club-foot. Instead of the thumb proper, there is a rudimentary digit attached at about the site of the normal thumb by a very small portion of integument. Exactly the same condition obtains on each side. The *sectio-cadaveris* revealed the following peculiar displacements, etc.: Right lung unexpanded and pressed back against the spinal column by the small intestines, which, with the exception of a part of the duodenum, are found in the thorax. This displacement is evidently due to a semilunar opening, or rather deficiency in the posterior portion of the diaphragm on the right side, large enough to admit readily two fingers side by side. The margin which really constitutes the posterior boundary of the diaphragm on this side is thick, smooth, rounded, and fleshy. Lying upon the upper surface of the diaphragm, and so preventing the descent of the intestines, is found a portion of the liver, constituting about one-fourth of the whole organ, and so constricted that it is almost entirely severed from the rest of the organ; it forms, in fact, a lobe by itself. This, with moderate pressure, can be pressed through the opening, when the intestines naturally follow it. The left lung is partially distended, and presents numerous sub-plural ecchymoses. The *ductus venosus, ductus arteriosus,* and *foramen ovale* are present and patulous; in fact, there is nothing in the anatomy of the fœtus to attract especial attention, except the extensive displacements, etc., described.

The cause of death in this instance, or more properly the inability to live—to adapt to extra-uterine conditions of life—is sufficiently obvious, inasmuch as we can scarcely suppose that respiration could be initiated and maintained by a single lung, and one-half of the diaphragm, when more especially these organs are as yet wholly *unpractised* in the acts they have to perform. Herniæ of the diaphragm have been divided into *true* and *false;* the former having a true peritoneal sac or covering, the latter none; it is manifest, however, that the term *ectopia,* or displacement, would be a much more accurate and fitting one for the latter. The present case followed the general rules in the following respects:—

(1) Occurrence of opening in the *muscular* part of the diaphragm.

(2) The intestines pass more frequently by the *posterior* part of the diaphragm.

(3) Adhesions are rare.

(4) The opening is rounded.

The case *deviates* from the following rules:—

(1) The opening is most frequently on the *left* side.

(2) The *small* intestines pass more rarely.

(3) Left side of liver is most frequently displaced.

DOUBLE PNEUMONIA AND ABORTION.

BY L. A. RUTHERFORD, M.D., MACON, GA.

On the 11th of March I was called to see, with another physician, a white woman, aged thirty-three; skin very hot, both cheeks flushed, eyes suffused, respiration about 23, pulse 120. Complained of severe pain in both sides of the chest. Cough constantly. Both sides dull on percussion, right side more involved. Respiratory murmur at upper part of both lungs very loud, accompanied by some fine crepitation. Tongue very broad and flat, deeply furrowed in centre, base covered with a dense, dirty, brownish fur, lips red, breath very offensive. Diagnosed double pneumonia. Ordered a large mush poultice, to cover both sides of the thorax, to be as hot as the patient could endure it. Acetate of ammonia, in one drachm doses, to be given every three hours. Five grains of dextro-quinine every six hours. Eleven a.m., next day pulse was 120. Right lung more involved, pain more acute, respiration more rapid, mouth dry, tongue more brown, fissure deeper, heat of skin 103½. Ordered poultice to be continued, and increased my dose of dextro-quinine to twelve grains, to be given at once, and repeated in four hours. At nine p.m. saw the patient; complained of diarrhœa. Three doses of dextro-

quinine were taken, and the symptoms were much improved. For the diarrhœa a few drops of Monsell's solution of iron were ordered every hour. Nourishment principally consisting of milk. Dextro-quinine was given only twice during the night. On the morning of the 12th symptoms much improved, though the dullness was as great, but heat and restlessness abated somewhat; diarrhœa under control. During the next two days the acetate of ammonia was continued in one-drachm doses, every four hours, five grains of dextro-quinine to be given three times a day.

On the 15th I was called in haste to her. Found pulse 135, respiration very rapid, skin very hot; two slight convulsions came on while I was with her. Ordered beef tea and milk to be given frequently, in small quantities. Tincture of veratrum was given in small doses every hour. Four o'clock I saw her again; was told that labor pains were on her. She was four months advanced. Made a vaginal examination, and found the os dilated, perineum soft and yielding, but little hæmorrhage, and before I left the house the fœtus was expelled, minus the placenta. The shock this abortion inflicted on the system was fearful; she became semi-comatose, pulse went up to 150, small and thready, breathing diaphragmatic. Several convulsions then came on. Hard ones were on her in twenty minutes or more. Face was pale, skin of body intensely hot, while the extremities were cold. Something had to be done forthwith, and as I put about as much faith in dextro-quinine as most men do in a good brake on an express train, I poured out what I thought to be a good twenty-grain dose of that drug, which was dissolved in a solution of tartaric acid, and poured it down her throat. This was repeated in an hour. It was certainly marvelous to witness the effects produced. In two hours the pulse was reduced forty beats, and the skin much cooler. Though the convulsions did not entirely subside in that time, they were very much lessened. In three hours more I gave her ten grains again; by night she recovered her senses. Next day I found, to my surprise, that there was very much less solidness of lung than at any other time since I first saw her. I removed the placenta with a hook this day; but very little hæmorrhage occurred at any time. The dextro-quinine was now combined with Squibb's tincture of iron, five grains to thirty drops every three hours. From this time on the convalescence went on uninterruptedly. I make no comments on this case, but would ask the attention of the profession to the line of treatment followed, which I believe will be found a successful one in cases, both of double pneumonia, pleuro-pneumonia, intermittent fever, and allied diseases.—*Med. and Surg. Reporter.*

THE TREATMENT OF DIPHTHERIA.

BY THOMAS GURNETT, M.D

Since I have held the position of physician to the City Dispensary, I have had considerably more than one thousand cases of disease of the throat under my care, many of which, both in public and private practice, have been cases of diphtheria. About this, by far the most serious disease of the throat, we have much to learn. The stiffness in the neck, the disturbance of the circulation, the rapid rise of temperature before any affection of the throat is observed, all point to its being a blood poison calling for prompt and decisive treatment.

The two questions that arise when called to a case of diphtheria, as, indeed, in all diseases, are :—How does the disease tend to kill the patient? and, How does Nature endeavour to rid herself of the disease?

Diphtheria tends to kill by suffocation and by its poison exhausting the vital energy. Suffocation may be either accidental, or as a natural result of the throat affection, accidental if, when the membrane is thrown off, it becomes lodged in the larynx; natural, if the swelling inside the throat shuts off the supply of air to the lungs. Nature will attain the mastery over her enemy if the strength be kept up and the deposits arrested. With these points to guide us, we know that the arrest of the disease and nutritious support are our great aim. To succeed in this, I have adopted a respirator made of the ordinary shape and size, the front being minutely perforated. Inside of the respirator I have two or three perforated plates inserted,

between which I place common tow (not cotton-wool); I then drop on each of the layers of tow ten to twenty drops of a solution of carbolic acid, creasote, and glycerine. Should the patient tire of these, I use turpentine or iodine. I place the respirator over the mouth, and keep it continually applied. My next idea is to provide the patient with warm moist air. To do this I have two kettles of water kept boiling on the fire; attached to the spouts of the kettles I have an elastic tube of an inch calibre, at the end of which is a spray-like nozzle, which I put immediately under the mouth of the patient. By this means I get my disinfectant remedies carried moist to the throat. As a sedative to the pain I know nothing so comfortable to the patient. Previous to this I take care to give an active purge, which usually removes the offensive stools of effete, poisonous matter. Internally I give aconite in frequent small doses—two to four minims of the tincture; at the same time freely supporting the strength with milk, cream, and eggs, with or without brandy, and beef tea *ad libitum*. As a drink, I recommend patients to take as much chlorate of potash in solution as they can without vomiting. I have found chlorate of potash highly beneficial in all cases of a low typhoid character. If this is objected to, I advise the juice of lemon to be taken—by many thought to be a specific for diphtheria. Should the system be very weak, I prescribe belladonna instead of aconite; but I find better results from the latter. As soon as the urgent symptoms have subsided I order strychnia, with or without nitro-hydrochloric acid—this not only being the best tonic, but also preventing the paralysis which so often follows diphtheria. I have found this treatment to be highly beneficial, but, knowing the tendency there is to rheumatism after this terrible disease, I never forget our friend the bicarbonate of potash.—*London Lancet.*

For Opium Poisoning.—Several cases of opium poisoning are reported as successfully treated by fluid extract of Java Coffee, given hypodermically in doses of from 15-30 minims. Recovery was quite rapid. No abscess followde if the solution was used warm.

TROPHIC NERVES.

The subject of trophic nerves and trophic nerve-centres appears to be as perplexing as ever, and nothing could well be more remarkable in its way than the diversity of results obtained by investigators in this region of physiology. It may be remembered that a few months ago we recorded (May 10, page 510) an interesting discussion that has recently been going on in Germany upon the effects of section of the pneumo-gastric nerves on the nutrition of the heart and lungs. The outcome of that discussion appeared to be in favour of Professor Eichhorst's view that the vagi contain trophic nerves to the heart, if not to the lungs, as has been so frequently contended. Meanwhile, this question of trophic nerves has been reopened in the classical region of the fifth cranial nerve, and we are reminded of the many discussions upon "traumatic" *vs.* "trophic" keratitis by similar investigations upon inflammation of the typanum. It is now nearly two years since Gellé, of Paris, announced that injury to the nucleus of the trigeminus in the medulla oblongata of the dog leads to suppuration within the middle ear of the corresponding side, as well as to affection of the eye and nose. This experiment has recently been repeated by Professor Hagen, with the modification that the trunk of the fifth nerve of one side was cut within the skull by a carefully planned incision, made without opening the head (*Archiv. f. Exper. Path. und. Pharm.*, xi., 1 and 2, page 39). Thirteen animals were operated on, and Professor Hagen's conclusion is that the inflammation which undoubtedly occurs in a small number of cases within the tympanum supports the view that keratitis, after section of the fifth nerve, is "traumatic," and not "trophic." Still, it is an interesting fact that in three at least out of his thirteen cases the observer found inflammatory signs within the cavity of the middle ear; and we may expect that other Physiologists will be disposed to attach more importance to these results than Professor Hagen would appear to have done, and will probably repeat the investigation.—*Medical Times and Gazette.*

Surgery.

NOTE ON OZÆNA.

BY LENNOX BROWNE, F.R.C.S., EDIN.

* * * * *

In the third note of Dr. Dawosky it is stated that he carefully removes all crusts. How is this done? I believe the only way is to remove them by emollient post-nasal washings, vapour or spray inhalations, or inunctions. They should never be removed by any method involving hæmorrhage, which must always lead to reformation of the crust, and by whatever process they are removed, measures should be taken to prevent their reincrustation. Nothing is better for this purpose than an ointment of vaseline with iodoform, which I prescribe as follows:—

℞ Iodoform, gr. 5 to gr. 8;
Ether, fl. dr. j. to ff. dr. iss. Solve et adde.
Vaseline, ℥j.;
Ottar rosæ, *m* v. to *m* viij.

In post-nasal douches I use about five to eight grains of chloride of ammonium, on account of its largely diffusing power, and an equal quantity of borax with a little glycerine, with or without carbolic acid, to about four ounces of water at 95° F., this amount serving for two douches with my post-nasal syringe.

For vapour inhalations, either pine oil, creasote, or benzole, in water, at 150° F. should be inspired by nose as well as by throat. To whichever is prescribed, aldehyde in no larger proportion than one drop to each inhalation should be added, this drug having a peculiar and quite specific effect on favouring fluid secretions in cases of inspissated mucus, and if administered in larger doses it is apt to produce headache or embarrassment of breathing.

On two or three points I must express my strong disagreement with Dr. Dawosky:

First—I never plug the nostrils, but endeavour to do all I can to favour free nasal respiration.

Secondly—I never employ pure glycerine, because of its powerful attraction for water, which increases the dryness already complained of.

Thirdly—I never employ alum, tannin, or any other astringent for the same reasons, nor do I ever recommend nasal snuffs, believing that such are contradictory of the physiological function of the nasal organ.

Dr. Massei speaks of the local application of calomel powder to the ulcerated surfaces, and Mr. Nixon in last week's issuse of the *Medical Press* relates an instructive case, in which rapid and profuse salivation, with discharge of the vomer, followed this procedure. I have just now under treatment a similar case, with both pharyngeal and palatal ulceration, fissured hard palate, and nasal disease. The plan pursued has been that recommended above, viz., internal administration of iodides, local application of solid nitrate of silver to the pharynx and palate, post-nasal douches, and application of a solution of sulphate of copper to the nasal ulceration, and constant inunction of the nostrils with the iodoform and vaseline. Now at the end of five weeks the patient is nearly well, both palatal and nasal ulcerations being all but healed. It may be interesting to add that in this case, as in many others, the iodide of potassium even in such doses as three grains could not be borne, but five grain doses of the iodide of sodium caused no disturbance, and have all the good effects of the potash salt.

Lastly—I never use nitrate of silver in any form of throat disease, except in syphilitic ulceration, to be then applied to the exact spot in the solid form. Even in these cases I have largely superseded its employment by substitution of the galvano-cautery, acid-nitrate of mercury and sulphate of copper. I have been led to this elmination of the silver applications, and would urge the same on all my professional brethren, because I have never seen any benefit pertaining to them which the other remedies did not enjoy, and because I have personal knowledge (independently of information of others) of two cases in which permanent cutaneous disfigurement has followed their use in throat affections.

For disinfectants I prefer the salicylates, thymol and sanitas, to permanganate of potash on account of discoloration of skin and linen caused by it, and to carbolic acid, on account of its—to many—objectionable flavour. As lozenges, none are superior to Wyeth's com-

pressed chlorate of potash, or chlorate of potash and borax, unmixed with any sugar, or mawkish fruit paste.

As regards dilatation, mentioned as necessary by Dr. Massei in those cases in which the passage is obstructed, the surgeon must try to reduce mucous thickening by the local remedial measures already indicated, and remember that instrumental introduction is but too likely to lead to ulceration of the already turgid and congested coverings. In more advanced cases, when the stage of atrophy has been reached, the passages, already too open, do not require further dilatation, but rather stimulation to promote healthy submucous nutrition.

Where there is actual ulceration I have had good results from application of the galvano-cautery, carefully made by means of a strong reflected light, and I have never had occasion to perform the operation of exposing the cavity and removing portions of the bone.

Finally, therapeutic attention to the particular dyscrasia is of great importance, and it is worthy of note of how great service is iodide of potassium, combined, often, with iodide of iron and cod-liver oil, in cases of a strumous nature, where, as at the commencement stated, it is difficult to make out a syphilitic history. In a large majority of the same class of cases, small doses of perchloride of mercury afterwards given, or alternated with the iodide, have the best effects, but I am by no means prepared to say that even with so specific a treatment the cases which derive benefit are of the specific nature which many surgeons would therefore ascribe to them. I am happy to be able, in conclusion, to agree with Dr. Massei in urging the importance of persistence in the treatment of these cases. In no disease does so sure a reward of patient perseverance in well-doing result.—*Medical Press and Circular.*

New York Medical Journal.—Dr. James B. Hunter has resigned his position as editor of this journal. We are glad to know that it is increasing practice compels this. He is a Canadian and from Toronto, and therefore his success is very gratifying to his friends and acquaintances here. Dr. Frank P. Foster succeeds him.

INFLAMMATION OF THE SKIN.

BY C. HEITZMANN, M.D.

My observations on inflamed portions of the skin have led me to the following conclusions:

1. In epithelium the first step of the inflammatory process consists in an increase of the living matter both in the protoplasmic bodies and between them; the former produces the coarse granulation of the epithelia, the latter the thickening of the so-called "thorns" in the cement-substance. Any particle of living matter, both in the epithelia and between them, through continuous growth, may lead to a new formation of epithelial elements, with the termination in hyperplasia of epithelium (psoriasis, squamous eczema, horny formations, etc.)

2. In connective tissue the first manifestation of the inflammatory process is the dissolution of the basis-substance and reappearance of the protoplasmic condition. By this process and the new formation of medullary elements, which may start from any particle of living matter, the inflammatory infiltration is established. The sum total of the inflammatory elements, which remain united with one another by means of delicate offshoots, represent an embryonal or medullary tissue. If the new formation of medullary elements be scanty, the resolution is accomplished by re-formation of basis-substance (erythema, erysipelas, etc.) If, on the contrary, the production of medullary elements be profuse, a new formation of connective tissue will result,—hyperplasia (sclerodema, elephantiasis, etc.).

3. The plastic (formative) inflammation may be accompanied by the accumulation of a larger amount of a serous or albuminous exudation in the epithelial layer, (miliaria, sudamina, herpes), or in the connective tissue of the derma, (urticaria). In both instances complete resolution will ensue.

4. Suppuration in the epithelial layer of the rete mucosum is produced by an accumulation of an albuminous or fibrinous exudation, by which a number of epithelia are destroyed, and by new formation of pus-corpuscles from the living matter of the epithelial elements themselves. Epithelial suppuration heals without the formation of a cicatrice (eczema madidans

and pustulosum, impetigo, pemphigus, variola.)

5. Suppuration in the connective tissue of the derma results from the breaking apart of the newly-formed medullary elements, which, being suspended in an albuminous or fibrinous exudation, now represent pus-corpuscles. Pus is a product of the inflamed connective tissue itself, and always a result of destruction of this tissue. Suppuration of the derma invariably heals through cicatrization (abscess, furuncle, acne, ecthyma, variola.)—*Archives of Dermatology.*

NOTE ON THE TREATMENT OF MUCOUS POLYPUS OF THE NOSE.—In some cases of polypus of the nose, I have recently been adopting a treatment which has given good results. In structure, these growths consist of but little more than connective tissue infiltrated with serum, and enclosed in something resembling mucous membrane; when removed by avulsion and exposed to the atmosphere, they rapidly shrivel by the escape of their serum; their distended grape-like appearance being exchanged in a short time for that represented by little more than a few shreds of connective tissue. The treatment to which I refer consists in freely puncturing these growths from the anterior nares by means of an ordinary acupuncture-needle, thus allowing the fluid of which they largely consist to drain away. To prevent them from refilling, I follow this up by ordering the patient to inject into the nostrils a solution of carbolic acid and glycerine, which has a most marked drying-up effect, and to continue to do this daily and thoroughly for some time. In this way, I have been able to deal successfully with some cases where the growths have been of a limited nature, and the patient averse to their avulsion. In the last case, I made the punctures with one of Southey's trocars, which answered well, the serum escaping through the cannula. I have thus, in treatment, regarded these as being local and limited œdemas, rather than hypertrophies, and as being, when once emptied, curable by astringents. It is not always possible, from their position, to subject all these growths to puncture, otherwise I believe this plan would be found generally successful.—REGINALD HARRISON, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.—*Brit. Med. Jour.*

THE TREATMENT OF RINGWORM OF THE SCALP.

In answer to Mr. Jeffreys' letter, in the *Journal* of October 11th, on the treatment of obstinate ringworm of the scalp, we have received the following communications.

Mr. James Startin has found the following treatment most successful in a large number of cases. 1. Well wash the parts affected with just enough soft soap to make a wash; thoroughly dry, and then apply with a thick camel-hair brush some blistering fluid. 2. After a few days, when the inflammation has subsided, use alternately the following applications: ol. cadini, creasote, and tincture of iodini in equal parts, and a lotion of hyposulphite of soda, two drachms to the ounce of water, with a little compound tincture of lavender. 3. If the skin should be sore from the use of the above applications then the use of the white precipitate ointment of the *British Pharmacopœia*, diluted with equal parts of vaseline, will prove most beneficial. Mr. Startin does not think we can ever give a prognosis of complete cure of these cases of obstinate ring worm under three months; but he has never found the above to fail.

Mr. J. Naish Smart (Bedminster, Bristol) thinks that Mr. Jeffreys will find a very effectual remedy in perchloride of mercury, in solution of two grains to the ounce of water, with the addition of a little spirits of wine or ether, to make it soluble. This solution, carefully applied with a camel-hair pencil two or three times a day, Mr. Smart has never known fail even in most stubborn cases, where the usual remedies have been used.

Mr. G. Weller (Wanstead) recommends attention to the general health of the children. Plenty of fresh air, liberal diet, great cleanliness, together with tonics, iron, and especially cod-liver oil, will do much to improve their condition. Having a large public school under his charge, Mr. Weller finds that when he gets such cases as are described, the children are mostly of a strumous class; and by letting them have the run of the grounds, also of the kitchen, they soon get rid of their troublesome ailment.

Mr. Francis Toulmin (Upper Clapton) has

for many years been in the habit of using a solution of creasote in glacial acetic acid—one drachm of the former in seven drachms of the latter. The parts affected are painted with a stiff camel-hair brush. A crust is formed, which should be allowed to remain until the new hair raises it from the scalp. He cannot call to mind any case in which this remedy has failed to perfect a cure.—*Brit. Med. Journal.*

HOT WATER IN CHANCROIDS, AND ESPECIALLY IN PHAGEDENIC CHANCROIDS.—I have lately found a new and very valuable therapeutic application of hot water, namely, in the treatment of infecting chancroids, and more especially in that very intractable form—the phagedenic. My method of procedure is very simple: A piece of sheet lint is made into a pretty solid ball, and being held in a pair of dressing forceps, it is immersed in water not much below the boiling point (in many cases a temperature of 30° or 40° F. will answer), and then this ball of lint is to be pressed forcibly upon the sore. This is repeated daily for several successive days, or until the granulation begins to assume a healthy appearance. As a dressing, simple cerate will suffice, or the sore may be sprinkled with iodoform and covered with dry lint. The hot water coagulates the albumen in the secretions, and gives to the sore sometimes a whitish appearance, as when nitrate of silver is applied. It is less painful than any of the mineral caustics, and the pain subsides more quickly; and there is no doubt that it destroys the infecting qualities of the sore as thoroughly, while it possesses the great advantage that it does not destroy any of the living tissues. Yours truly, FRANK H. HAMILTON, 43 West 32nd Street, New York.—*Va. Med. Monthly.*

INJURIES TO URETHRA.—In the treatment of contusions and contused wounds of the urethra, Dr. Lequerré concludes that it is necessary in every grave rupture of the urethra—

1. To abstain from all attempts at catheterism, and to practise at once on the perineum a long and deep incision reaching to the urethra.
2. Then pass a caoutchouc sound—first into the anterior portion of the urethra, then into the posterior, and allow it to remain.
3. Withdraw the sound after four or five days, and until recovery pass the catheter daily. —*Le Prog. Méd.*

Midwifery.

CASES FROM PRACTICE.

BY WILLIS P. KING., M.D., SEDALIA, MO.

TAMPONING THE VAGINA FOR CYSTITIS.

In the May number of the *Courier*—current year—I read an article from the pen of E. C. Gehrung, M.D., of St. Louis, on "*A New Method of Treatment of Acute Cystitis in Women*," etc., which method consists in tamponing the vagina with cotton, so as to support the posterior wall of the bladder, give rest to that organ and prevent an accumulation of urine in the sagging wall. Dr. G. deserves the thanks of the profession for his most excellent paper; and the article was most satisfactory to me, because it explained upon scientific grounds some things that I had not understood.

I have been in the habit for years of tamponing the vagina in cystitis, because I reasoned, in most cases (and especially in married and child-bearing women), the bladder must be interfered with by a displacement of the uterus—anteverted or anteflexed—pressing upon the fundus of the bladder; or by a *prolapsus* dragging upon and displacing the bladder and thereby disturbing its functions. I therefore tamponed the vagina to elevate the uterus and prevent its disturbing the bladder. But I did not, in all cases, make out either a flexion, version or prolapsus, and yet the relief afforded by tamponing was so uniformly satisfactory (always giving almost instantaneous relief) that I practised it without being entirely satisfied in my mind as to the whys and wherefores. So marked was the relief in all cases in fact, that I fell into the habit, when called to see a woman suffering with frequent micturition, burning and scalding pains at the neck of the bladder—of at once setting about the preparation of a tampon.

I could give many cases illustrative of the benefit to be derived from this practice, but will give but one; and since Dr. Gehrung regretted that this method of treatment excluded virgins, I will give a case occurring in an unmarried woman—a virgin.

I was called on the 6th day of July to see an unmarried woman, twenty-two years old, who had stood on her feet during almost the entire day of the 4th, and had walked to the Fair Grounds (where the celebration was held) and back home—a distance of more than one mile—three times. On the 5th she had a feeling of weight and uneasiness about the bladder, with frequent micturition, which grew gradually worse and culminated in a chill, with increase of the bladder trouble, on the night of the 5th. I found her suffering with intense vesical tenesmus, some fever, rapid pulse, and a constant desire to micturate. Gave potass. acetas. and extr. beladonnæ, with flax-seed tea, and applied hot fomentations over the region of the bladder. Was called on the morning of the 7th, and found her no better. I then determined to tampon the vagina. Turning her across the bed with hips near the edge, I introduced the index finger of the left hand, palm upwards into the vagina. Then having the mother prepare bits of cotton—one-third the size of the thumb—into firm wads, I introduced them one by one with uterine dressing forceps, making the greatest pressure upon the palmar surface of the finger in the vagina, and with that finger packed the wads of cotton around the cervix until I filled the vagina. She was asleep in less than twenty minutes. I did this once a day for three days, and afterwards had no trouble in controlling the difficulty.

The objection to using this method in the treatment of virgins, is the fear of rupturing that insignificant little membrane that everybody seems so sensitive about—the hymen. I did not rupture the hymen in this case; but, supposing that it had been necessary, must a woman's future health and happiness be sacrificed to save a thin delicate membrane that no one needs and nobody uses?

Fissured Nipples.

Of all the small things which worry a practitioner of medicine, this apparently little ailment has been the bugbear of my professional life. Apparently so insignificant, and yet so persistent and intractable, that I have often felt that I would give a good round sum for what I could really call a remedy, and have always wished that I may never see another case of it. Do what we will the child must suck (children do not nurse in Sedalia, they *suck*) or the milk must be drawn with a breast pump, and, in either case the fissure is torn open and bleeds and our case is as bad as ever. I have tried everything—tr. benzoin, argent. nitras, collodion, and have seen my work go down to naught at the hands (or mouth rather) of an infant, only one week old. I found myself with a case of this kind on my hands in the month of August of this year. Two or three times the case was reported to me as cured, and as often an "adverse report" had been sent in the next day. On one of these occasions I walked into my private office, trying to think of something, when my eyes fell on a bottle of "Prof. Callen's Brazillin Gum." It came to me like a revelation. I had bought the stuff to mend a Politzer's bag. It is pure gum in solution (in naphtha, I think), and is of about the consistency of thick mucilage. When exposed to the air the solvent evaporates and leaves the elastic rubber adhering to whatever it has been applied. I knew it would do. I went at once to the patient and applied it with a camel's hair pencil all over the nipple (except the milk ducts) and over the areola around the nipple. It remained on three days, and came off leaving the parts entirely healed. There were one or two slight fissures afterwards, but the patient applied the remedy without sending for me and had no further trouble. I have tried it in other cases with equal success. I also applied it to a largely abraided surface on a man's face, who had been thrown from a buggy and scraped the side of his face on the ground. The remedy adhered beautifully, excluding the air, and when it came off, rubber, scab, and all came together, leaving a perfectly healed surface behind. This preparation is usually kept by dealers in leather supplies.

Mr. Editor: All the above are *successful* cases. "Let the dead bury the dead."

[Cobblers, for mending shoes with what they call the "seamless patch," use a kind of cement, made by dissolving gutta percha in benzine or bisulphide or carbon. It is found in the "leather and findings" stores, put up in two-oz. bottles, retailing at 15 cents. The odor is

disagreeable, but if bisulphide of carbon is the solvent used, it may be deodorized by tinct. iod., ¼ part, or it may be scented with mint or burgamot. Chloroform is also a solvent for gutta percha. This solution has been used to retain the edges of incised wounds in apposition; also to protect abraided skin against mechanical injury or the absorption of poisons.

The dematologists have of late been very largely using rubber bandages in the treatment of eczema and other skin diseases, and it occurred to us that this solution of gum would be an excellent substitute, and much more convenient. On investigation, we find it has been recommended in the treatment of lepra, psoriasis, small-pox and erysipelas. We believe Dr. King is the first to recommend it for sore nipples.—Ed.]—*St. Louis Courier.*

UPON WHAT DAY OUGHT THE LYING-IN WOMAN TO LEAVE HER BED?

The polemic recently opened in America between Goodell and Panigues (the first wishing the newly-delivered woman to get up after the second day, because in 756 women thus treated he has lost only 6; the second being adverse to this plan of treatment) engages Kuestner to give publicity to some experiments undertaken with the same idea, two years ago, in the clinic of Olshausen, at Halle.

Sixteen women, whose labour had been as normal as possible, and who presented no exterior lesion, were chosen. All began to get up, as they wished, in one of the four first days of the lying-in; six of them were primiparæ, seven were at their second labour, two at their third, and one at her fourth.

The sanitary state of the establishment was excellent, and for more than a year no lying-in woman had succumbed to a puerperal affection.

Four left their bed from the first day, two the second, three the third, and seven the fourth.

Amongst those who got up from the first day, none desired to remain up more than four hours; the next day they remained up longer; and after the fourth, they passed all day out of bed.

When a woman who had arisen was found with feverish symptoms, she was from this time consigned to bed. These women had no other occupation than the care of their children.

A first effect of the sojourn out of bed was the regularisation of the functions of the intestines; the quantity of urine did not appear to be modified.

The loss of weight which normally follows childbirth was not more marked in those women who got up than in those who remained in bed, although the regimen of both was the same.

This fact was the more surprising, as in the first the lochial discharge was more abundant.

In addition to their abundance, the lochia of those who got up was also marked by the prolongation of their thin consistence, by their rosy tint, and by their serous nature.

None of those who remained out of bed had metrorrhagia; 13 of them presented no delay in uterine involution, and have never offered, during the ten days of observation, a temperature above 38° (100°.4 F.), a figure which has otherwise been attained only twice at night.

The three other women were attacked with fever the very day on which they began to get up. The first was a multipara, who got up on the third day; the second and third got up on the fourth day. Two of these fever cases had a small vaginal tearing, which had probably been irritated by the upright position, and by the contact of the lochia. On the other hand, it is not superfluous to remark that amongst those who had no febrile movement two had a wound quite analogous. In one only of the three with fever, on her leaving the hospital, was found a small exudation in the left broad ligament.

To sum up. Although the precocious arising of the parturient woman suppresses constipation, favours instead of harming uterine involution by rendering the different functions active, and does not appear able to become the cause of either retroversions or fallings of the womb, since it provokes fever in certain women, Kuestner concludes that it is necessary to keep to the old plan, and leave the lying-in woman in bed for a week.—*Lyon Méd.*

For Asthma.—One-tenth of a grain of apomorphia given hypodermically will relieve orthopnœa of asthma in a surprisingly short time.

THE TREATMENT OF POST PARTUM HÆMORRHAGE.—Vinegar I have found not only a certain remedy for post partum hæmorrhage but a remedy as safe as it is certain to cure. In the many very bad cases where I have used it the hæmorrhage was always arrested, and in but one instance did the woman subsequently die, and in this case neither I nor the immediate attendant (my friend Prof. John Neill) had any reason to attribute the woman's death (neither did we) to the vinegar I had used to check a most appalling case of flooding. In the many reports which I have received from my former pupils on this subject, I have yet received none where any unfortunate results have followed the application of vinegar. Vinegar may be applied instantly and without apparatus—perhaps I should mention precisely my method of using it. I pour a few tablespoonfuls into a vessel, dip into it some clean rag or a clean pocket handkerchief. I then carry the saturated rag with my hand into the cavity of the uterus and squeeze it; the effect of the vinegar flowing over the sides of the cavity of the uterus and through the vagina is magical. The relaxed and flabby uterine muscle instantly responds. The organ at once assumes, what I will term, its gizzard-like feel, shrinking down upon and compressing the operating hand, and in the vast majority of cases all hæmorrhage ceases instantly; should one application of vinegar fail to secure sufficient contraction, the hand can be withdrawn, and a second or even a third application can be made, until the uterus shall contract sufficiently to stop the flow of blood.

GLYCEROLE OF BISMUTH IN ULCERATION OF THE CERVIX UTERI.—Dr. Suesserott, of Chambersburg, Pa. (*Med. Record*), uses a thick cream of bismuth in pure glycerin, for ulceration of the cervix uteri, applied by means of absorbent cotton, and is enthusiastic in its praise. No other application gives such speedy relief. "The congestion of the cervix is at once abated by the glycerin through the endosmotic action that is set up, and the ulcers disappear as though waved away by a fairy's wand."

A paste of pulverized ergot is said to remove the smell of musk from the hands or utensils.

Original Communications.

EPILEPSY.

BY C. K. CLARKE, M.D.,
Assistant Physician of the Asylum for Insane, Toronto

(Read before the Toronto Medical Society.)

I have selected epilepsy as a subject for this paper, but, in treating of it, will try to confine my remarks as much as possible to facts, and leave untouched the debatable ground of theory, in which so much relating to the disease is involved. As a general rule, too, the paper will refer to the epileptic insane, as it is upon this class nearly all the observations have been made.

Any person who has had experience in Asylum practice cannot fail to become deeply interested in the subject of epilepsy, as so many remarkable and sad cases are continually coming before his notice. The epileptics who reach Asylums are generally confirmed cases, in which the disease is of long standing, and the seizures are of a more violent type than those witnessed by the physician in private practice. As with the majority of patients admitted, the forms of application sent to us afford but little satisfactory information in regard to the origin and progress of the disease, and the facts furnished of the family history are, nine times out of ten, of the vaguest description. Difficult as it is to obtain reliable statistics upon the subject, owing to the morbid sensibilities of friends, still it is possible to learn enough to confirm one in the opinion that if epilepsy is not directly hereditary in many instances, it is the offspring of a host of other neurotic diseases. We have at present under observation a capital illustration of this hereditary tendency to disease of the brain. About five years ago, a young man of twenty years of age was admitted to the Asylum, labouring under an attack of acute mania, from which he recovered in a short time. Being taken home, his mental condition remained sound, but his bodily health failed, and he died of phthisis. Since then a brother has been admitted, and is at present in Dementia. While passing through the wards of the Toronto General Hospital this month,

(Nov., 1879,) I discovered that another brother was in that institution, and was receiving treatment for epilepsy. An aunt died insane. This is a striking case, but is only one of many that can be adduced to prove that family history will furnish much information in regard to the occurrence of epilepsy. That the disease is transmitted from generation to generation is no longer a disputed point. To illustrate this, I know of no better instance than that of a patient now in the Toronto Asylum. The patient is an epileptic, and a brother and two uncles are similarly diseased; yet the relatives insist that there is nothing hereditary in the case. The epileptic I refer to was stated to be free from any hereditary taint, and it was only by accident that the above facts were arrived at. Could accurate statistics be obtained, it is probable that in the majority of cases of epilepsy, where traumatic and eccentric causes are excluded, an hereditary tendency to disease of the brain would be found. Ever since the Toronto Asylum has been open, epileptics have been numbered among its inhabitants. During the last six years it has always been possible to find more than twenty in residence. At present there are twenty-five patients of this class, nineteen being males and the rest females. Judging from the Asylum statistics, this seems to have always been the proportion; and yet, upon consulting different authors, we find it stated that more women than men are epileptics. If true, the only way to account for the difference is, that men being stronger than women, prove more dangerous when excited, and, consequently, Asylum confinement is required oftener. Perhaps some here, who have had years of experience, can bring forward facts to explain this apparent discrepancy from reliable statistics.

It is almost impossible to attempt any definite classification of the different cases which come under observation, as no two seem to be exactly alike. There are those who have fits daily, those who have them only at long intervals, and those again whose seizures occur at stated periods. In cases where the fits are of daily occurrence, mental alienation is, as a general rule, marked at all times; and the oftener attacks occur, the more oblivious does the patient become to his surroundings, until complete dementia is the result. Where the fits occur at long intervals only, the mental condition immediately prior to, and directly after the attack, is greatly different from the ordinary state. The quiet, harmless man of yesterday is converted into a dangerous, excited maniac, or often what is worse, a morose, suspicious mortal with homicidal tendencies. To those unaccustomed to dealing with such persons, perhaps nothing unusual would be perceptible; but any one who has witnessed a sudden outbreak will never forget it, and will prove an acute observer in the future. It is at these times that terrible crimes are committed, and the poor unfortunates are often condemned to suffer for what, nine times out of ten, in law is held to be a responsible act. It is not in the compass of this paper to go into the question of responsibility of epileptics, but there is not the least doubt that many a non-responsible man has been hanged directly in the face of the evidence given upon the case. I do not wish to convey the impression that I believe epileptics are at *all times* incapable of committing crimes for which they are responsible, but merely desire to state that such persons have often been convicted and punished when they were clearly not responsible.

One might suppose that it would be after the attack danger should be apprehended from mental derangement; but, as a matter of fact, it has been noticed frequently that disturbance of the mind takes place before the seizure. Strange to say, epileptics who are accustomed to having fits every day are not so dangerous as those who are attacked at longer intervals. Violence is often attempted immediately before a fit. It is no uncommon thing for a patient to seize a chair, attempt to injure any one standing near, and at once fall in convulsions, or strike madly all round him. When an epileptic has fits daily, one can always be prepared for a dangerous exhibition of temper; but when we have to deal with those in whom indefinite intervals elapse between the attacks, there is cause for anxiety. Such patients, in the intervals, will probably talk rationally, and being so much better, mentally, than their

companions in the wards, are apt to deceive the uninitiated. Not unfrequently these epileptics, forgetting, or perhaps not knowing of their dangerous propensities, will ingratiate themselves in the good graces of strangers visiting the Asylum, and prove the subjects of much misplaced sympathy amongst the "knowing ones" outside, who are shocked to think that *sane* people are kept under lock and key. There is one case at present in the Toronto Asylum, to which I can refer in particular. The patient in question is, physically, a perfect man, and a Hercules as regards strength; has been troubled with epileptic fits since a child; is now more than forty years of age. The fits come on at no definite times, but usually he has not more than one in six or seven weeks. An acute observer will discover unmistakable warnings of the coming attack, a slight difference in temper being noticed. In the intervals he is affable, intelligent, and talks well on almost any subject, and remembers all that occurred in the previous attacks, but cannot understand why he was restrained then. After a seizure, he may not show much difference in disposition for a few days, but then suddenly breaks out with marked homicidal tendencies. He imagines his food is poisoned; persistently refuses to eat, and once had to be fed with the stomach-pump—an operation by no means inviting under the circumstances. On more than one occasion I have seen him attack attendants and patients in a most violent manner. Fortunately he can be induced to keep in his bed when dangerous, and generally remains there for ten days, at the end of which time he returns to his usual condition of mind. Although, when at home, he injured several persons yet his friends are anxious to take him out of the Asylum; and a lawyer, remarkable for his astuteness, has made several ineffectual attempts to have him discharged from the institution. If this lawyer were in the patient's companionship during one of the attacks, his zeal in philanthropic acts might give way to zeal in an opposite direction. But there are those who understand the whole subject of insanity by a sort of divine inspiration that ignores all experience.

Another interesting case worthy of notice was that of a young man sent to the Asylum a little more than a year ago. He was twenty years of age, and his history stated that an uncle had suffered from an attack of melancholia. In this epileptic the fits did not come on at any particular time, but their approach was easily foretold, as the premonitory evidences were marked. As a general rule, the patient was quiet and of a kind disposition; but, when in business in the city, had been led into all kinds of excesses. Before the fits would come on, all sorts of extravagant acts would be done. While in the Asylum he gave but little trouble, as long as his unwelcome visitors stayed away, but during his attacks proved dangerous and terribly destructive. The steady life which he had to live while with us seemed to exert a beneficial effect upon him, and comparative freedom from fits was the result. The poor fellow was always sanguine of his ultimate recovery, and tried, with eagerness, different remedies. Becoming wearied of Asylum life, and having had no fits for a long time, his friends took him out, firmly believing that a permanent cure had been effected, although advised to the contrary. A few weeks after his discharge he visited the Asylum, and was present at one of the weekly dances held there. He appeared to be more vivacious than usual. After leaving the Asylum at 9.30 p.m., it seems he remembers going as far as the end of the wall which surrounds the grounds, and after that all was a blank until next morning, when he found himself near Woodbine race-course, a distance of several miles. What happened in the interval between night and morning no one knows. The probabilities are that he had a fit. This is only one incident from the many peculiar adventures said to have happened to this person. The excitement of the dance undoubtedly did him harm. This fact had been ascertained before he left our care. I mention this case merely as an example to show how rapidly the mental condition may change in epileptics.

When a patient who has habitually had fits is suddenly left free from his accustomed attacks for an unusual length of time, the sign is not always a favourable one, and the return may be looked for with anxiety. Such inter-

missions are generally followed by fits of increased severity, and sometimes are the precursors to a fatal termination of the disease. I have seen this happen more than once. A good example occurred a short time since. A young man, twenty-five years of age, was admitted to the Asylum more than a year ago. At the date of his admission he was suffering from an attack of epileptic mania, and proved troublesome in the extreme. He imagined poison was placed in his food; would scream terribly, and had fits daily. As with the most of such persons, his temper was subject to dangerous fluctuations, and a strict watch was kept over him. In the early part of this year his fits ceased, and he became quiet, affable and perfectly rational, and, knowing his unfortunate condition, was willing to do anything that promised relief. Owing to his improved state he was allowed considerable latitude, but was never permitted to go about the grounds unless accompanied by a reliable patient. In eight months he had but two light fits. On the evening of the 24th of October, 1879, while in the orchard, he ate a large green apple, and after coming into the building took a hearty supper. Nothing unusual was noted in his appearance, and at 8.30 p.m. he went to bed in excellent spirits. At two o'clock next morning I was called up to see this epileptic, who was reported to be in a violent fit. When seen, he was found to be in a severe paroxysm, the spasms following each other with frightful rapidity. The lips and face were covered with white froth, which was escaping from the mouth. In a minute or so the spasms began to diminish in intensity, until the contractions of the muscles were hardly perceptible; then a gradual increase took place, until the convulsions were as violent as when first noticed. This was repeated some fifty times, when death took place. The *post-mortem* appearances will be referred to further on in the paper.

Another variety of epilepsy is that in which the seizures take place at regular intervals. Such cases are not common, and occur oftener in women than in men. When women are thus afflicted, some authors state that the attacks will be found to occur at the time of menstruation. I do not mean to assert that the convulsions recur at all times, with mathematical precision, upon a certain day, but think that the name "periodical" is applicable, as the attacks vary so little in the dates of their recurrence. Occasionally there may be a longer time of exemption than usual, but the old regularity is generally returned to. We have one marked case of periodicity in the Asylum at present. The patient is a male—forty years of age; is rather refined, and has seen better days. Five years ago had his first epileptic fit; and, although a married man, the cause is stated to have been masturbation—a habit, by the way, which is common to the mass of epileptics. He will have four or five fits in two days, and then the stage of excitement comes on—imagines he is sailing in a vessel; is perfectly happy and contented; takes no care of his person; has no idea of keeping bed-clothes on the bed; and says he never felt better in his life, in answer to all enquiries. This condition of excitement persists for four or five days, when he returns to his customary quiet state. His reason is gradually becoming undermined, and he is more childish than he was a year ago. His fits recur every fourth week with almost unvarying regularity. In nearly two years this interval between fits has been lengthened twice—once to five, and upon another occasion to seven weeks. In each instance the attack following was of far more than ordinary severity. The last noticeable feature in this case is the occurrence of muscular tremors, of which the patient does not seem to be conscious. We have had several women afflicted with periodical attacks. One woman, at present an inmate, a few years ago had fits regularly once a month; but of late bursts of maniacal excitement have supplanted the old trouble. Such is not rare, and our President will likely remember many instances of this substitution of mania in the place of convulsive attacks. As one might anticipate, erotic tendencies are marked during the excited stage.

Another class of epileptics is that in which the seizures occur for the first time in persons who have been insane for years. As a rule, the fits recur at very long intervals. There are four patients of this class in the Asylum

Of them it is not possible to say much beyond the fact that all are addicted to masturbation. Whether this has anything to do with their trouble or not, I cannot say.

The following are a few of the characteristics of epileptic fits:—The patient almost always falls forward. I have never seen but one exception to this rule. The convulsions are at first tonic, but rapidly become clonic in character. A scream is generally uttered before the fall, frothing at the mouth is constant, and not unfrequently involuntary evacuations of fæces and urine take place. The clonic convulsions last two or three minutes, and after their cessation the patient falls into a deep sleep of variable duration. Respiration is laboured, and the tongue often wounded. All here are so familiar with the appearances that it is useless to say anything more on the subject. Of course, the above characteristics are absent, to a great extent, in attacks of *petit mal*. It may be interesting to enumerate a few of the peculiarities of epileptics:

Visions partaking of a religious character are common, and we hear many described quite as wonderful as Mahomet saw when suffering from this disease. The sight of one epileptic having a fit will often cause another to fall in a similar convulsion.

Dislocations are sometimes caused by the violence of muscular contraction. We have a patient in whom dislocation of the inferior maxilla invariably takes place during a fit, but the accident has occurred so frequently that no trouble is experienced in returning the jaw to its proper place.

Muscular tremors, or what one of our patients styles "jerking spells," are common.

Before speaking of the causes of death and *post-mortem* appearances in epilepsy, I shall refer, in as few words as possible, to the treatment.

As the hope of recovery is vain, palliative remedies alone can receive notice. Some seem to think that palliative remedies even should be deserted, and the disease left to run its course. This is not humane; and when we have such efficacious preparations as nitrite of amyl and the bromides, it is only right to give them a fair trial. The former medicine has been tested extensively in the Toronto Asylum, and experience has proved it to be useful in certain cases. When first used accurate observations were made, and the following general conclusions arrived at. In the majority of instances where epileptic seizures had been of daily occurrence, a marked palliative effect was noted for a time; but with continued use the medicine lost its power. Patients who had been subject to fits every day escaped for a month at a time while taking amyl; others had attacks of *petit mal*, in the place of their ordinary violent fits; while there were some who received no benefit at all. Where epilepsy was periodical, the amyl was powerless. I may mention that this medicine was always given by the mouth, a quarter of a minim being the maximum dose at first. It is better to mix it with glycerine and water. We have never tried its effects by inhalation, but I have had a case reported to me in which it was successfully employed in this way. The patient was a young lady, subject to frequent attacks of epilepsy. The different members of her family carried small bottles of amyl about their persons, and by allowing the patient to inhale the medicine could arrest a threatened attack even after the premonitory scream had been uttered.

As nitrite of amyl causes paralysis of the vaso-motor system, and, consequently, congestion of the capillaries, it is easy to understand why it should arrest a paroxysm, which is the immediate result of anæmia of the brain. That anæmia of the brain is the condition at the time of a seizure, there is not much reason to doubt; the paleness which is evident immediately before a fit points to that. The bromides have been tried with varying success, and in endless combinations. Bromides are open to the objection that the general health of the patient is apt to suffer when they are continued for any length of time. As with amyl, a tolerance seems to be established under steady administration.

Brown-Sequard's mixture, composed of bromide of ammonia, bromide of potassium, and Tr. Gent. Co., appears to be the most successful combination. Dr. Poole, in his recent work upon Physiology, refers to a case where an

impending attack of epilepsy was averted by the speedy administration of a dose of whiskey. If this remedy is as efficacious in all cases as it was in this, its popularity is ensured.

Different works recommend different remedies, and the whole Pharmacopœia seems to have been gone through in the hope of discovering a specific, but with one result, viz., disappointment. Nitrate of silver, sulphate of zinc, belladonna, etc., have all been lauded, and cases of recovery reported under each style of treatment; but there is reason to doubt whether the so-called cases of recovery are entitled to be named such, as it is a well-known fact that epileptic fits at times disappear spontaneously, and do not recur for many years.

There is one point worth noticing in regard to the care of epileptics. It is always well to have the patient sleep on a bed made upon the floor, or upon a bedstead with the legs sawn off. This little precaution will prevent many an ugly bruise and cut.

Death.—As might be supposed, death in epileptics generally takes place in a fit. Patients may escape for many years and live to a good old age, but the end is nearly always the same. Although death occurs so frequently during a paroxysm, the convulsions are not invariably the cause of dissolution. It is not uncommon for the patient to smother, by rolling face downwards in the bed, the pillows effectually preventing respiration. Epileptics are exposed to all sorts of dangerous accidents, and the tendency to fall forwards increases the liability to injury. Death is sometimes preceded by a series of violent fits—perhaps thirty, forty, or even fifty—following each other in rapid succession. Over-indulgence in eating has been known to induce a fatal attack. Apoplexy, caused by the rupture of one of the cerebral vessels during a seizure, is said to be an occasional cause of death; and so on.

Post-mortem Appearances.—The following facts may be gleaned from a study of the records of *post-mortems* made upon epileptics who have died in the Asylum :—

Thickening of the membranes is sometimes found.

Adhesions common.

Spots of brain-softening were noticed in one patient who died after a succession of fits. Another similar case has been reported to me by Dr. Lett.

A serous deposit of gelatinous appearance, found between the arachnoid and pia mater, was noticed in almost every instance. In general paresis, where epileptiform convulsions are common, a similar serous effusion is found; whether it is the cause or result of disease it is hard to say, the probabilities being that it is the result. In support of this view Rosenthal says :—

"The status epilepticus is produced by a continuous central irritation, preventing in the beginning the return of consciousness and then terminating in inflammatory exudations, and, perhaps, even in paralysis of the vaso-motor centres."

The serous effusion is always found on the upper surface of the brain.

In the *post-mortem* made upon the patient referred to in the body of this paper as having died after a series of fifty fits, the fact was revealed that a larger quantity of serum than usual had been effused, and adhesions between the membranes were marked. I may also mention that a large clot was found in the longitudinal sinus, but we were not able to determine whether it was of *ante* or *post-mortem* formation.

It is impossible in a paper of this description to give more than a hurried outline of the disease, and I hope I will not be criticized too severely for having neglected many of the important points in connection with it.

Oil of Eucalyptus in Bronchitis.—Having employed this oil in eight or nine cases of bronchitis with most excellent results, I would recommend a fair trial of it. In chronic bronchitis, in asthma, and in the advanced stages of ordinary severe colds, its influence seemed to be very pronounced for good. It differs from most balsamic remedies in acting also as a narcotic and allaying cough. Twenty drops of it should be given in emulsion four times a day. In asthma it has in one case relieved the paroxysms after failure of ordinary remedies.—H. C. W.—*Medical Times.*

THE CANADIAN
Journal of Medical Science,
A Monthly Journal of British and Foreign Medical Science, Criticism, and News.

TO CORRESPONDENTS.—*We shall be glad to receive from our friends everywhere, current medical news of general interest. Secretaries of County or Territorial medical associations will oblige by sending reports of the proceedings of their Associations to the corresponding editor.*

TORONTO, FEBRUARY, 1880.

MALT EXTRACT, MALTINE, DRY EXTRACT OF MALT.

IN our last issue we stated that we would discuss the merits of the various preparations of malt and its combinations. So many good preparations and combinations are before the public that we have concluded to do better than to attempt to give anything original, but in place thereof to republish an address by Dr. Wm. Roberts, of Manchester, which appeared in *The British Medical Journal* of November 1 and 8, 1879.—

THE DIGESTIVE FERMENTS, AND THEIR THERAPEUTICAL USES.

BY WM. ROBERTS, M.D., F.R.C.S.
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You all know that before food can be absorbed into the blood and made available for the nutrition of the body it must first be digested. By digestion, the albuminous and collagenous constituents of our food are liquefied and converted into diffusible peptones; the starchy matters are converted into sugar, and the fats are emulsified and partly saponified. Cane-sugar is also changed into glucose. Native glucose, which exists in abundance in all our sweet fruits, is absorbed unchanged, and may be regarded as a ready-made digested food, or rather as a starchy food predigested for us by the agency of plants. The digestive processes are all of a purely chemical and mechanical nature; and they can be imitated successfully in the laboratory, and even in the sick room and nursery.

The agents concerned in these processes are the several digestive juices; saliva, gastric juice, pancreatic juice, bile, and the intestinal secretions. These juices owe their activity to a very remarkable group of bodies, called soluble (or unorganized) ferments; and it is to these ferments—to certain points in their modes of action and mutual relation—that I propose to direct your attention.

In the annexed table I have arranged, in the first column, the digestive juices in their natural order of succession; in the second column are indicated the ferments proper to each of them; in the third column, the nature of the action of each ferment on food-stuffs; and in the fourth column are placed the various medicinal preparations, which are the equivalents or substitutes available for administration to patients in whom this or that digestive juice may be supposed to require artificial assistance.

Table of the Digestive Juices and their Ferments.

Digestive Juices.	Ferments contained in them.	Action on Food-Stuffs.	Medicinal Substitutes.
Saliva.	Diastase.	*Amylolytic*, changes starch into sugar.	Various preparations of malt, extracts of malt, malt flour, extract of pancreas.
Gastric juice.	*a.* Pepsin.	*Proteolytic*, changes proteids into peptones in an acid medium.	Various preparations of pepsin, pepsin-wine, liquor pepsiniæ, lactopeptin, etc.
	b. Curdling ferment.	Curdles the casein of Milk.	Rennet.
Pancreatic juice.	*a.* Trypsin.	*Proteolytic*, changes proteids into peptones in an alkaline medium.	Pancreatine.
	b. Curdling ferment.	Curdles the casein of milk.	Glycerine extract of pancreas.
	c. Diastase.	*Amylolytic*, changes starch into sugar.	Liquor pancreaticus.
	d. Emulsifying ferment.	Emulsifies and saponifies fats.	Pancreatic rennet.
Bile and intestinal juice.	?	?	o

An examination of the table shows that a complicated series of ferment-actions is required to complete the digestion of our food; and it is certain that our information is still imperfect on several points, especially in regard to the uses of the bile and the intestinal secretions. It is no part of my purpose to attempt a

general account of the digestive processes, but only to pick out certain points in regard to which I may have something to say, which is either novel or has a practical bearing on the treatment of our patients. Of the bile and succus entericus I do not propose to say anything. I shall divide my remarks under the three headings of saliva, gastric juice, and pancreatic juice; and shall conclude with some observations on the preparation of peptones, and the feeding of patients on peptonised food.

1. SALIVA.—Saliva has but one ferment—namely, diastase, or, as it is sometimes called, ptyalin—and its sole action is to convert starch into sugar. Saliva acts with energy on gelatinized or cooked starch, but with extreme slowness on the native and unbroken starch-granules. This is the reason, or necessity, for the practice which has arisen and become universal among mankind, of cooking farinaceous articles of food before they are eaten.

The action of saliva on starch goes on in the mouth and gullet, and for a while after the morsel has reached the stomach: but the action is arrested as soon as the meal is thoroughly permeated by the gastric juice. In the case of a meal of farinaceous food, this arrest occurs long before all the starch is digested: and the work is taken up and finished, after the food has passed the pylorus, by the pancreatic juice. When the digestion of starchy food is at fault—or supposed to be at fault, for we really possess little exact knowledge of the indications of such a condition—we resort to one or other of the preparations of malt which contain diastase. At the present moment, the most popular of these preparations are the malt-extracts; and, to judge by the scale on which these extracts are advertised in the medical journals, they are very popular indeed. Several of these preparations are on the table before you; and I think they are likely to prove a valuable addition to our stock of remedies. They resemble a thick brown treacle in appearance, and their taste and smell are not unlike treacle. The statements made in the advertisements as to the nutritive value of malt-extracts are preposterous exaggerations; they are little better, merely as food, than so much syrup. Their real value lies partly in the diastase they contain, and partly in the pharmaceutical uses to which they may be put as vehicles for other drugs, especially cod-liver oil. If properly prepared, malt-extract is rich in diastase, and has a high power of digesting starchy matters. But you will be surprised to learn, as I was, that a large proportion of the malt-extracts of commerce have no action on starch. This is owing to a too high temperature having been used in their preparation. Any heat above 158° Fahr. is destructive to diastase in solution; so that if the extract be evaporated, as is directed by the German *Pharmacopœia* at a temperature of 212° Fahr., it is necessarily inert on starch. Out of fourteen trade samples of malt-extract examined by Messrs. Dunstan and Dimmock, only three possessed the power of acting on starch; and all the rest were inert. I myself examined three brands of malt-extract in regard to this point, and found all three very active. But even the most active of the three was feeble when compared with an extract of pancreas which I shall show you presently.

It is important to choose the right time for giving preparations of diastase, otherwise you may obtain little or no help from them in the digestion of the starchy constituents of the meal. The labels on all the malt-extract bottles I have examined direct a dose to be taken after meals. This is evidently a mistake. I told you a while ago that the action of diastase is arrested in the stomach; and I have reason to believe that this arrest is permanent, and that, under the ordinary conditions of digestion, not a particle of active diastase escapes through the pylorus. If, therefore, you wish to get a full amount of work from the dose of malt-extract, you should administer it, like the natural saliva, with the food; or, better still, mix it with the food beforehand. The malt-extracts lend themselves exceedingly well to this latter mode of administration. They have a sweet agreeable flavour, and a teaspoonful or two may be added as a sweetener, and mixed with tea, cocoa, coffee, arrowroot, sago, or any other farinaceous dish. The only precaution to be observed is that the food should be sufficiently cooled down to be endurable in the mouth before the malt-extract is added. I

have found on trial that you cannot eat or sip, even in teaspoonfuls, any substance which has a temperature above 150° Fahr., and, at this heat, diastase not only remains uninjured, but is highly active.

2. Gastric Juice.—Gastric digestion has been the subject of numerous and successful studies in times past, and our knowledge thereof to-day is little in advance of what it was when most of us were students. For this reason, it will not detain us long.

Pepsin.—The special ferment of the gastric juice is pepsin, and its office is to digest the albuminous and the gelatigenous constituents of our food. Pepsin is only active in the presence of an acid; and the normal acid of the stomach appears to be hydrochloric acid; other acids, however—lactic, phosphoric, citric, etc.—render pepsin active, but not so energetically as the hydrochloric.

Under the influence of pepsin proteids are changed into peptone, or peptones. The word is often used in the plural number, because the products arising during the digestion of proteids show considerable variation *inter se;* and this has led physiologists to conclude either that there are several varieties of peptone evolved in the process, or that the same body is encountered in different stages of tranformation. The change impressed on a native proteid by its conversion into peptone is probably simply a hydration—a change similar in character to the hydration undergone by starch when it is changed into sugar by diastase. That the change does not involve a profound disturbance of the molecular constitution of the proteid, would seem to be indicated by the fact that the first thing that happens to peptone when it has been absorbed into the blood-current is to be immediately peptonised—that is, to be again restored to the condition of a native proteid (serum-albumen). So quickly does this re-transformation take place, that no peptones can be detected in the lacteals, nor in the blood of the portal vein.

The Curdling Ferment of the Stomach.—Everybody knows that one of the most striking properties of the gastric juice is its power of curdling milk. This property is quite independent of the acid of the gastric juice, and is effective in neutral and even in slightly alkaline milk. Under the name of rennet, which is simply a brine-extract of the calf's stomach, this property has been known from time immemorial, and has been utilised for the making of cheese. Until quite recently, it was not doubted that the curdling power was an essential attribute of pepsin; but, in 1876, Brücke published a process by which he obtained a pepsin which was strongly proteolytic, but which was powerless to curdle milk. Quite recently, Mr. Benger has made an observation which may be regarded as the complement of that of Brücke. He finds that a concentrated brine-extract of calf's stomach has intense curdling powers, but is almost devoid of proteolytic powers. On the ground of these observations, we are justified in concluding that two distinct ferments have been heretofore included under the old term pepsin—namely, a proteolytic ferment, which peptonises proteids in the presence of an acid, to which the name pepsin should in future be confined—and another ferment, of which the only property now known is that of curdling the casein of milk.

The Medicinal Equivalents of Gastric Juice.—These are so familiarly known as the various and numerous preparations of pepsin, that I need not linger over them. There is no doubt that formerly a number of inert preparations were sold under the name of pepsin, and dispensed to a confiding public; but matters have improved since then; and I have authority for saying that now all the leading brands of pepsin are reliable. Pepsin preparations are especially suitable for administration by the mouth immediately after a meal. Those of you who, from past experience, have lost faith in pepsin, may be encouraged to try again the more active preparations which are now within our reach. A *liquor pepsinæ* prepared by Mr. Benger, of which a specimen is on the table, is a digestive agent of extraordinary power. A teaspoonful of this preparation in six ounces of acidulated water dissolved an ounce of chopped white of egg completely in three hours.

3. Pancreatic Juice.—Formerly, the pancreas was held in little esteem as a digestive agent; it was not thought to have any function

except to assist in emulsifying fats. But of late, through the researches chiefly of Corvisart and Bernard in France, and Kühne and Haidenhain in Germany, our estimate of the pancreas has been revolutionised. The pancreas is now known to be rich both in the quantity and variety of its digestive ferments. Extract of pancreas—and we may presume also the natural pancreatic secretion—has at least four distinct kinds of action on food-stuffs, namely: 1. It converts proteids into peptones in alkaline media; 2. It curdles the casein of milk; 3. It transforms starch into sugar; and, 4. It emulsifies fats. I shall have a word to say about each of these modes of activity.

Proteolytic Ferment of Pancreas.—This has been named trypsin by Kühne. It differs from pepsine in requiring an alkaline (instead of an acid) medium for the exercise of its powers. Although the action of pepsin and trypsin on proteids is the same in its ultimate result—*i.e.*, both convert proteids into peptones—certain differences have been noted between them, not only in the reaction of the medium suitable to each, but also in their manner of achieving their work, and in the by-products which attend their action. I am also led to believe that an important practical distinction between pepsin and trypsin will prove to be the difference in the facility of their attack on the different kinds of proteids. Thus, I found it more easy to peptonise milk by trypsin than by pepsin; on the other hand, egg-albumen was attacked more energetically by pepsin than by trypsin.

The mutual reactions of pepsin and trypsin, when present together in solution, are of some practical interest. Kühne has stated that pepsin in an acid medium destroys trypsin, but that trypsin in an alkaline medium has no such effect on pepsin. The latter part of this statement is, I believe, incorrect. My own experiments on this point gave the following results. When pepsin and trypsin were infused together in a large dilution of simple water, at blood-heat, they proved mutually indifferent, and retained their respective activities even after three hours' companionship. But when the mixture was acidified with a few drops of hydrochloric acid, the trypsin was speedily destroyed; and conversely, when the mixture was feebly alkalised, with sodium bicarbonate, the pepsin was quite as speedily destroyed. But I found, further, that pepsin was destroyed apparently as quickly in the simple alkaline solution, without any trypsin; and similarly, that trypsin was speedily destroyed in the same simple acid solution when no pepsin was present.

These reactions involve a point of practical interest in regard to the medicinal administration of pancreatic preparations. They lead directly to the inference that acid gastric juice is destructive of the proteolytic activity of pancreatic preparations, and that it is useless to administer such preparations by the mouth, unless means be adopted to safeguard them against the action of the gastric acid. It is also plain that some of the new digestive remedies which are being sent out by eminent firms of druggists, and which are recommended expressly on the ground that they contain the combined energies of the gastric and pancreatic juices (two of these are styled respectively peptocolos and peptodyn) are compounded on erroneous principles. Pepsin and trypsin cannot possibly be combined in action. If the two ferments be present together in solution, there is no work to be got from either so long as the reaction is neutral; if you acidify, so as to waken the pepsin into activity, the trypsin is thereby rendered permanently inert; and conversely, if you quicken the trypsin into activity by adding an alkali, the pepsin loses its powers.

The Curdling Ferment of the Pancreas.—The property of curdling milk has hitherto been regarded as the special appanage of the gastric ferment; and I was surprised to find a curdling agent also associated with the pancreatic ferments. All extracts of pancreas, however made, were found to have this power. The action seems identical with that of rennet made from calf's stomach, and takes effect both in neutral and in alkalised milk.

I found that a piece of perfectly fresh pancreas infused in warm milk had only the feeblest possible curdling power. The extract of fresh pancreas, likewise, when newly prepared was inert, but after the lapse of a few

weeks it became active. In this respect, the curdling ferment shows parallel behaviour with trypsin, and the explanation is probably the same in both cases, namely, that the pancreatic cells do not contain either ferment in a perfect state, but rather in the condition of zymogen or mother-of-ferment. It may be assumed that, in the living animal, the zymogens are converted into active ferments during the process of secretion. In the artificially made extracts, the change takes place more gradually, and is probably of the nature of a slow oxidation.

Pancreatic Diastase.—The pancreas is exceedingly rich in diastase. An aqueous extract of the gland (of which seven ounces represented one ounce of gland-tissue) was found to have about tenfold the starch-converting power of the best malt-extracts. We therefore possess, in pancreatic extracts, an efficient medicinal substitute for saliva in the digestion of starch.

The emulsifying properties of pancreatic juice have long been known; and Bernard demonstrated that this power depended not simply on the free alkali of the secretion, but on the presence of a special ferment.

Medicinal Equivalents of Pancreatic Juice.—There are two pancreatic preparations which have long been before the profession, namely, pancreatic emulsion and pancreatine, both sent out by Savory and Moore. I found that pancreatic emulsion contained no active ferments; they had probably been destroyed by the heat used in the manufacture; but it was the most perfect possible emulsion, and when mixed with water, the milk-like fluid showed no tendency to separate after several days.

The single specimen of pancreatine which I was able to examine was found to have an energetic proteolytic activity, and it also curdled milk; but it had no action on starch, a fact which supplied an unexpected confirmation of the opinion that the four pancreatic ferments are perfectly distinct bodies.

The most complete, active, and convenient medicinal equivalents of pancreatic juice are, however, the liquid extracts of the gland. These may be prepared from the pancreas of the pig, with glycerine, with water, or with brine. The glycerine extract leaves nothing to desire on the score of activity, and it keeps perfectly; but the taste of glycerine is to some people objectionable, and it seems sometimes to provoke nausea, and even vomiting.

The aqueous extract, as prepared for me by Mr. Benger, will, I think, prove a valuable preparation. It is simply an extract of the gland in water, with enough spirits added to keep it from decomposition. I propose to call it liquor pancreaticus. A sample of it is on the table before you. It is a limpid, straw-coloured fluid, with very little taste or smell of its own, and of nearly neutral reaction. But though so pale and bland, it is an elixir of really remarkable powers; it curdles milk like rennet; it changes starch into sugar with unrivalled energy; with the aid of a little alkali, it transforms albuminous substances into peptones; finally, it emulsifies fats more perfectly than any other known agent. Extracts of pancreas are destined, if I am not mistaken, to play a considerable part in the dietetic therapeutics of the future. Whether the full powers of these preparations can be made available when administered by the mouth, must be regarded as uncertain. As an aid to the digestion of starch, the propriety of giving them by the mouth cannot of course be doubted; but the propriety of giving them by the mouth as proteolytic agents is a less simple question, seeing that it requires the addition of an alkali to bring the trypsin into activity; and the addition of an alkali is an interference with gastric digestion which may, or may not, be advantageous in a particular case. I commenced to employ pancreatic extract by the mouth about two years ago, and have now had considerable experience of its use. Guided by theoretical considerations, I have usually directed the dose (a teaspoonful) to be given, with twelve or fifteen grains of bicarbonate of soda, one and a-half or two hours after a meal, when gastric digestion might be supposed to be approaching its termination, and the later portions of the meal to be passing into the duodenum. There is at this late period of digestion a tendency to excess of acid in the stomach, and the alkali alone is undoubtedly of service; but I have had, in several instances, striking results from the combination of the extract with the alkali, which I had previously failed

to obtain from the alkali alone. I am, therefore, pretty strongly convinced that, by administering a pancreatic preparation towards the tail of gastric digestion, you can, under the guardianship of a dose of alkali, convey it into the duodenum, where it arrives opportunely to aid in the important work of intestinal digestion. But, however useful pancreatic extracts may prove to be for administration by the mouth, I anticipate far more important results from their employment in the preparation of peptones and peptonised aliments; and to this subject I now beg to call your attention.

(To be continned.)

Book Notices.

On the Sounds of the Heart in Health and Disease. By GEORGE PATON, M.D.

A Clinical Lecture on Tubercular Leprosy at Rush Medical College, Sept. 28, 1879. By JAMES NEVINS HYDE, M.D.

Case of Congenital and Progressive Hypertrophy of the Right Upper Extremity. By WILLIAM OSLER, M.D., M.R.C.P., Montreal.

Some Important Topical Remedies, and their Use in the Treatment of Skin Diseases. By JOHN V. SHOEMAKER, A.M., M.D., Philadelphia.

A Contribution to the Study of the Bullous Eruption induced by the Ingestion of Iodide of Potassium. By JAMES NEVINS HYDE, A.M., M.D.

A Case of Complete Inversion of the Uterus, with Remarks upon the Modern Treatment of Chronic Inversion. By CLIFTON E. WING, M.D., Boston.

Vick's Illustrated Floral Guide.—A beautiful work of 100 pages, one coloured flower plate, and 500 illustrations, with descriptions of the best flowers and vegetables.

Œsophagismus: A Typical Case of True Spasmodic Stricture of the Œsophagus Resembling Organic Stricture, completely Cured by the passage of a full-sized Œsophageal Sound. By J. J. HENNA, M.D.

The Pathology and Treatment of Venereal Diseases. By FREEMAN J. BUMSTEAD, M.D., LL.D. Fourth edition. Revised, enlarged, and, in great part, re-written by the author, and by Robert W. Taylor, A.M., M.D. Philadelphia: Henry C. Lea, 1879; Toronto: Hart and Rawlinson.

Since this edition of, in every sense of the word, a standard text-book on venereal diseases appeared, its talented author has passed over to the majority. After a life of professional success and usefulness, he has given to the world a revised edition, containing the result of his experience, reading and skill up to the last moments of his life. His book is too well known—by three former editions—as excellent throughout to need much comment from us. Dr. R. W. Taylor has been an associate with the author in the revision of the work. One new feature is the addition of the metric system to the many formularies, a change that we cannot say we admire, and fancy will not add greatly to its attractiveness. Still, this is a minor point, that in no way impairs the value of a work that is so thoroughly an exponent of the views of the talented American author on the pathology and treatment of syphilis.

A Text-Book on Physiology. By MICHAEL FOSTER, M.A., M.D., F.R.S. Third edition. Revised. London and New York: Macmillan & Co., 1879. Toronto: Willing and Williamson.

The fact that this popular work on Physiology has already passed through the third edition is in itself a sufficient evidence that it has been well received by the professional public, without any commendatory reference from us. The man who undertakes to write upon the subject of physiology in these days, when there are so many deservedly popular standards upon the subject, sets before him a task of no trifling import. The author of this book can, however, fairly claim to have rendered valuable service in the domain of

physiological research. The matter is very well arranged, and the style is perspicuous, and, at the same time, concise. We could wish, however, in the case of this, as well as many other scientific works, that the authors had been content to adopt a simpler form of expression in many cases One of the prominent errors, in our judgment, into which the writers of to-day tend to fall, is that of substituting for some time-honoured and well understood expression or word a newly-coined one. This strikes us as objectionable in two particulars. It frequently happens that the new word or expression does not as fully convey the idea in the mind of the writer as the old one; and, in addition, it is a source of embarrassment to the reader often, to understand the meaning intended.

The introductory chapter discusses in a most interesting way the subject of "protoplasm," as seen in the amœba, its properties, and its relation to animal life.

The author then takes up the consideration of blood, and gives a pretty exhaustive account of this most important element in the nutrition and growth of the human body. While there is nothing new, that we have observed, in the author's method of treating the subject, we are bound to say that what he has not told us is not worth knowing.

His treatment of the subject of muscle is to us somewhat unique, but, on this account perhaps, none the less interesting. He considers muscle under the designation of "contractile tissues;" and although he omits altogether the minute anatomy of this structure, the author gives some very interesting thoughts upon nervous influence in relation to muscle, entering largely into this branch of the subject. On the various effects of electrical currents upon muscle the author's observations are at once instructive and comprehensive.

The nervous system receives a comparatively scanty notice in itself, although much incidental information is conveyed upon this important branch of physiological inquiry in the author's discussion of the various organized tissues of the body. What he characterizes as the "vascular mechanism" very judiciously, we think, claims a large share of the writer's consideration. This is a branch of physiological inquiry which, above all others in our judgment, can be turned to account every day by the earnest professional man. The author, fully appreciating this fact, has bestowed great care upon the consideration of this most important question: and we are assured that he has rendered good service in its elucidation.

We have perused this work with a great deal of satisfaction. For the advanced student it will be found to contain a large amount of information, and be very helpful in the prosecution of this branch of study. It is, perhaps, all that could be expected in a work of its compass. It would be impossible for any author, within the limits of this book, to give anything like an exhaustive account of the subject in *all* its details. We think, therefore, that it deservedly claims a high place among works on physiology; and it will be found to be a valuable addition to the literature of this most important subject.

At the end of the book there is an appendix, devoted to the consideration of the "Chemical basis of the animal body," which will be found to contain a large amount of information, such as will contribute very materially to the interest and value of the work to the advanced student.

FORMULÆ FOR CHILBLAINS.—

℞ Sulphuric acid ..... ℥j.
Spirit of turpentine ..... ℥j
Olive oil..... ℥iji.

Mix the oil and turpentine first, then gradually add the acid. To be rubbed on two or three times a day.

II.

Lard..... ℥iv.
Turpentine ..... ℥j.
Camphor ..... ℥ij.
Oil of rosemary ..... *m*xv.

Rub in with continued friction.

III.

Yellow wax ..... ℥iij.
Olive oil..... ℥iij.
Camphorated oil ..... ℥iij.
Goulard extract ..... ℥jss.

Melt the wax with the oil, then add the camphorated oil and Goulard extract.

The two first are for the unbroken, and the last for the broken chilblains.

Meetings of Medical Societies.

HAMILTON MEDICAL AND SURGICAL SOCIETY.

The Annual Meeting of the Hamilton Medical and Surgical Society was held on the 6th inst. The following officers were elected for the present year: Dr. Malloch, President; Dr. Loche, Vice-President; Dr. Woolverton, Sec.-Treasurer (re-elected). A vote of thanks was tendered the Secretary and retiring officers.

Dr. Mills presented a full-time fœtus, which at birth made an effort to breathe, but perished in the attempt. On examination it was found that there was a hernia of the diaphragm allowing the great bulk of the intestine to gravitate into the right chest cavity. A part of the liver was found almost separated by the constricting diaphragmatic band, also lying in the chest cavity. The other appearances were comparatively normal, except a condition of the hands, which were bent upon the wrist, similar to what is seen in club feet.

Dr. Mullin then read a paper on "Malarial and Typhoid Fevers."

He referred to the descriptions given by Flint and Aitkin of simple continued fevers, called also febricula, the temperature suddenly rising to 4°, 5°, or 7° above the normal, lasting 24 to 36 hours, and then generally falling rapidly to the normal, though in some cases the decline is more gradual, not attaining the normal for several days. He pointed out that malarious fevers corresponded with this in the sudden rise of the temperature at the outset, and that the elevation was generally much higher on the first or second day of the disease than is ever found at such an early date in typhoid.

He noticed the fact that sometimes in a case of intermittent fever the intermission might not be well marked, and referred to a case falling under his observation, where for the first four days there was severe gastro-intestinal derangement, upon the control of which the intermittent form of the fever was apparent. The writer expressed his belief that remittent fever may have occurred in former times in this locality, when malarious influences were more potent, as it is now said to occur in some very malarious parts of the country; but it is quite probable that cases of typhoid, running perhaps an irregular course, are often improperly designated bilious or remittent fever. He referred to the descriptions given of remittent fever by various writers, who showed that this form of fever resulted from more intense malarial action, and was consequently of more severe form than an intermittent. Hence the forms of fever occurring in this locality, extending over a period of three weeks, and not attended with a high temperature, and but little influenced in their duration by quinine, could not be properly called remittent. He gave a brief account of several cases, some of which were isolated, others occurred in families in which at the same time cases of typhoid fever existed, attended with the usual complications. He gave some particulars of one case where the temperature at no time reached a high degree, and the fever seemed to be progressing favourably, until at the end of the second week thrombosis occurred in the left femoral vein, followed in about ten days with the same in the right thigh; afterwards there was inflammation of both parotid glands, and the case ended fatally in the sixth week.

He pointed out that malarial fevers occurred to the greatest extent in the spring and summer months, while these forms of fever prevail from August to the close of the year; and that while cases of malarious fever were sometimes seen, in which the temperature did not rise to a very high degree, these differed from the mild cases of typhoid, in being readily cut short by quinine. He also pointed out that typhoid fever in some cases ran a mild course for a time, and then presented some of the severe complications; cases sometimes ending fatally where the patients in the early part of the illness visited the office of physicians under the impression that they were suffering from dumb ague.

THE FIFTY-SECOND ANNUAL MEETING OF GERMAN NATURALISTS AND MEDICAL MEN.—In the Pathological department, Professor Recklinghausen spoke of "Hyalin," a body which is some form of fibrine, and which was described recently by Langhaus as "canalised

fibrine." This substance, which is of hyaline structure, is found either in the lumen or in the wall of small arteries, and in areolar tissue in different pathological processes: thus it is found in the kidney in cases of senile gangrene; it is found in aneurismal sacs and in diphtheritic membranes; it is identical with Gull and Sutton's capillary fibrosis, and is evidently related to amyloid degeneration. Experiments on frogs have led Professor Recklinghausen to believe that hyaline is altered cell-protoplasm, which leaves the cell without the latter undergoing any material changes. Dr. Marchand described some cases of fatal poisoning by chlorate of potash; in all these cases large doses had been administered. The blood in all these cases showed a chocolate colour, due to the presence of methæmoglobin. The urine was albuminous, and contained altered blood, and the renal tubes were found filled with casts composed of altered blood-corpuscles.

Amongst the subjects discussed in the Medical section I will briefly allude to the following:—"Faradisation of the Stomach in cases of Dilatation and Catarrh of the Stomach." The method consists in introducing one insulated electrode, which is attached to the tube of the stomach-pump, into the stomach, and applying the other electrode to any part of the body. Though it is very doubtful whether, in this case, the walls of the stomach really contract, yet both Kussmaul and Ziemssen expressed themselves in high terms as to the benefit to be derived from the methodical application of electricity in such cases. Several papers were read on the therapeutic value of digestive ferment. Trials with the different preparations found in trade showed that nearly all German preparations were inert, while the only English preparation which was tested gave satisfactory results. Professor Kussmaul, finding that pepsine was always present in the gastric juice, even in very inveterate cases of gastric catarrh, does not believe that the administration of pepsine can be of much use. None of the speakers and experimenters seem to have attacked the subject from the practical point of view, such as has recently been done by Dr. William Roberts, of Manchester, who succeeded in completely peptonising milk with properly prepared pancreas extract, and who has thus opened out quite a new line of treatment for gastric disturbances. Pancreatic digestion is evidently beginning to interest the therapeutists as well as the physiologists.—*Lancet.*

Miscellaneous.

McGill Medical College has 164 students this year—46 of these are freshmen.

JOURNALISTIC.—We have received No. 1, Vol. I., of the *Alienist and Neurologist*, published quarterly at St. Louis, U.S. Dr. C. H. Hughes, Editor. From the reputation of the editor, as well as from the appearance and contents of the first number, we think the journal will be a decided success.

APPOINTMENT.—William Eli Smith, of the town of St. Thomas, Esquire, M.D., to be an Associate Coroner in and for the County of Elgin.

VERRUCA.—Warts are often very troublesome, and refuse to disappear under acetic acid, muriate of ammonia, etc.; and I would call attention to their removal by means of the dermal curette, as has been advised in Vienna. This spoon-shaped instrument must be tolerably sharp, and by a careful kind of cutting movement around the wart it may be removed bodily, leaving a slightly depressed surface which bleeds a little; as this heals, perfect epidermis is formed, with no scar, and the wart generally remains absent. The little operation is hardly at all painful. I have experienced it on my own person, and have removed warts from children by it without their hardly knowing that it was done.

CUTANEOUS ERUPTIONS PRODUCED BY CHLORAL.—Martinet (*Thèse de Paris*, 1879) arrives at the following conclusions: 1. The ingestion of chloral excites, in a certain number of individuals, an exanthematic eruption, which may be called chloralic erythema, a sort of scarlatiniform eruption. Some observers have described urticarial and purpuric chloral rashes. 2. The erythema from chloral is seated chiefly upon the face, neck, and front of the chest, neighbourhood of the larger articulations on the extensor surface, backs of the hands and feet, etc. It appears after meals or after drinking alcoholic liquors. Most frequently fever is absent and the duration of the eruption

is brief. 3. It is accompanied by dyspnœa and by cardiac palpitations, often severe. 4. It occurs in persons predisposed to its influence. 5. It seems to be due to vaso-motor paralysis, as also are the dyspnœa and palpitations which accompany it. In a number of cases recently reported to the Société Clinique, by Mayor, and those noted by Martinet, the eruption seemed to relapse from time to time, even after the discontinuance of the chloral.

METHOD OF PRESERVING DEAD BODIES.—Mr. Keysmann, United States Consul General at Berlin, in his dispatch to the Department of State, dated October 30th, communicates a description of a newly discovered process for the preservation of dead bodies. The inventor or discoverer had secured a patent for the process, but the German government, conceiving the high importance of the invention, induced the patentee to abandon his patent. Thereupon the government made public, through the press, a full description of the process, as set forth in letters patent. The following extracts are translated from the German newspapers of Oct. 23rd: The dead bodies of human beings and animals, by this process, fully retain their form, colour and flexibility. Even after a period of years such dead bodies may be dissected for purposes of science and criminal jurisprudence. Decay and the offensive smell of decay are completely prevented. Upon incision the muscular flesh shows the same appearance as in the case of a fresh dead body. Preparations made of the several parts, such as natural skeletons, lungs, entrails, etc., retain their softness and pliability. The liquid used is prepared as follows: In 3,000 grams of boiling water are dissolved 100 grams of alum, 25 grams of cooking salt, 12 grams of saltpetre, 60 grams potash and 10 grams arsenious acid. The solution is then allowed to cool and filter: to 10 litres of this neutral colourless, odourless liquid, 4 litres glycerine and one litre methylic alcohol are to be added. The process of preserving or embalming dead bodies by means of this liquid consists, as a rule, in saturating and impregnating the bodies with it. From 1½ to 5 litres of the liquid are used for a body, accordin size.—*Med. and Surg. Reporter.*

TOXIC EFFECTS OF TEA.—1. With with any potent drug, there is and improper dose. 2. In moderation a mental and bodily stimulant of a agreeable nature, followed by no reaction. It produces contentment of allays hunger and bodily weariness, an creases the incentive and the capacity for 3. Taken immoderately, it leads to serious group of symptoms, such as head vertigo, heat and flushings of body, ringi the ears, mental dullness and confusion, d lousness, "nervousness," sleeplessness, a hension of evil, exhaustion of mind and with disinclination to mental and phy exertion, increased and irregular action of heart, increased respiration. Each of the symptoms is produced by tea taken in moderate quantities, irrespective of dyspep or hypochondria, or hyperæmia. The prolon use of tea produces, additionally, symptom these three latter diseases. In short, immoderate doses, tea has a most injur effect upon the nervous system. 4. Immo rate tea drinking, continued for a conside time, with great certainty produces dyspep 5. The immediate mental symptoms produ by tea are not to be attributed to dyspep In the above experiment upon myself whole group of symptoms was produced, no sign of digestive trouble superadded. Tea retards the "waste," or retrograde morphosis of tissue, and thereby diminis the demand for food. It also diminishes amount of urine secreted. 7. Many of symptoms of immoderate tea drinking are as may occur without suspicion of tea b their cause; and we find many people tak tea to relieve the very symptoms which abuse is producing.—*Journal of Nervous Mental Disease.*

Births, Marriages, and Deaths

MARRIED.

At Chatham, on January 7th, A. E. Mullory, M L.R.C.P. and L.R.C.S., Ed., to Fanny Q. W. Wadd daughter of the late John Waddell.