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Original Articles

AUTO-INTOXICATION AND EXCRETION IN RELATION TO DISEASE.*

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Bouchard has expressed an important truth in the terse statement, "that the organism in its normal as well as in its pathological state is a receptacle and laboratory of poison." Daily, during the normal processes of metabolism, sufficient poisonous products are formed to quickly cause death if retained in the system. Thus it has been estimated that a fatal dose of bile is formed in eight hours; the kidneys remove in fifty-two hours poisons sufficient to have produced death if retained; and the lungs daily excrete many times a fatal amount of CO_2 and organic poisons. Man is thus continually exposed to the peril of intoxication from substance elaborated in his own body. In pathological states the dangers are multiplied many times, for, added to the ordinary excrementitious poisons, we may have many imperfectly oxidized products of proteid metabolism gaining entrance to the general circulation, as uric acid, leucin and tyrosin, and probably other partly elaborated nitrogenous materials, the nature of which is not yet understood. Besides, in pathological states, the digestive apparatus is often out of gear, with fermentation and putrefaction of the food in the stomach and intestines adding its quota to the general toxemia. We must also take into account the materials resulting from increased tissue waste; and withal a decreased power on the part of the diseased organism to cope with the large quantity of poisons produced.

* Read before the Undergraduates' Medical Society, Trinity Medical College.

Nor must we neglect in any case the deleterious effect of a diet excessive in quantity or unwholesome in quality, particularly an undue amount of proteid materials which the organism may be unable to assimilate and transform into normal excrementitious material as urea, adding its burden to the system.

It has been shown, too, that during chronic toxemias there is a progressive lessening of the bactericidal power of the blood-serum, predisposing the organism to attacks by the pathogenic bacteria as seen in the terminal infections.

The mere statement of these facts is sufficient to show the important role auto-intoxication plays in the etiology and symptomatology of disease. Defects in excretion of toxic products is the most important factor in the diseases of the adult, as defects of nutrition are the most important in the young, if we except the specific fevers.

The great importance of auto-intoxication will probably be better understood by a brief reference to some of the diseases in which it is especially operative.

First among these may be mentioned the various forms of Bright's disease, in which, on account of excessive formation, or deficient excretory activity of the kidneys, the poisonous products of proteid metabolism are retained in the system. As the result of his experimental researches, Bouchard has found evidence of seven different toxic substances in the urine. These are :

1. A diuretic substance corresponding to urea. Being a natural diuretic, this substance ensures its own elimination, consequently it does not accumulate in the system in quantity sufficient to produce symptoms.

2. A narcotic substance with properties not unlike those of opium, which may produce coma.

3. A sialogenous substance.

4. Two convulsant substances, which, like strychnia, may produce convulsions.

5. A substance causing contraction of the pupils ; and (6) a substance which reduces animal heat.

As these substances are not formed or excreted in definite proportions in all instances the symptoms in a given case of uremia will depend upon the relative proportion in which the various toxic materials are retained, thus explaining the different clinical pictures in these cases. For example, if the narcotic substance is retained in excess we get uremic coma, if the convulsant substances are in excess we get convulsions as the most marked clinical feature of the case.

Secondly, auto-intoxication of hepatic origin. We notice this in (*a*) the various conditions associated with jaundice, wherein the slowness of the pulse, the mental hebetude, the muscular weakness, the pruritis, the tendency to hemorrhages, etc., give evidence

of the toxic condition. (*b*) In diabetes in which excessive transformation of glycogen into sugar occurs, with the appearance of the latter in the blood and urine. Here toxemia is always noticed, often ending in a fatal diabetic coma, associated with the presence of acetone or diacetic acid in the blood or urine. (*c*) In the conditions described under the vague term of lithemia. Here apparently the liver is unable to remove from the portal blood or to transform into innocuous materials, the excess of proteid substances or other poisonous materials carried to it, and these consequently escape into the general circulation. We thus get a whole series of conditions as insomnia; dizziness; sleepiness, especially after meals; lassitude; headaches; irritability of temper; hypochondriasis; or more definite diseases as gout, neuralgias, some cases of asthma, dyspepsia, skin lesions; and finally definite secondary changes in the vascular system and kidneys as in chronic interstitial nephritis and general arterial sclerosis. The pathology of these conditions is probably by no means so simple as here indicated, but without doubt auto-intoxication plays a most important part in their production.

Thirdly, auto-intoxication from gastro-intestinal disorders as in dilatation of the stomach; the various conditions associated with dyspepsia, constipation, obstipation or obstruction of the bowels; typhoid fever; summer diarrheas of children; cholera, etc, In all these conditions absorption of toxins from the alimentary tract plays an important, and in some of them, a principal part in the morbid condition. How frequently may we see, in dilatation of the stomach, symptoms disappear, as if by magic, after the viscus has been washed out, so that patients gladly submit to the discomfort of the stomach tube in view of the relief afforded. Even graver disorders are with good reason attributed to absorption of poisons from the intestinal tract as in pernicious anemia, in which there is certainly greatly increased hemolysis of the portal blood; in chlorosis, which is always associated with constipation, and in which we have the well-established clinical fact that free action of the bowels is a *sine qua non* to successful treatment. Even the most serious mental disorders may result in predisposed persons from intestinal auto-intoxication. Thus Berkeley mentions a case where a woman, aged forty, became insane, after an obstipation of six days' duration, in which all the symptoms promptly disappeared on free action of the bowels being secured. It is unnecessary to multiply examples of the symptoms, varying in degree from trifling discomfort to well-defined insanity, that may result from stercoremia.

Fourthly, in all infective disease, in burns and scalds, and many other conditions that might be enumerated, auto-intoxication is an important secondary factor in the morbid condition, for the specific toxins or the products of tissue waste in their elimination often set

up disease in the excretory organs, thus interfering with their functional activity, as in the injury to the liver in diphtheria or to the kidneys in diphtheria or scarlet fever, burns, etc.

The conditions enumerated are among the commoner ones in which auto-intoxication occurs. Other cases occur, sometimes with a fatal termination, in which the source of the toxemia is not readily apparent. Any one making a large number of autopsies not infrequently encounters a case in which the most careful examination of all the organs and tissues fails to discover any change in them sufficient to explain the fatal issue. I recently made an autopsy on the body of a man forty years of age, of splendid physique and good nutrition in whom all the organs appeared perfectly normal, except a slight interstitial nephritis and a catarrhal condition of the mucous membrane of the intestines. The only symptoms he showed *ante-mortem* were progressive weakness and lassitude and a persistent diarrhea. After the most careful examination into the case I could only account for death by attributing it to auto-intoxication of apparently intestinal origin.

The list of morbid conditions due to or associated with auto-intoxication is by no means complete, but I hope a sufficient number of examples has been cited to impress us with the practical significance of the subject and to furnish food for reflection.

From the ever-present dangers of self-poisoning to which we are exposed, we are protected principally by the sentinel action of the liver in intercepting or rendering innocuous poisons carried in from th lir ntary tract by the portal blood, and by the activity of the organs whose special duty it is to eliminate from the system noxious substances that have gained entrance to it or are formed within it—the kidneys, liver, lungs, skin and the alimentary tract in particular. Fortunately under normal cond ons these organs have ample power to remove many times the amount of poisons daily generated in the system.

Besides the more purely ex mentitious materials, which should be immediately eliminated by the emunctories, in many of the so-called secretions elaborated by various glands, and which subserve a useful ulterior purpose in the economy, substances are utilized which, if retained, would produce a deleterious effect on the organism; *e.g.*, the bile. In fact, it has been pointed out by Treviranus that "each single part of the body, in respect of its nutrition, stands to the whole in the relation of an excreted substance;" in other words, every organ and tissue, by taking from the blood the substances specially required for its own nutrition and functional activity, removes materials which are unnecessary for the other organs and which would consequently prove injurious if retained. We thus have a most complex mutual relationship among the different organs in respect to ex etion.

Excretory organs in general have essentially the same structure. They consist of a basement membrane, upon which is placed epithelial cells, and beneath which is a meshwork of connective tissue, bearing the blood-vessels which bring to the cells the materials which they are to further elaborate or remove from the system.

As Fothergill says, in the lowest forms of animal life all parts of the surface excrete indifferently the waste products in the organism. As we go higher in the scale of development, there is a division of labor, certain parts dealing particularly with the elimination of special materials. We thus have the evolution of the special excretory organs found in man as the kidneys, to remove nitrogenous waste, the lungs to remove CO_2, the intestines to remove unabsorbed material, etc. All these organs, however, retain some of their primitive characteristics of general excretion, so that among them we have a certain community of function by which, when necessary, one can assume the work of the other to a considerable extent. This is evidenced by the many well-known compensatory actions of which the excretory organs are capable. Thus, when the kidneys fail in their duty and uremia develops, we have the common clinical phenomena of vomiting and diarrhea, by which the alimentary tract assumes their function and attempts to remove the poisons from the system. In fact, in cases of complete temporary suppression of the urine, instances are recorded where a fluid with all the properties of urine, exuded from the unbroken skin, the patient escaping all symptoms of uremic intoxication. Such a case was reported by Dr. Rice, of Woodstock, at a recent meeting of the Ontario Medical Association. This is an extreme degree of reversion in function to the primitive condition of a common excretory surface, and shows the extent to which, in some instances, compensation is possible. In cases of jaundice, where the bile is prevented from escaping by its normal channels, it is thrown off in the urine, sweat, tears, etc., and in this way fatal intoxication is long averted. We need not multiply examples of compensatory actions, but may say that the clinical importance of these facts cannot be over-estimated in the management of the various auto-intoxications. The recognition of the compensatory relationship between the emunctories, marks one of the most important advances in modern medicine.

In the brief time at my disposal it is impossible to do more than hint at the principles of treatment that should guide us in management of conditions arising from auto-intoxication. If we have a clear view of the pathology of the condition, the rational treatment will suggest itself. First, due care should be exercised with reference to the quantity and quality of the ingesta. As the nitrogenous foods play the most important part in ordinary auto-intoxication, especial care should be taken that they are not consumed in excess of the requirements of the body. Food should be properly cooked and

thoroughly masticated, so that the work of one organ is not unnecessarily thrown upon another. The importance of these precautions may probably be best appreciated by an example illustrating how impaired or deficient activity in one organ reacts on the others, and finally on the whole organism. An individual, for example, takes an excess of nitrogenous food, improperly masticated and insalivated. This reaches the stomach with a deficiency of the normal alkaline saliva to stimulate the gastric secretion, and in a mechanical condition calling for increased work upon that organ in order to convert it into substance capable of absorption. If the stomach is not equal to the task, fermentation and putrefaction may occur, with the formation of toxins from bacterial decomposition or products of incomplete proteid transformation. These are carried to the liver, which may be unable to remove or render innocuous the excess of toxic materials brought to it or to effect the complete transformation of the imperfect products of proteid digestion in the stomach into the final product of nitrogenous metabolism—urea. These noxious materials may thus pass through the liver and enter the general circulation. The deficient formation of urea by the liver leaves the kidneys without their natural stimulus to diuresis, thus predisposing to retention of the toxic substances formed, with resulting general intoxication of the system.

A second principle of treatment is to stimulate the excretory organs, so as to increase elimination by all possible channels, as by the use of purgatives, diuretics—when not contraindicated—diaphoretics, etc. In this connection may be mentioned the value of consuming, some time before meals, large quantities of water, either plain or mineral water, so as to flush the system and stimulate the excretory organs. The maintenance of proper warmth of the skin and the employment of baths and massage to stimulate cutaneous elimination, of vigorous exercise in proper cases to increase hepatic activity, of deep breathing in the open air to oxygenate the blood and remove CO_2, are simple but important points in treatment. Local treatment of certain organs, as lavage of the stomach in dilatation, should be used where indicated.

Surgical interference may be required in some cases where excretory channels are blocked, as in gall-stones occluding the biliary ducts; calculi in the pelvis of the kidney or ureter; the removal of tumors or constrictions producing intestinal obstruction; and many other mechanical causes of auto-intoxication that will occur to you. Again, treatment directed to secondary effects of auto-intoxication may be required, as iron or arsenic in chlorosis, and other forms of anemia.

Lastly, symptomatic treatment may be necessary in the management of the case, but too much care cannot be exercised here that we do not try to remove symptoms that are due to attempts at compensation by other organs.

Clinical Reports

CASES IN DISEASES OF THE SKIN.

By Graham Chambers, B.A., M.B., Toronto.

AN UNUSUAL CASE OF HERPES.

A. R., male, aged 30, consulted me Dec. 10th, 1900, on account of an eruption which had appeared four days previously on the back of his neck. He stated that he had had seven previous attacks of a very similar nature, and that each attack had taken from seven to ten days to run its course. The eruption consisted of a cluster of twelve to fifteen vesicles on a hyperemic area on the posterior part of neck, just to the right of the median line. The vesicle shows no tendency to rupture, and the patient informed me that in all the previous attacks the vesicles dried up without rupturing, forming brownish crusts, which soon dropped off. No scars remained after the disappearance of the eruption. There were no subjective symptoms preceding or following the eruption, but during the first four or five days of the disease, there was slight pain in back of head, over shoulder blade, back of arm, and front of forearm.

On January 24th, 1901, the patient returned to see me on account of the reappearance of the eruption. The character of the lesions and the subjective symptoms were very similar to those of the first attack.

I hesitate to diagnose the above eruption as a case of herpes zoster on account of the mildness of the attacks, the absence of pain before and after the eruption, and the recurrence of the lesions in the same locality. But the fact that the pain was approximately situated in the areas of distribution of the fibres from the 4th, 5th and 6th cervical ganglia, is a strong argument, in favor of calling the disease herpes zoster. On the other hand, I should not consider it a case of herpes febrilis, as the latter disease is free from pain and is usually bilateral.

OUTBREAK OF IMPETIGO CONTAGIOSA.

On December 26th last, Miss B. P., age twenty years, presented herself at my Skin Clinic at St. Michael's Hospital, Toronto. She had one well-marked bleb, about the size of a five-cent piece, on the middle finger of her left hand. This was prominently raised from the surface, tense to the touch, and filled with a serous-looking fluid. Close beside this lesion was a small pustule, scarcely raised from the surface of the skin. She told the following history: Her young brother, fourteen years of age, had a similar

outbreak about a month previous, and she supposed he had got the disease from one of his school-mates, who complained of the same condition. Some two weeks after, her mother had a similar blister-like eruption, and then her sister and herself about four days ago noticed the same condition on themselves, and also in a younger sister.

An examination of the other three members of the family resulted as follows: The young boy showed the crusted remains of the affection beneath his right nostril and right ear. Mrs. P., aged fifty years, first noted the outbreak in her hair over the left ear, which was pustular; it then appeared on the fingers of both hands, and was bullous in character. Miss J. P., aged twenty-two years, showed a spot as large as a silver dollar, which grew from a small spot. It was vesico-pustular. Miss M. P., aged twelve years, had a small bulla on second toe of right foot.

Mr. G. W. Ross made cultures upon Löffler's Blood Serum, with the following results:

From Miss B. P.:

1. From serous exudate of vesicle—pure culture of Staph. pyogenes aureus.

2. From pus of pustule—a scanty growth of a pure culture of Staph. pyogenes aureus.

3. From wall of pustule—a luxuriant growth of a pure culture of Staph. pyogenes aureus.

From Mrs. P.:

1. From old pustule, open—mixed culture, with Staph. pyogenes aureus greatly predominating.

2. From a vesicle—pure culture of Staph. pyogenes aureus.

From Miss M. P.:

1. From old bulla, open—mixed culture, with Staph. pyogenes aureus greatly predominating.

NOTE.—The lesions on the other two patients were too old to warrant bacteriological examination.

Bacteriological Results.—A pure culture of Staph. pyogenes aureus was obtained from two of the members of the family, and the same bacterium, for the most part, in a culture made from a third. The pus of the pustule was nearly sterile, whilst scrapings from the wall of the pustule showed a luxuriant growth. In cultures made from lesions, in no way capable of secondary infection from the skin, pure cultures of the above bacterium were obtained.

TWO CASES OF HIDROCYSTOMA.

A. R. Robinson, New York, first describes this disease in 1884. He subsequently demonstrated that it was a cystic affection of the sweat glands, and that the vesicles, which are the principal lesions of the disease, result from the dilatation of the ducts and coils of

the sweat glands. Robinson is of the opinion that the obstruction of the ducts is caused by a hyperplasia of the epithelial cells lining the ducts. He holds that it is not a passive dilatation, as the cysts are always completely lined by a layer of epithelial cells.

The lesions are invariably situated on the face, and when small, resemble boiled sago grains. As they increase in size, their contents becomes clear, and the peripheral portions of the vesicles assumes a bluish tint. The reaction of the contents is always slightly acid.

CASE I.—S., aged fifty-four, female, consulted me in August, 1899. She was a well-to-do woman, and was not exposed to moist heat. She stated that she had suffered for a number of years from excessive perspiration during the summer months. The eruption for which she sought advice was situated on the lower part of forehead, nose, and cheeks. There were about twenty discrete vesicles, varying in size from a millet seed to that of a pea. Two or three of the larger lesions had a bluish tint. The patient was given a drachm of precipitated sulphur in milk twice a day. The local treatment consisted in puncturing the vesicles, and in the application of an antiseptic dusting powder. Under this treatment the condition of the skin rapidly improved, and as soon as the warm weather was over entirely disappeared. In July, 1900, the patient again came under my care. There were only two or three vesicles on the face, and I found no difficulty in keeping the skin in a good condition.

CASE 2.—Aged forty-two, washerwoman, came under my care in August, 1900. She stated that the eruption had appeared on her face every summer for the last four years. There were about fifty vesicles on her face. The character of the lesions were very similar to those of the preceding case.

REPORT OF A CASE OF SIMPLE FRACTURE OF THE ULNA WHERE INCISION WAS NECESSARY FOR REDUCTION OF DEFORMITY.*

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When it is found impossible to overcome the deformity in a recent fracture, except by cutting down upon the broken fragments, then one is justified—under antiseptic precautions—in exposing the fracture by incision of the soft parts over it, and then reduction may be accomplished. It is unusual that these condi-

*Patient presented before the Clinical Society of Toronto, Feb. 6th, 1901.

tions present themselves in a simple fracture of the ulna, but the following case illustrates such :

P. W., seventeen years of age, fell from the horizontal bar in a gymnasium a distance of six feet to the floor. He states that he fell with the hand extended, and that the hand and wrist were forcibly bent backwards, the result being that he sustained a fracture of both bones of the forearm. I found on examination, an hour after the accident, that the radius was broken two inches above the wrist, and the ulna about half an inch higher up the forearm. It was possible by manipulation to get the fragments of the radius into good apposition, but not so with the ulna. The lower end of the upper fragment was thrust deeply into the soft parts, and thus projected outwards, whilst the upper end of the lower fragment projected inwards, and was prominent beneath the skin. The wrist and hand were carried to the ulna side, and there was a marked depression on the inner side of the forearm immediately above the upper end of the lower fragment. A determined effort was made to reduce the fracture by manipulation, but this failed. The accident happened about eight o'clock in the evening, and I determined to prepare the part for incision, and having shaved the limb and cleansed it, an antiseptic compress was applied over night. The following morning an anesthetic was administered, and again an attempt was made to reduce the fracture ; but this, too, was unsuccessful. An incision was made one and a-half inches long over the posterior and inner aspects of the ulna at the seat of fracture. The upper end of the lower fragment was found to have been driven through the fascia, whilst the lower end of the upper fragment was imbedded in the muscle. Further, the obliquity of the fracture was such that the plane of obliquity looked upwards and inwards on the fractured surface of the lower fragment, and, of course, in the opposite direction as far as the oblique surface of fracture of the upper fragment was concerned. It was found impossible by simple traction to pull these oblique surfaces completely past one another, and any pressure over the projecting extremity of the lower fragment simply drove the upper fragment deeper into the muscle. Having exposed the fracture in the wound, however, it was a simple matter to free both fragments from the soft parts in which they were inbedded, and then to place them in position, the upper fragment being supported, during the process by a smooth periosteal elevator passed beneath it. The wound was closed without any special attempt being made to secure the fragments in position. There was no indication for the use of silver wire or other method of fixation, there seemed to be no tendency for recurrence of the deformity, the jagged surfaces of fracture gripped one another securely, and therefore the wound was closed without introducing any foreign substance within it. The stitches were removed on the seventh day, the wound had

healed by first intention, a plaster splint was applied for three weeks longer, and then removed. A perfect result—as to the absence of deformity and the preservation of the functions of the forearm—was obtained.

This case thus illustrates the fact that such fractures are best treated by the open method. One is readily convinced on exposing such a fracture in the wound, that nothing short of incision could possibly have resulted in a satisfactory result. It is rare that such conditions present themselves in a simple fracture of the ulna; but here, as elsewhere, we do not hesitate to cut down upon a simple fracture when such procedure is necessary to secure apposition of the fragments in good position. If this principle had been recognized in the past, deformity in limbs and restriction of function might have been prevented in many cases. The application of the principle perhaps finds its greatest utility in fractures about the elbow joint, where notoriously we meet with great difficulty, especially in children, in reducing deformity, and in subsequently preserving the full functions of the limb. In such cases where we have made a fair trial under an anesthetic to get the fragments in good position, and have failed in our endeavors, we should undoubtedly cut down upon the seat of injury, and by means of a simple operation, carried out with careful antiseptic precautions, the deformity may be reduced. This procedure, too, may be accomplished with very little damage done to the tissues. It is obvious that the damage to tissue is often much less by the open method, than by treatment where rough handling and manipulation of the bones at the seat of fracture has been employed for a prolonged period, causing extensive bruising of the tissues at the seat of injury.

Special Selections

THE ANNUS MEDICUS 1900.*

(Continued from January No., p. 37.)

From experiments with the ergograph, Professor Mosso finds that in soldiers after forced marches the power of the muscles of the arm and hand is diminished, so that, as Ioteyko observes, whilst moderate exercise of the psycho-motor centres produces increased action or activity of both sensory and dynamogenic centres, exhaustion of one centre, as that effecting the movements of the lower limbs, causes depression of all centres, and has a tendency to become generalized. He suggests that fatigue is due to some toxin entering the blood current. The muscle spindles described as long ago as 1863 by Professor Kölliker have been subject to minute examination by Dr. F. Pick. They are fusiform, are surrounded by connective tissue, contain slender muscular fibres with motor end plates, and other thicker nerves, which form a plexus around the fibres and can be shown by degeneration experiments to conduct centripetally. He suggests that they are the receivers and transmitters of the nerve sense.

The origin of uric acid was the subject of an interesting discussion at the meeting of the British Medical Association. The discussion was opened by Professor W. D. Halliburton, and was continued by Professor Thomas H. Milroy, Dr. Alexander Haig, and others. The general conclusion appeared to be that it has a double origin, one part being the result of the disintegration of the nuclein taken in with the food, and another part proceeding from destructive changes of nuclein contained in the body, or, as Professor Halliburton expressed it, part is of exogenous and part of endogenous origin. The latter portion is derived from the metabolism of the leucocytes that are so abundantly formed after the ingestion of food.

Several essays have lately appeared on the suprarenal capsules. E. O. Hultgren and O. A. Andersson, in giving the results of a long series of observations and experiments, state that, extirpation of these bodies in cats and dogs and rabbits occasioned death within a week or ten days. Removal of the organ on one side was followed by the animal becoming thin for a short period. The retention of a small fragment was sufficient to preserve life, but when both are removed death supervenes with great fall of temperature. The metabolism of albumin, the quantity of hemoglobin, and the number of red corpuscles were not affected. Injections of small quantities of adrenal extract caused temporary improvement, but when large quantities were injected death occurred in rabbits from edema of the lungs. The injection of extract of the

adrenals of rabbits, guinea-pigs, cats, rams and steers caused rise of temperature in rabbits, whilst the extract of the adrenals of sheep, oxen, and pigs usually caused a fall of temperature. E. Bordier and H. Frenkel found that the intravenous injection of very small quantities of suprarenal watery extract caused immediate diminution, or even complete brief and temporary arrest of the urinary secretion—a condition followed by increased secretion. A very curious inquiry into the effects of light upon general nutrition has been pursued by Justus Gaule. He accidentally noticed that the fat bodies situated in the abdominal cavity near the sexual organs in frogs, and especially in winter frogs, are not to be found at night, but are reproduced in daylight. The stimulus to the reappearance of these bodies in daylight is not conducted through the eyes since the phenomenon occurs even after extirpation of the globes.

Publications, etc.—Numerous and valuable articles on Embryology have been published in the *Quarterly Journal of Microscopical Science*, as those of Dr. E. W. MacBride on the Amphioxus, of Mr. J. P. Hill on the Embryology of the Marsupiala, of Mr. J. W. Jenkinson on that of the Mouse, and on the Nemerteans, by Mr. C. B. Wilson and Mr. W. R. Coe, Dr. A. Masterman, on Phoronis, and others, all requiring much care and attention as well as knowledge of the details of microscopical research. The well-written and well-illustrated "Text-book of Embryology," by Dr. John Heisler, of Philadelphia, will prove useful to the student as well as to the practitioner. Particular parts of the subject have been worked at with care by different men; G. Levi, for example, has studied the development of the human primordial cranium, C. Rabl the development of the lens, E. V. Wilcox human spermatogenesis, and G. Loisel spermatogenesis in the sparrow. The bibliography for the year in physiology is considerable. Two important cyclopedias have been in course of publication. One of them, edited by Professor Schäfer, of Edinburgh, who modestly names it a text-book, is just completed. It is written on the lines of the Handbook of Professor Hermann, the several subjects being committed to the hands of experts. The second is edited by Professor Richet, of Paris, and will extend to eight or nine volumes, four of which are now complete. A somewhat similar but less ambitious text-book is appearing in America under the able editorship of Professor W. H. Howell, of the Johns Hopkins University, Baltimore, assisted by several leading physiologists of that country. The second volume of Professor Morat and Professor Doyon's "Traité de Physiologie" has appeared, and a well-written text-book has been published by Dr. Winfield Hall, of the Chicago University. New editions of the manuals of Waller, Stewart and Starling have been issued, and Miss Emma Bilstein has made a good translation of Stohr's well-known text-book of histology.

ANESTHETICS.

Intra-spinal Cocainization and Interstitial Infiltration.—Among the year's events in this department of medical science may be placed perhaps first in order, but rather on account of their novel development than of their intrinsic merit, the introduction of spinal cocainization as a definite mode of producing analgesia, and the extension of local anesthesia by interstitial infiltration. To Leonard Corning, an American physician, must be accorded the initiation of the suggestion (1885) that an extended anesthesia would follow the injection of local anesthetic bodies into the sheaves or nerves or of the spinal cord itself. Bier, in his original monograph in 1899[1] put Corning's suggestion to the test of actual trial and employed the lumbar puncture. The tissues were infiltrated down to the vertebræ (Schleich's method) and a plugged needle (Quincke's plan) was introduced into the spinal canal, some cerebro-spinal fluid was removed, and from 0.005 to 0.01 gramme of cocaine in solution was introduced. The analgesia appeared in from five to eight minutes, and persisted in one case for forty-five minutes. Bier reported more or less severe after-effects—headache, vomiting, depression, and rise in temperature. Besides the obvious danger of sepsis which Bier and others insist can be avoided, there have been during the past year numerous grave complications and some deaths following this method of producing anesthesia. Bier himself, writing in the *Munchener Medicinische Wochenschrift*, of September 1st, 1900, warns the profession against the wholesale adoption of the method, since he regards our knowledge of it as being at present too vague for its safe adoption except in certain cases. Serious accidents, he says, follow injections of five milligrammes and less. Under no circumstances does he permit more than fifteen milligrammes. The method was discussed at some length at the Surgical Congress in Paris, and several speakers who were in favor of it yet admitted that deaths had followed intra-spinal injections of cocaine (Phelps). Tuffier[2] has published 125 cases, including fifty-eight laparotomies, of lumbar puncture made between the fourth and fifth vertebræ. Although he has gained a fairly wide experience and has performed a large number of operations, he has been unable to eliminate more or less serious complications, such as vomiting which commonly commences soon after the injection and is often very severe, pallor, respiratory distress, headache, nearly always present and lasting from fifteen to twenty-four hours, persistent paresis and rise of temperature. Out of 125 cases five deaths resulted, and although he exonerates the anesthetic in four cases he states that the fifth patient died with symptoms of asphyxia. Many observers also have accorded cyanosis as a common symptom. Racoviceanu-Pitesci and Severeanu, of Bucharest,

1. Deutsche Zeitschrift für Chirurgie, vol. ii, p. 361. 2. La Semaine Medicale, May 15th, 1900.

have used the method largely and they refer to two deaths in Roumania as a direct result of it and to several serious complications and sequelæ. The former surgeon records eighty cases of cocaine toxemia persisting for four or five days, while in three cases artificial respiration and stimulation were called for to save life. Severeanu likewise reported that he had met with great exhaustion and prostration which lasted for some days after injection. He used from one to four centigrammes. He regards the method as being unsatisfactory, in that the patient witnesses the operation on his own person. Besides these undesirable accidents associated with this method Gumprecht[1] has published seventeen cases in which lumbar puncture independently of the use of cocaine has been followed by dangerous conditions due probably to the operation. Henneberg and others have met with medullary hemorrhage from the same cause. Various writers speak of the difficulty of getting the needle into the canal arising in some cases, especially in those in which the vertebræ are displaced or rigid. The method has also been used extensively in the United States and isolated observers have reported successful cases without dangerous symptoms. S. Ormond Goldan met with vomiting in half of his twenty cases; the patients were first pale, then flushed. Headache was present in 50 per cent., and some rise of temperature and profuse sweats were also observed. Rigidity of the muscles of the back occurred in three patients, a troublesome symptom, which in one case persisted for a week. In three instances analgesia was never obtained.

Cocainization in Parturition.—Kreis[2] was one of the first to use cocainization of the spinal canal in obstetric practice. According to this observer the analgesia in his cases lasted two hours and the cocainization did not interfere with the functions of the uterus. Marx[3] has recorded a series of cases of parturition without mishap. In these he obtained analgesia by injecting cocaine without lumbar puncture. His experience with eucaine went to show that it was unsatisfactory for intra-spinal injection. He has also employed morphine, but in one case severe toxic symptoms followed it; he now advises that hydrobromate of hyoscine ($\frac{1}{200}$th grain) should be injected hypodermically in order to relieve the nausea, headache, and vomiting which he finds incidental to the puncture and spinal cocainization. The statement that "there are frequent nausea, vomiting, severe headache, profuse perspiration, chilly sensations, temperature up to 102° and 103°" is not encouraging. Marx, whose careful paper deserves attention, gives details of a number of cases. An obvious objection to intra-spinal cocainization is insisted on by Matas. It is that if the first injection fails to produce a

1. Deutsche Medicinische Wochenschrift, June 14th, 1900.
2. Centralblatt für Gynakologie, July 14th. 1900.
3. Medical News, August 25th, 1900, and Medical Record, October 6th, 1900.

sufficiently prolonged analgesia, re-injection is, in obstetric cases, practically impossible. He limits the methods to adults, and to "reasonable persons" who have good self-control, when regional infiltration is impossible, to persons suffering from bronchitis, emphysema, or who for other reasons cannot take a general anesthetic, and lastly, only to cases which can be completed in an hour and a half. A large number of papers dealing with intra-spinal cocainization, giving more or less full reports of cases, have appeared since Bier's first monograph, and although the writers make light of the adverse symptoms, which they impute to any cause other than the obvious one, Bier's caution seems more than necessary. Communications of especial note dealing with the subject have appeared by Fowler[1] (New York), Ormond Goldan,[2] and Marx,[3] and a study of these papers confirms the statements made above. It is interesting to remark that among Fowler's cases several instances are reported in which analgesia could not be obtained. Nicolletti's (Naples) experiments on rabbits and dogs must also be referred to in this connection. Intra-spinal injections of cocaine according to this observer produce no histo-pathological change in the nervous tissues—a fact which led Nicoletti to believe that the analgesia is the result of vaso-motor effects consequent upon the action of such bodies as cocaine, ergotin, antipyrin, and quinine. Similar evidence of the immunity of the nervous structures was given in the necropsy of a patient published by Seldowitsch.[4] The patient died from cachexia. Seldowitsch's cases all showed some of the symptoms described by most writers on this subject. while Bier's first experience[5] was more favorable.

Neuro-regional Analgesia.—An attempt has also been made to produce "neuro-regional analgesia": (1) intra-neural, by injecting the cocaine into the large nerve-trunks supplying the region to be operated upon; or (2) para-neural, into the tissues about the nerve-trunks. Oberst, Krogius, Braun, and Kummer follow this method. Matas, whose paper is referred to above, gives careful directions about these modes of producing analgesia in these ways, and to his writings we must refer our readers. Schleich's important work, "Schmerzlose Operationen," issued recently, gives a very fair account of the case for local analgesia. although it must be admitted that his method leaves much to be desired if true immunity from pain is aimed at. Barker, of University College Hospital, has in our columns given his pronouncement in favor of eucaine β and has apparently been satisfied with his trials of local analgesia, using Braun's modification of Schleich's original method.[6] Cushing[7] reports a number of herniotomies done under local analgesia. In

1. Philadelphia Medical Journal, November 3rd, 1900, p. 843. 2. Ibid. p. 850.
3. Ibid. p. 857. 4. Centralblatt für Chirurgie, vol. xxvi, p. 1110.
5. Deutsche Zeitschrift für Chirurgie, Band ii, Heft 3 and 4.
6. The Lancet, January 20th, 1900, p. 156. 7. Annals of Surgery, January, 1900.

cases in which a general anesthetic is undesirable, infiltration with eucaine or cocaine is, he considers, most valuable. The patient is, he reminds us, however, longer under operation and feels pain to a certain extent.

Miscellaneous.—Some valuable work dealing with the physiology of the action of anesthetics has been undertaken during the year. Experiments by Professor W. H. Thompson, of Belfast, appear to show that while ether and its mixtures give rise to an increase in the urinary water secreted, and of the total nitrogen per hour, chloroform brings about an opposite result. Chlorides were lessened under all anesthetics. While chloroform caused glycosuria albuminuria was absent. Kemp and Thomson, to whose experiments we have referred elsewhere in our columns, came to a conclusion which if confirmed would seriously affect the reputation of ether as a safe anesthetic. Investigating the subject anew from the clinical as well as the experimental side, Dudley Buxton and A. G. Levy have shown that the results arrived at by preceding workers were not in their entirety reliable, since they had mistaken the effects of ether toxemia for a normal "ether effect." This ether toxemia never occurs in practice, and in experiment only when the inhalation is conducted on very dangerous lines. The results arrived at by the last-named observers are extremely important but can only be mentioned briefly. Suppression of urine as a result of ether inhalation does not occur, albuminuria is extremely rare, and clinical evidence that they advance revealed that renal after-effects ensuing upon etherisation even when the kidneys are antecedently diseased are very rare. "Ether," they say, "should still be regarded as a very safe anesthetic." Their experiments with chloroform are also of interest. The respiratory after-effects of ether formed the subject of an important discussion by the Society of Anesthetists. The conclusion which, it appears, may be fairly drawn from it is, that much confusion has arisen in the recording of cases; the anesthetic, although occasionally at fault, but far less often so than is commonly stated, is in most instances one of many factors bringing about the pulmonary complication. A point advanced by Mayo Robson, and confirmed by others, being that in private practice respiratory effects are almost unknown, while in hospital practice, under less favorable conditions, pneumonia or bronchitis occasionally supervenes after operations undertaken under ether, J. Freeman, speaking before the Bath and Bristol Branch of the British Medical Association,[1] stated that out of three thousand etherisations in which persons of all ages were included, he had only met with two cases of bronchitis. McCardie has recorded[2] a rare complication under ether—viz., spasmodic closure of the larynx—and a somewhat similar occur-

1. Brit. Med. Jour., 1900, vol. i, p. 873. 2. Ibid. p. 138.

rence is reported by Shuter in which respiration failed under ether. Feilchenfeld's[1] suggestion to give small doses of tincture of strophanthus (from five to six minims) on two nights before giving chloroform in cases of asthenic or excitable hearts is supported by carefully thought-out reasoning. Walker (Durazno, Central Uruguay) has used anal injection of artificial serum in a case of chloroform collapse with success, but the rationale is not easy to grasp. As chloroform was given by the towel method it seems perhaps better to leave off using the towel, and so to avoid the necessity for employing the artificial serum. H. A. Hare, whose name is associated with much valuable experimental work dealing with the physiology of anesthesia, has delivered a valuable address on anesthetics, in which he reiterates his view that chloroform accidents arise from vaso-motor paresis.[2] Kramer's[3] experimental investigation of the influence of stimulation of a sensory nerve on circulation and respiration under complete, and under incomplete, anesthesia brings our acquaintance with this subject within the region of exact knowledge. His conclusion is that severe vaso-motor shock is more liable to follow operations done under partial anesthesia than such as are done under complete insensibility. The method of massage of the heart which is called "Prus's plan," although successful according to Dr. Prus in 76 per cent. of dogs which he poisoned with chloroform until cardiac action failed, was tried by him on a person who committed suicide, but without success. Dr. Prus removes the rib cartilages and opens the pericardium. The measure, an heroic one, may have failed in this case because the person was an alcoholic subject whose heart muscle was probably past stimulation.

Mishaps under Anesthesia.—We have repeatedly drawn attention to casualties under anesthetics and have indicated the obvious lessons to be drawn. It is matter of regret that during the year many fatalities under chloroform have occurred, and too frequently in cases in which nitrous oxide, ether, or the A.C.E. mixture might have been more safely employed. The practice of giving chloroform in dental cases is one too obviously bad to need argument, and yet we have had again and again to report deaths arising through it. We may hope that in the new century wiser counsels may prevail. We also hope that the necessity for the better teaching and equipment of our hospitals in matters connected with anesthetics, to which we referred recently in a leading article, may receive the recognition which it undoubtedly deserves. No special advance in methods or apparatus has to be recorded for the year 1900, but a pronouncement by the General Medical Council that any medical man giving anesthetics for a dentist who was not on

1. Centralblatt für Chirurgie, No. 4, 1900.
2. Journal of the American Medical Association, March 24th, 1900.
3. Annals of Surgery, September, 1900. p. 376.

the Dental Register would be liable to have his conduct investigated by that body, is a noteworthy one for all anesthetists.

CHEMISTRY.

Radio-Activity.—Perhaps the phenomenon in chemistry which has attracted most attention and study during the year has been that comparatively newly-discovered property of certain substances which is now called "radio-activity." It would seem that there exists a group of elements which manifests radio-activity to a marked degree. Thus a new and most fascinating field of inquiry has been opened up since M. Henri Becquerel observed that compounds of uranium in particular emit rays which affect a sensitive photographic plate through bodies usually considered opaque to light, and further that these radiations are deflected by a magnet and cause the discharge of an electrometer when brought to bear upon it. These rays have consequently so far been called "Becquerel rays" or uranic rays. But these rays appear to be emitted by other elements. Their discovery is next in importance to Professor Roentgen's discovery of the rays which still have to be called "x," for it is announced that the study of radio-active substances has laid bare new elements. Recent investigation would appear to show that radio-activity is due to an element or elements not isolated. Up to the present it is said that uranium and thorium compounds alone are practically active—that is to say, that the property of emitting rays which act on photographic plates is assumed to be a specific property of uranium and thorium. Sir William Crookes, in a number of very interesting experiments which he has made, has shown that amongst the minerals which he employed for the purpose those that were radio-active contained either uranium or thorium. In regard to uranium Sir William Crookes has obtained evidence which tends to show that the supposed radio-activity is due to the presence of a foreign body and is not an inherent property of the element itself. For the present, therefore, the unknown body must be provisionally UrX. The question remains as to whether in thorium compounds the same body exists. Already some investigators in Paris believe that they have obtained distinct evidence that this high degree of radio-activity is due to a hitherto unknown element. A substance has been isolated which has since been called "radium," the properties of which, it is said, resemble those of pure barium. It possesses, however, a higher atomic weight. Later it was announced that by mere contact of this substance with a salt of barium, its radio-active property was communicated, and thus an artificially radio-active barium was obtained. It is evident that chemists are on the threshold of an entirely new field of research which promises to yield very remarkable results. The position at present appears to be that we know of radio-active bodies which have five different origins—the com-

pounds of uranium, thorium, polonium, radium, and a substance resembling titanium. Uranium and thorium have, of course, been long known as well-defined chemical bodies, but the three last-named are so far only hypothetical elements. Of these radium is the best known, because greater study has been devoted to it.

The Transmitting of Elements.—The question of transmitting the elements has once more arisen, but this time attention has been turned not to the conversion of copper into gold, but to the conversion of phosphorus into arsenic and possibly antimony. As is well known, these elements are very "near relatives." The crux was, what was the black substance known as black phosphorus present in ordinary phosphorus after the addition of ammonia? It was suggested that it was arsenic produced by the action of ammonia on phosphorus. It has since been declared by Mr. T. Fittica that he has, by acting upon the phosphorus with ammonia in the presence of air, obtained a true transformation of phosphorus into arsenic, and according to his view the latter would appear to be a compound of phophorus with nitrogen and oxygen. Later, the same investigator has stated that he has succeeded in transmuting phosphorus into antimony. These statements, one and all, are generally discredited, though, of course, the creed is fast gaining very general adherence that there is but one element, a primordial "stuff" out of which the rest of the elements have been and perhaps are being, elaborated. Whatever may be the truth in regard to these averred transmutations it is remarkable that quite recently it has been shown that arsenic may be administered in the form of methyl compound—namely, cacodyl—in comparatively large quantity with relatively slight tonic results. Further, cacodyl is said to be almost a specific in debilitated conditions, replacing the phosphorus in nerve tissue. Does it replace phosphorus, or is it arsenic transmuted into phosphorus?

Argon and Company.—Professor W. Ramsay and his colleague, Dr. M. Travers, have been busy studying the curious companions of argon. So far argon would appear to be associated with three other elements called respectively "neon," "krypton," and "xenon." The place of these newly-discovered elements in the chemical hierarchy is still surrounded with obscurity, although they show a regularity in some respects which admits of their classification in the periodic code. But apparently there is little that is analogous between them, so that the properties of one do not necessarily suggest the properties of another. With the ordinary elements, as is well known, it was possible to predict by analogy the properties of an element yet undiscovered and missing in the periodic arrangement. There is, of course, a grand truth at the bottom of the periodic law, but as yet this system of classification, it must be confessed, is still a conundrum. A gas apparently simulating argon was obtained by Dr. T. L. Phipson by passing dry cyanogen

through a red-hot tube full of iron nails. The gas appears to be a carbide of nitrogen, but the announcement seems to have received little attention and certainly, up to the time of writing, no confirmation.

The Production of Ozone.—An interesting method for the production of ozone has been discovered by M. Henri Moissan, who has shown that when fluorine comes into contact with water at a low temperature hydrofluoric acid is formed together with ozone. The case is one of polymerisation of oxygen which, of course, in the first instance, is liberated by fluorine. The method is not expensive and the ozone obtained is concentrated, and it is possible that this reaction may be of advantage for the commercial preparation of ozone.

Lotus Arabicus and Prussic Acid—The production of prussic acid in nature has been well exemplified in the case of *lotus Arabicus*, a small leguminous plant indigenous to Egypt and North Africa. Mr. Wyndham R. Dunstan found that when moistened with water and crushed, the leaves of the plant evolved prussic acid in considerable quantity. The plant has proved highly poisonous to horses, sheep, and goats, and has been a source of anxiety to the military and civil authorities in Egypt. In the course of the investigation a new glucoside was recognized.

Desiccated Albumin.—Some interesting observations on the effect of desiccating albumin upon its coagulability have been made by Mr. J. Bertland Farmer. By carefully drying albumin this substance appears to be brought, so to speak, into a static condition. Chemical change or physico-chemical change is inhibited just as in an interaction between phosphorus and oxygen when conditions of complete dryness obtain. Similar conditions may be regarded to obtain in the case of protoplasms or micro-organisms which, when sufficiently desiccated, withstand conditions which otherwise would certainly promote chemical disintegration. "They —that is, the seeds and spores of certain bacteria—appear to be reduced to a static condition by drying, and the researches of Romanes indicated no measurable chemical change as proceeding in them under these circumstances; and, again, the investigations of Brown and Escombe and Sir W. Thistleton-Dyer have also rendered it difficult to believe, when subjected to the other end of the scale of temperature, that any metabolism can really be proceeding. In these cases the molecular machinery of life is all present and intact, but the manifestation of vitality as measured by chemical improvement and by the change in the condition of energy is absent. But such a state differs widely from death, seeing that when the conditions favorable to the continuous progress of those reactions which are associated with vitality are restored, the organism proceeds to work in the normal manner once more. Similarly the albumin heated in the desiccated form retains, instead

of changing, that particular molecular condition which enables it, on restoring the essential conditions of moisture, to coagulate in a normal fashion when heated to a suitable degree of temperature." During the past year it is evident that chemistry has not been entirely approached from a narrow technical standpoint, for the labors of technical research have related to problems of vitality, and to those interactions going on in the human organism the study of which is calculated to raise medicine to a higher, because less empirical, position.

PUBLIC HEALTH.

The Plague at Glasgow, and its Lessons.—The closing year of the nineteenth century will be remarkable in history from the fact that for the first time since the days of the great mortality of the seventeenth century, bubonic plague obtained a footing in one of our greatest centres of industry, and the epidemiologist of the future who records the waxing and the waning of pandemics will perhaps occupy himself with a comparative study of the methods of control adopted now and in the past. Perchance, too, he will have to relate that in the year 1900 Great Britain received the first indications of what was to be her share of the pandemic wave, and he may perhaps deplore that the warning was not duly heeded, in that our smaller port sanitary authorities failed to appreciate the writing on the wall. It has now been sufficiently demonstrated that, however the plague may behave itself in the future, we in England possess at this moment no racial immunity from it. It is important, too, that the Glasgow outbreak should be properly interpreted, and that it should not be hastily assumed that when next the disease fixes itself upon this country it will be controlled with equal success. Dr. A. K. Chalmers—the able medical officer of health of Glasgow—has set an admirable example to the country, and we are glad to see that his successful efforts in dealing with the plague have been officially and graciously acknowledged by the Local Government Board of Scotland. We should be glad to see his services recognized in one sense in even higher quarters, and in another by the municipal authority which he has served so well. But there is some evidence to show that the plague that visited Glasgow was of a somewhat kindly type, and that the disease possessed both a low striking power *quâ* infectivity and a low fatality rate. Moreover, the evidence does not, it would seem, point to rodents, such as rats, as having actively participated in the outbreak, and in this respect the Glasgow outbreak bears a marked contrast to that which occurred in Sydney in the early part of the year. There the connection between the disease in rats and that in man seems to have been almost demonstrated ; at any rate there can be no doubt as to the association. There is one great lesson which the events of the past year have brought home to us—that is,

the tendency which plague manifests to develop in the poorer quarters of a city amid surroundings where both dirt and darkness are prevalent. The advent of plague has done much to stimulate our authorities to action during 1900, and the port sanitary survey which was undertaken by the Medical Department of the Local Government Board could not have been more opportunely timed, seeing that the warnings then given were, in fact, fully justified before the survey came to a close. Until, however, the next annual report of the medical officer of the Local Government Board is published—and the interval as yet may be considerable—we are not in a position to state precisely the results of the survey. It must be patent to any one who is at all familiar with the records of the public health service, that in our smaller ports and inland districts there is an enormous amount of work to be done before anything approaching security can be even thought of. By the term "security" we do not mean to convey an idea of absolute immunity from plague. If but the foam of the next plague wave has a tendency to fleck the shores of Great Britain, nothing we can do in the matter of medical inspection or defunct quarantine will serve to keep the disease altogether at bay. The history of Glasgow alone is sufficient to demonstrate this fact, and we have recently had numerous instances—such as the case of plague at Llandaff and the several cases which occurred in the port of London—illustrative of the same conclusion. Our safety against the epidemic depends upon (*a*) the manner in which infected, or possibly infected, vessels are dealt with at our ports; (*b*) the promptitude with which the departure of passengers from such vessel to our inland districts is notified; and (*c*) the manner in which such information is dealt with. The fact that in the Glasgow outbreak plague had apparently existed for from two to three weeks before it was recognized is sufficient to indicate to us what our danger may be, and the absence of any properly constituted port sanitary authorities in Scotland is by no means reassuring to those who fear that plague may reach us across the Scottish border. The case of Ireland, too, may have to be considered a little more in detail before we can face the future with any degree of equanimity.

In connection with the important subject of plague mention must be made of the report issued by the Royal Commission on Plague upon the methods of preparing Mr. Haffkine's preventive prophylactic, and upon the results of its use. Although the report is on the whole highly critical, no doubt is left upon the reader's mind as to the value of this prophylactic, notwithstanding the fact that the methods of manufacture come in for somewhat severe condemnation. It is under these circumstances a matter for congratulation that there is now in this country, whether at the Local Government Board or elsewhere, a supply of this valuable material.

What may be termed the serum-therapy of plague has not had the advantage of such a critical examination as has the prophylactic culture of Mr. Haffkine, and the trial of Yersin's serum at Glasgow was not such as to lead to any very definite conclusions.

The Prevention of Tuberculosis.—The year 1900 will also be noticeable by the future chronicler in another relation—although the first year of the twentieth century may have greater claims in this respect. The net cast by preventive medicine grows larger year by year, and with its increasing size the individual meshes apparently contract. It is, however, but very rarely that the net is cast around another disease, and that disease thus brought within the scope of sanitary administration. But during the past year tuberculosis has received an altogether unique attention at the hands of sanitary authorities and their officers, and the "psychological moment" has evidently arrived for vigorous efforts to be made to curtail the ravages of this disease. The congress which is to be held in London at the end of next July, and which is to be presided over by the Prince of Wales, will, it is to be hoped, have the effect of stimulating public opinion up to the passing of useful measures through the Legislature. The erection of sanatoria for phthisical patients has already received a strong impetus, and 1900 will probably be regarded as the year in which this movement had its birth in this country.

Sewage Disposal.—The Royal Commission on Sewage Disposal has continued its sittings during another year and has paid visits to certain large towns where experimental works are in progress. We should be glad if we were able to anticipate the issue of at least an interim report which would have the effect of defining the position of the Commission relative to the important and really pressing subject as to whether or not the use of land is still to be insisted upon in all systems of sewage disposal, but we fear the knowledge hitherto acquired is not yet such as is capable of being focussed.

Food Preservatives and Substitutes.—The important question of the use of certain chemical preservatives in our food and drink has continued during the year to receive the attention of the Departmental Committee of the Local Government Board, and visits have been paid by members of that committee to Holland, Germany, Denmark, and Ireland, with a view to ascertain the practices in vogue in these countries in respect of this matter. Whatever may be the decision at which the committee arrives, some valuable evidence and important experimental results will doubtless be placed on record. Probably, too, the medical profession will in future pay more attention to this subject than has hitherto been the case. The uncontrolled use of substances which are at one and the same time both drugs and preservatives can hardly fail at times to lead to posological complications, seeing that the medical

practitioner who prescribes one of the drugs in question may be quite unaware that his patient is already being, and has perhaps for years been, over-dosed with the same substance. That there is pressing need for a more detailed examination of our food and drinks, and of the substances used in their preparation, has been recently brought home to us in a somewhat dramatic and startling fashion by the revelations as to the presence of arsenic in beer, and a question asked lately in Parliament as to the number of samples of sulphuric acid which have been examined by the Government analyst during the past year seems to indicate the direction in which reform is most urgently called for. In the matter of beer, as in certain other directions, the responsibility *quâ* purity is, it appears to us, not sufficiently defined, and the fact that the Treasury, the Home Office, the Local Government Board, the Board of Agriculture, and the Inland Revenue have certain functions and interests in this matter, has led to less control being exercised than obviously should have been the case.

The Prevention of Malaria, Yellow Fever, and Typhoid Fever.—In the domain of tropical medicine great advances have been made in our knowledge of the prevention of malaria by the destruction of certain species of mosquitoes, and the practical experiments conducted in the Roman Campagna and on the west coast of Africa have gone far to show that if the bites of these mosquitoes can be prevented, so also can malaria; in other words, that if the formula, "No mosquitoes, no malaria," does not convey all the truth, it does so to such a degree as to render action in this direction the most practical measure for controlling the disease. Dr. Celli and Dr. Koch have also laid much stress upon the presence of rice-fields as conducing to malaria, and the latter has remarked, "The more rice-fields there are in the neighborhood of a place, and the nearer they are, the greater the abundance of mosquitoes." The terrible prevalence of enteric fever among our troops in South Africa has afforded an altogether exceptional opportunity for the study of this disease under the conditions of modern warfare, but it is deeply to be regretted by all true epidemiologists that more advantage was not taken of the situation by the despatch of a really capable committee of trained epidemiologists to investigate the situation at the actual moment of prevalence. Doubtless the Commission which was despatched a few months since will bring back much highly valuable information, but it is quite clear that they have not been afforded a fair opportunity for adequate research. Some 15,655 cases, 3,642 deaths, and 9,128 invalids, will require no little investigation. Anti-typhoid inoculation has been submitted to some experimental tests in South Africa during the year under review, but we must await the official returns before judging the results. The etiology of yellow fever has been further cleared up during the past year by Dr. Wasdin and Dr. Giddings, of the

Marine Hospitals Service, Washington, U.S.A., who, in their report issued at the beginning of 1900, confirmed in most of the essential details the discoveries of Professor Sanarelli, with reference to the bacillus icteroides being the specific organism of that disease, and have also demonstrated that the infection of the disease is taken in by the breath.

The International Congresses in Paris.

Early in 1899 we began the publication of articles designed to arouse interest in the great international medical congresses to be held in the following year in connection with the Universal Exhibition at Paris. It must be confessed that our endeavors did not meet with that measure of success which, under normal circumstances, would have been secured. As we have always maintained that the progress of science should not be checked by frontier demarcations, we have been anxious that Great Britain should be adequately represented at all international scientific gatherings. This year the war in South Africa very materially interfered with our aspirations in this respect. So many physicians and surgeons went to the front that those who remained in England had more than their usual amount of work to do, and were, therefore, less able to find time to attend congresses. Also, the natural anxiety caused by the war and the mourning for lost friends or relatives made others less inclined to take part in congresses and their accompanying festivities. Thus the medical world at the Paris Exhibition had to endure the absence of many who, under more propitious circumstances, would have largely contributed to uphold the fame of British science in these parliaments of the world. So also with regard to the Exhibition itself, we fear that its innumerable useful and practical lessons have been lost to many members of the profession who in normal times would certainly have visited this unparalleled collection of the works of civilization. At any rate we have endeavored to supply our readers with descriptions of the Exhibition and of the many congresses.

First International Congress on Deontology.—Particularly anxious were we to give the fullest prominence to all that was done to improve the moral and material position of members of the medical profession. The economic evolution which is revolutionizing the social conditions of all the great industrial peoples has also affected the medical profession, and not only in Great Britain, but throughout all civilized countries. Consequently, we have had, for the first time in European history, a great international congress attended by medical men from all parts of the world, gathered together to discuss solely the economic position of medical practitioners, and the ethical principles necessary to meet and to mitigate newly developed evils. Unfortunately the attendance of British representatives was very small, and this was

due, not only to the causes enumerated above, but also to the fact that the International Congress on Medical Deontology or Ethics met at about the same time as the annual meeting of the British Medical Association. Nevertheless, the economic difficulties that beset the medical profession in England were explained to the congress, amongst others by our Special Commissioner, who has now for several years been contributing special reports on the subject to these columns. From Germany and Austria came encouraging accounts of the formation in those countries of medical chambers somewhat after the model of chambers of commerce. Medical associations in Hungary, Roumania, and Norway also give good promise, while the medical syndical chambers or unions of France and Belgium are militant institutions that are really fighting very actively for necessary reforms. All this work of organization has also influenced the legislature of some countries and the laws regulating medical practice have been improved. The results altogether of this first congress were so encouraging that it was determined to continue the work, and a second International Congress of Deontology will be held in Belgium three years hence. It is to be hoped that on that occasion Great Britain will be better represented than she was at the first congress.

First International Congress of the Medical Press.—But this was not the only congress dealing with the organization of the medical profession. It was followed immediately by the International Congress of the Medical Press, at which *The Lancet*, the *British Medical Journal*, and a great number of continental and American medical journals were represented. In some countries the necessity for an improvement in the medical press is, unfortunately, but too evident, and this congress was the first step taken in that direction. The object was to convert medical journalism into a profession actuated by a proper sense of its dignity and governed by self-imposed and generally recognized ethical laws. In this wholesome work the British medical journalists were able to take a leading part. But a great difficulty arose in defining what really constituted a medical journalist. Should a medical man engaged in medical practice own and edit a medical journal? If so, what was to prevent such a paper becoming a means of self-advertisement? Again, if the journal, as is the case with regard to some journals on the continent, is owned by a firm of wholesale druggists, what was to prevent such a journal from becoming a means of unfairly advertising the special drugs produced by that particular firm? How to create in all countries a medical press that should be above suspicion and to secure the services of medical journalists who should be sufficiently paid to be fearless and independent in their criticisms is a problem hard to decide in countries where many of the so-called medical journals are little better than trade circulars. That this ideal had actually been

achieved in England was a source of much encouragement to the congress; and in this congress, at least, the British representatives were able to occupy the foremost rank and to render efficient help to the work taken in hand. So complex were the difficulties, so urgent was the need of reform, that the congress not only resolved to meet again, but instead of deferring such meeting for some years it was decided that the Second International Congress of the Medical Press should be held at Brussels next year.

Thirteenth International Congress of Medicine.—Hardly had this congress terminated than the largest of all the congresses began, for more than five thousand delegates and members attended the Thirteenth International Congress of Medicine. Divided into twenty-eight sections, each section constituted a congress in itself and each will issue a weighty volume describing its proceedings. The papers read in these sections bore evidence of a great deal of hard work, but the new theories broached or new discoveries described were not numerous. Apart from the ordinary debates many visits were made to various hospitals and cliniques, and, of course, to the technical sections of the exhibition. On the other hand, some of the State receptions and entertainments that had been announced were postponed in consequence of the assassination of the King of Italy, which occurred just before the congress met. A large staff of able collaborators enabled us to give our readers a very full account of the International Medical Congress.

Tenth International Congress of Hygiene.—The Tenth International Congress of Hygiene and Demography followed upon the International Medical Congress, and of all the four great medical congresses it was certainly the best organized. The Congress of Deontology was also well managed, while that of the Medical Press, being necessarily small, did not give rise to any great difficulty in regard to management, but there was certainly a good deal of blundering over the International Medical Congress. The Congress of Hygiene was interesting, as these congresses always are, for they deal with so many practical everyday questions. The most remarkable, and at the same time a very discouraging, feature about the congress was the utter collapse of the Bacteriological Section. A joint meeting with the Third or Sanitary Engineering Section had been organized. The engineers appealed to the bacteriologists to indicate how towns should be supplied with water: Should it be spring water, river water, water from the chalk, filtered water, or water sterilized by some chemical or electrical process? The result of the debate that ensued must have greatly increased the perplexities of the engineers, for there was no agreement among the bacteriologists on any one of the points raised. All these debates were described at length in our columns at the time and we also published briefer accounts of minor congresses, such as the international congresses on psychology, on sanitation in the colonies, on pharmaceutical specialities, etc.

The Universal Exhibition.—Then, as far as time, space, and the intervals between these congresses would allow, we gave descriptions and criticisms of the medical, surgical, and sanitary sections of the Universal Exhibition. This was a difficult task to undertake, for the exhibits were scattered in all directions and their number was legion. Perhaps one of the most remarkable features was the show made by new countries and by the smaller nationalities, such as Hungary and Belgium. Great Britain, on the other hand, was only represented by manufacturers of sanitary appliances, etc. There were no Government, State, or municipal exhibits to show what general progress in sanitation had been accomplished in the United Kingdom. The Governments of almost all the other nations had, on the contrary, sent reports, diagrams, and various models of institutions, bacteriological laboratories, etc., which indicated what had been accomplished in recent years for the preservation of public health and for the spread of the knowledge of hygiene. If the political action of the British Government has of late years been the subject of much hostile criticism on the continent, the really wonderful demonstration in which representatives of all nations participated and which was organized by the French medical men in honor of Lord Lister was a proof that the civilized nations of the world are ever ready to acknowledge, and to pay homage to, what has been achieved in Great Britain for the advancement of science. It is a pity, therefore, that the authorities in this country did not profit by the Universal Exhibition to show more fully how in matters of sanitation we are still in the vanguard. Such an effort would have been fully appreciated. For throughout the proceedings, whether at the Exhibition or in the congresses, whenever an Englishman presented himself he was received with the greatest courtesy and was generously awarded whatever praise or applause was suited to his endeavors and work. Indeed, all such exhibitions and international congresses must tend to smooth rough corners and to build up international friendships and alliances, as well as to spread knowledge and to give birth to new ideas. Thus is the course of peace and progress advantageously served.

The Organization of the Profession.

Continuing this year the campaign started by the series of articles, entitled "The Battle of the Clubs" and "Hospital Abuse," we have published further articles on the Organization of the Profession, which were the result of investigations made by our Special Commissioner at Cork, Yarmouth, Norwich, and Cowes. It was at Cork that the movement against the clubs definitely began, and there the members of the profession have united with wonderful unanimity. At first they attempted to utilize what professional organizations already existed, but experience soon proved that to

meet new conditions and to enforce a new policy it was necessary to create a special organization. Thus the Medical Profession Association of Cork came into existence. So far back as 1892 the majority of the Cork practitioners had agreed on a wage-limit to be enforced for all contract work, and the following year they undertook to boycott those practitioners who failed to stand by the profession. It was not, however, till February, 1895, that the celebrated movement against the medical aid clubs began. Then nine medical officers resigned the positions which they held in connection with twenty clubs. The clubs succeeded in importing four outside medical men and a long struggle commenced. But the Cork Medical Profession Association were able to raise a fund, which, however, was not needed for more than a year, as the position of the medical men greatly improved through the abolition of former abuses. Gradually the resistance has decreased, only twelve out of the twenty societies continued the struggle, and only two out of the four imported medical men remained to help them. With impoverished exchequers and reduced membership these clubs still continue the struggle. The practitioners of Cork, however, have long since become quite independent of them and their members, for the position of the practitioners has in every respect been greatly improved through the successful action of their organization.

At Great Yarmouth also the resident medical practitioners have given a good example of what can be done by united action. There they have fought the Medical Institute established by a federation of friendly societies. Constituting themselves into a branch of the Incorporated Medical Practitioners' Association, they first attempted to prevent the formation of female lodges of Foresters and the importation of practitioners by medical insurance companies. To secure union in the ranks of the profession the older practitioners were careful to befriend and to assist their juniors in every way and thus prevented the latter from falling into the hands of the organizations that were seeking to exploit and to sweat medical men. The profession was successful in rendering it impossible for speculative insurance companies to establish branches of their business in Yarmouth. Several clubs that have not joined the institute have accepted the terms offered to them by the Yarmouth practitioners. Altogether the latter are now in a much more favorable position and many of the abuses have been done away with. Contrary to the usual experience, it was not the practitioners who struck against the clubs but the latter organized a lockout. The clubs called upon the practitioners to accept the conditions which the clubs had thought fit to impose or to resign their posts of medical officers to these institutions. The resignations followed in due course, and thus the lockout began and it has worked to the great moral and material advantage of the members of the profession in practice at Yarmouth.

In the neighboring town of Norwich, however, no such favorable results have been attained. Meetings were held, excellent resolutions were adopted, but there has been no spirit of discipline and what was voted was never carried out. Twenty-five years ago similar efforts were made and with as little success. What the medical practitioners collectively condemn they individually practise. They denounce the club and contract system and yet they nearly all work for clubs or contract with patients—that is to say, have penny clubs of their own. A good leader and a powerful organization are required. At present neither is forthcoming. Much of what our Commissioner has seen and described is encouraging; but his experiences at Norwich were the reverse of this. In one respect Norwich has set a good example; the members of the profession in that town have displayed a true spirit of solidarity towards their colleagues of the neighboring town of Yarmouth. None of the Norwich consultants consented to meet the practitioners of Yarmouth who were working for the Friendly Societies Medical Institute in that town. They have been equally staunch in refusing to have anything to do with the medical officers who are the salaried servants of the Norwich Friendly Societies Medical Institute. When any member of this institute desires a second opinion he must visit a consultant alone and pay a guinea fee, and the fact that many members have done this shows that they can afford more than a penny per week for medical attendance.

At Cowes also there have been much weakness, hesitation, and backsliding displayed by the local practitioners. One local practitioner, however, has made a good fight against the gross abuse prevailing among the friendly societies. It was especially against the female lodges of Foresters that the contest arose, and in the course of time a wage-limit was imposed. This wage-limit is too high and there is no really effective machinery to ensure that it shall be observed; but still, it is something to have established the principle and to have made the majority of the local practitioners acknowledge the necessity of some form of united action to secure such reforms. This wage-limit, however, does not apply to the Foresters' Friendly Society, but only to the medical aid society which the Foresters have formed for the benefit of their wives and other members of their families. Both the Oddfellows and the Foresters retain in their ranks many prosperous members who can well afford to pay the usual medical fees. There is evidently urgent need for the formation of a medical union for the whole of the Isle of Wight. This principle of forming medical unions was endorsed at Manchester, where in the month of May a conference on the Organization of the Profession was held under the auspices of the Manchester Medical Guild, which is a medical union formed by some two hundred medical men. Fifty delegates attended and claimed to speak on behalf of about four thousand practitioners.

This would be a very good beginning indeed if the practitioners in question were not merely sympathetic but were solidly organized. Unfortunately the conference spent the greater part of its time in describing well-known grievances instead of devising means of action. Then there was weakness displayed in the tendency to call upon others to do the work which the medical practitioners should themselves be the first to undertake. Parliament was to legislate in this direction and in that direction, and the General Medical Council was to enforce new ethical rules for the government of the profession. But reforms do not come this way, and authorities rarely do more than give official sanction to what has already, at least in part, been achieved by voluntary effort. The first step of all is organization, legislation will follow in due course upon united action.

TREATMENT OF TUBERCULOSIS IN CHILDREN WITH THIOCOL.

In a thesis presented to the medical faculty of the University of Paris, Dr. Helen Kaplansky reviews the entire literature of thiocol in a masterly and comprehensive manner, and then gives her own experience with the drug in a number of cases which she observed in L'Hôpital Trousseau. The clinical histories in detail :

CASE I.—A girl of eleven years, who had night-sweats and a severe and obstinate cough, together with abundant expectoration which showed the presence of tubercle bacilli. She also had attacks of vomiting, abdominal pains, and borborygmi in the right iliac fossa. Physical examination revealed dullness in the left apex posteriorly, subcrepitant rales in the entire left lung anteriorly, and blowing respiration in the middle portion of the right lung. Treatment with thiocol was instituted, the dose ranging from twenty-four to thirty-two grains per day. Improvement was immediate. In a few days the night-sweats ceased, the cough became milder, the expectoration less profuse, and digestion and appetite much nearer normal. Gradually the physical signs began to improve, and in two months the condition was almost normal, and the patient had gained twelve pounds in weight.

CASE II.—A boy of four years, who for ten weeks had been suffering with an obstinate cough, abundant expectoration and profuse night-sweats. Anorexia was absolute, nothing could be retained on the stomach, and the bowels were constipated. The evening temperature at times rose as high as 104° F. The child was, of course, thin, pale and puny. Physical examination revealed dullness at the right side anteriorly, and rude respiration, the expiration being prolonged. Thiocol was administered in doses of eight grains per day. The appetite and digestion improved at once; the temperature fell from 104° to 100.4° F.; the cough

diminished, and there was a marked amelioration in the general condition. In about four weeks the temperature became normal and the cough disappeared entirely.

CASE III.—A boy of four years, whose mother died of tuberculosis; a sister of his was also tuberculous. Following an attack of measles the child began to fail perceptibly; he coughed and expectorated much, and had profuse night sweats. Temperature 101.5° F. Rude blowing respiration at both apices, sibilant rales in both lungs, almost absolute anorexia. There was also a purulent discharge from both ears. Treatment with thiocol was instituted, eight grains per day being given. In a week improvement could be noted in the cough, appetite and temperature. The treatment, continued for another two weeks, brought about a complete disappearance of the cough, fever, anorexia, night sweats, etc., and there was a most marked improvement in the physical signs. He was gay and lively, and left the hospital cured, having gained three pounds in three weeks.

CASE IV.—A boy of fourteen years. Parents and grandfather died of tuberculosis. For the past six months he had been suffering with a very obstinate cough, abundant expectoration, profuse night sweats, and loss of flesh. Five months ago he had had quite a profuse pulmonary hemorrhage. Evening temperature 102.2° F. Treatment with thiocol proved very satisfactory, there being an improvement in all his symptoms; an intercurrent attack of typhoid fever, however, necessitated the suspension of the treatment.

CASE V.—A boy of thirteen years, whose father died of tuberculosis, and whose mother was also tubercular, the thiocol did not prevent the progressive advance of the disease, but had a good effect on the cough and expectoration.

CASE VI.—A girl of six years, who at three years of age had had rickets, and at five years measles and whooping-cough. For the past three months she had had abdominal pains and frequent attacks of epistaxis, and for the past two weeks she had also suffered with severe cough, choking feeling, night sweats and loss of appetite. There was coarse respiration with sibilant rales at both apices. Temperature 100.4° F. Treatment with thiocol for a period of three months brought about the disappearance of all subjective symptoms, the physical signs became practically normal, and there was also a satisfactory increase in weight.

CASE VII.—One of tubercular peritonitis. Thiocol had no influence on the abdominal condition, but produced a good effect on the general status of the child.

The author also mentions the fact that in Dr. Akimoff-Peretz's hands thiocol proved successful in several cases of tubercular peritonitis. In three cases of very advanced tuberculosis the thiocol proved ineffective, but neither did the best hygienic conditions have any influence.

The author states that the extensive experience of numerous competent investigators, as well as her own, justify the following conclusions: (1) Creosote in some form must occupy the first place in the medicinal treatment of infantile tuberculosis. (2) Among the derivatives of creosote or guaiacol, thiocol deserves the preference, and it will eventually become the remedy of choice. (3) The results of experiments on animals permit us to assume that thiocol exercises a direct antitubercular effect in the animal organism, and does not merely produce a favorable influence on the general nutrition and on certain symptoms of tuberculosis. (4) The experimental data, as well as clinical experience, justify us in giving thiocol a trial not only in *pulmonary* tuberculosis, but in other forms as well; as, for instance, in tubercular pleurisy and peritonitis. (5) The administration of thiocol in all forms of tuberculosis is the more indicated because, on account of its solubility in water, and its absence of odor and taste, it is readily taken by children, and because it is perfectly innocuous.

A CASE OF BRONCHO-PNEUMONIA TREATED BY OXYGEN INHALATION.*

R. V., aged 11, admitted to Sick Children's Hospital May 6th, 1900. He had been in the same institution three months previously under treatment for tuberculous arthritis of the knee joint. He had taken ill a week before admission, having caught a cold which did not improve under treatment.

Condition on Admission.—Patient lies on left side and prefers to have the head high and back supported by pillows. Respirations quickened (64 per minute), short and shallow. Dyspnœa very apparent. Lips and fingers cyanosed. There is clubbing of the fingers and toes. Expectoration profuse, muco-purulent, at times tinged with blood. Pulse small and rapid (130 per minute). Temperature 104 degrees F.

Physical Examination.—Inspection, expiration is prolonged. There is some elleviation of the chest wall, but little true expansion. Percussion, a dull area over the left upper lobe and over bases: elsewhere, over entire chest fine cracking and bubbling rales are heard. Palpation, vocal fremitus over left upper lobe Treatment: Calomel, followed by salines; liq. strych., ℥ ii. every four hours; spts. frumenti, i. dr. every four hours; tr. digitalis, ℥ iv.; amm. carb., gr. i.; vin. ipecac, ℥ vi. every four hours. Milk diet.

Under this treatment for several days the patient showed signs of improvement. Expectoration was free and the lividity less pronounced than on admission.

*J. T. Fotheringham, M.D., Professor of Therapeutics Trinity Medical College, and A. F. Staunton, M.D., House Physician Toronto General Hospital.

May 9th.—Treatment: Pot. iod., gr. i.; creasote, ℥ v. four times daily.

May 11th.—Patient's condition not so favorable; lividity more marked. Some puffiness about the eyelids. Treatment: Tr. belladonnæ, ℥ v. four times daily.

May 15th.—Conditions more unfavorable; pulse rapid and irregular area of cardiac, dulness increased showing dilatation of the right heart. Treatment: Quin. sulph., gr. i. every hour for six doses; amm. brom., gr. xii. at 4 and 8 p.m.

May 16th.—Very irritable and restless; marked puffiness of the face; extremities show signs of commencing edema. Examination of urine shows presence of blood and albumen. For some days at this period the secretion of urine was almost suspended. Treatment: Morphia sulph., gr. 1-20 at 8 p.m.; tr. belladonnæ, half the previous dose.

May 17th.—Patient much weaker; the response to free stimulation is slight. At 2 p.m. commenced the continuous administration of heated oxygen. Liq. strych., ℥ iv. every four hours; spts. frumenti, dr. ii. every two hours.

May 18th.—General condition somewhat improved; the lividity is less marked.

May 20th.—Patient distinctly better; pulse is improved in rate and tone. Urine is passed in larger amount; still contains hyaline and granular casts; blood in considerable quantity epithelium from renal pelvis, pus. Treatment: Creasote mixture discontinued; pot. nit., gr. ii.; pot. cit., gr. v.; mag. sulph., gr. xx. every four hours.

May 22nd.—Improvement continues; apices of lungs clearing; smaller percentages of albumen in urine.

May 24th.—Left apex almost free from rales. Treatment: spts. frumenti, dr. ii. every fours hours; liq. strych., ℥ ii. every four hours. Oxygen administered only half time.

May 30th.—Oxygen discontinued.

The main point of interest in this case is that the recovery from a condition ordinarily absolutely hopeless may, with an unusual degree of certainty, be attributed to one therapeutic measure. The inhalation of oxygen undoubtedly saved life, as asphyxiation was far advanced when the oxygen was begun, and with such a condition of both lungs and kidneys only one event could be looked for. The rubber-tubing used had a flat glass mouth-piece in the end of it, which lay in the mouth even while the patient was unconscious. Intermission of the oxygen caused prompt increase of the cyanosis for the first seven days of its administration. After this period, for four days longer it was given ten minutes out of every twenty, and for two days longer only five minutes in every twenty. The enormous expense to which the Trustees of the Hospital for Sick Children went to save the life of this little charity-patient is not entirely unique, but deserving of the highest commendation.—*Selected from Canada Lancet.*

MONTHLY REPORT.

Issued Jan. 30th, 1901.
P. H. BRYCE, M.A., M.D., Secretary.

Issued by the Provincial Board of Health of Ontario for December, 1900. Showing the deaths from all causes and from Contagious Diseases in the Province, as reported to the Registrar-General by the Division Registrars throughout the Province.

YEAR.	MONTH.	Total population of province. 2,283,182	Total municipalities of province, 777.	Total deaths reported from all causes.	Rate per 1,000 per annum from all causes.	Scarlatina.	Rate per 1,000 per annum.	Diphtheria.	Rate per 1,000 per annum.	Measles.	Rate per 1,000 per annum.	Whooping cough.	Rate per 1,000 per annum.	Typhoid.	Rate per 1,000 per annum.	Tuberculosis (Consumption).	Rate per 1,000 per annum.
		Total population reporting	Total municipalities reporting														
1900....	December	2,054,863 90%	726 93%	2,172	12.2	14	0.08	70	0.4	4	0.01	10	0.06	92	0.5	215	1.2
1900....	November	2,095,471 92%	740 95%	1,984	11.3	11	0.06	50	0.3	3	0.01	20	0.1	141	0.8	161	0.9
1900....	October ..	2,214,150 97%	716 92%	2,056	11.1	8	0.04	44	0.2	2	0.01	10	00.5	120	0.6	169	0.9

YEAR.	MONTH.	Total population reporting.	Total municipalities reporting.	Total deaths reported.	Rate per 1,000 per annum from all causes.	Scarlatina.	Rate per 1,000 per annum.	Diphtheria.	Rate per 1,000 per annum.	Measles.	Rate per 1,000 per annum.	Whooping cough.	Rate per 1,000 per annum.	Typhoid.	Rate per 1,000 per annum.	Tuberculosis.	Rate per 1,000 per annum.
1899....	December	2,276,532 99%	756 97%	1,843	10.	20	0.09	42	0.2	3	0.01	6	0.02	28	0.1	157	0.8
1899....	November	2,125,864 93%	640 82%	1,501	9.	12	0.07	40	0.2	6	0.03	8	0.04	40	0.2	146	0.8
1899....	October ..	2,275,000 99%	740 95%	1,940	10.2	8	0.04	34	0.2	4	0.02	7	0.04	88	0.5	194	1.0

Total deaths from all causes for the year 1900 are 25,382.

COMPILED BY G. B. LEADSAY, *First Clerk.*

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THE DEATH OF THE QUEEN.

Almost contemporaneous to a day have been the close of the nineteenth century and the Victorian era, and that era almost embraced two-thirds of the century. When the history of medicine during the Victorian era comes to be written, what stupendous advances in all branches of that science and its kindred sciences, will have to be recorded. What has been the greatest boon to mankind conferred by medicine, will frequently be asked. And probably the two most important discoveries which will stand out preëminently will be antiseptic surgery and anesthetics. Canadians would have been glad to have seen that long reign rounded off with complete reciprocity in medicine between the Motherland and her colonies; but, then, it may be one of the first items of importance in the profession under the rule of the new monarch, King Edward VII. Nowhere more than in Canada has medicine and medical education seen such splendid progress during the reign of the late lamented sovereign. The latter may be said, indeed, to have been born almost within the era. McGill was probably the only medical college in all of the British provinces on the North American continent at the time of the ascension of Queen Victoria. It had been organized in 1824 with a professoriate of four and a student body of twenty-five. The Canadian rebellion of 1837, in

progress when the Queen was crowned, created an interim in medical education; but after a short set-back of three or four years, it began to assume new life, and from thence onward flourished vigorously, until to-day Canada has a system of medical education of which she may well be justly proud—and many of her graduates are in the very front ranks in the world of medicine.

The last illness of the Queen has been given us in the columns of the *Lancet* of January 26th, 1901. From it, one can gather that the Queen's health had not been good for twelve months past, what seeming to cause most anxiety being periods of transitory aphasia, thus indicating that the cerebral vessels had suffered through time. With this exception, the balance of her arterial system, as well as the several organs of her body of vital importance seemed to have been in perfect health. "It is important to note," says the *Lancet*, "that, notwithstanding the great bodily weakness and cerebral exhaustion, the heart's action was steadily maintained to the last, the pulse at times evincing increased tension, but being always regular and of normal frequency. Beyond the slight facial flattening there was never any motor paralysis, and except for the occasional lapses mentioned, the mind cannot be said to have been clouded. Within a few minutes of death the Queen recognized the several members of her family."

When the dread, but not unexpected, news arrived in Canada that the beloved Queen was dead, that her great yet simple life was ended, that her glorious reign had ceased, it yet came withal with something of a shock. So long had she ruled over the destinies of the British Empire, as indeed by law as well as by love, that her subjects had for a long time held fast to the delusion that the Queen would never die. When the reality was, however, pronounced, a profound sympathy immediately seized fast upon the nation, and in no place was this solemn silence more evidenced than in the halls of our medical colleges, generally so boisterous, but now hushed and silent.

In no place was a better tribute paid to the memory of the departed monarch than was that paid at McGill. There, on the afternoon of the 2nd of February, did the Faculty and students gather in a body. The entire medical faculty attended, and the students, to the number of five hundred, marched to the Queen's statue in Victoria Square. Four students, we are told, headed the

procession, bearing on their shoulders a large cushion some four feet in diameter, constructed out of natural carnations, violets and daffodils. This emblem was reverently laid at the foot of the statue, whilst all stood around in reverent sympathy with uncovered heads. Attached to the cushion, with a piece of McGill ribbon, was a card bearing the inscription: "A token of life-long veneration and esteem from her loving and faithful subjects, the McGill Medical Students."

By this patriotic and sympathetic act, McGill stands as the embodiment of that sincere sympathy which animates the breasts of all medical faculties, all student bodies and the entire medical profession in the Dominion of Canada throughout.

The Queen is dead! Long Live the King!

PATENT MEDICINE LEGISLATION.

A bill is to be introduced during the present session of the Legislature which aims to control to some extent the sale of patent medicines in the Province. The principal provision compels every manufacturer, putting up such preparations to take out a license, for which $1,000 will be charged, and is designed, apparently, for the protection of the public against irresponsible persons placing, useless or harmful mixtures upon the market. In reality, it appears to us the intention of the framers of the bill is to freeze out, by the enactment of a large license fee, all the small concerns, so that the large firms may have the dear public, in whom they are so interested, more entirely under their care.

It would be well before any legislation in this line is enacted, that the whole subject of patent medicines should be gone into and some means provided for the intelligent supervision of the entirely irresponsible and often ignorant manufacturers of these "cure-alls." We hear constantly urged as an argument against the liquor traffic, the enormous waste of money it involves and the harm done its victims. It is doubtful if as much money is not thrown away on the purchase of so-called consumption cures, kidney cures, female cures and hundreds of other cures, most of which are of absolutely no use for the purpose for which they are advertised nor for any other, and it is further doubtful if more harm is not done by the patent medicine men than by the "rum sellers." That there are honorable firms engaged in the business is true, but that there are also many men who advertise and push remedies which they know to be useless and often harmful is likewise true. Cures for consumption are advertised, and the money which should provide food to go into the poor victim's stomach, goes into the pocket

of the nostrum vendor, as the result of an alluring and lying advertisement.

Such a business is probably the meanest and dirtiest in which anyone could engage. But they do not stop at that. Remedies are put on the market with the apparently deliberate intention of developing drug habits in innocent purchasers. We know cases where workingmen, users of a largely advertised catarrh snuff, have become so addicted to its use (it probably contains cocaine) that they have been compelled to spend as much as a dollar a day in the purchase of it. Whiskey would be cheaper, and certainly less harmful; but the sale of whiskey is governed by all sorts of legislative enactments. We believe that no proprietary medicine should be allowed to be exposed for sale unless it were first proved to the satisfaction of a competent authority that it could reasonably be expected to be of value in the conditions for which it was supposed to give relief, and that without any supervision it could be safely used. The ingredients should be plainly stated on the bottle or package.

TREATMENT OF INEBRIATES.

Another matter which will probably come up at the present session is the advisability of appropriating a sum of money for the treatment of inebriates. It seems a difficult matter to convince the ordinary man that drunkenness is often a disease and should be treated as such. The idea that dipsomaniacs have only to exert their will power and make good resolutions in order to reform, is so deep-rooted that it is hard to dig it up. The best argument which can be advanced in support of the suggestion that drunkards should be committed to some other institution than the jail, is that imprisonment has proved utterly useless from either a deterrent or corrective standpoint. There are now sent to jail every day as drunkards those who have no more right to be punished for their drunkenness than they should be for having typhoid fever. It is to be hoped that the present session will see the inauguration of a more humane and more scientific treatment of inebriates.

News Items.

THE Dominion Government during the past year made 17,785 tuberculin tests in cattle, 358 reacted to the test.

PULMONARY diseases following the grip along with diphtheria swelled the death list of Toronto during the month of January.

The Tuberculosis Conference summoned by His Excellency the Governor-General opened in the Normal School, Ottawa, on the 14th inst.

Dr. P. D. GOLDSMITH has been appointed surgeon to the Deaf and Dumb Institute, Belleville, in place of Dr. Eakins, recently deceased.

Dr. H. G. BARRIE, who was the Young Men's Christian Association representative in South Africa, will shortly proceed to Shanghai on similar work.

THE Board of Health of Ottawa have recommended to Council that the resignation of all the sanitary officers, including Medical Health Officer Dr. Robillard, be demanded.

SURGEON-CAPTAIN LEONARD VAUX (Trinity '95) has been appointed chief medical officer in connection with enrolling recruits for the South African Constabulary in Canada.

Dr. F. J. SHEPHERD, Montreal, has been elected Vice-President of the Medical Congress and President of the section on pathology which meet in Havana, Cuba, during the present month.

UP to January 19th, 681 cases of scarlet fever have been recorded in Montreal since the 17th of September, 1900. There have been 139 deaths, which is a death rate of 20.23 per cent.

THE annual report of the Asylums of Ontario, lunatic and idiotic gives the population as 5,152. During the past year 254 patients recovered, 311 were discharged on probation, and 269 died.

THERE were 282 pupils at the Deaf and Dumb Institute at Belleville during the year ending 30th September, 1900. Of these 152 were males and 130 females. At the Blind Institute, Brantford, there were 61 males and 52 females, which was slightly lower than that of the previous year. From this the blind are said to be decreasing in Ontario.

DURING the cold snap in the latter part of January, when the thermometer was at 20 below zero, some of the patients at the Gravenhurst Sanitorium lived and slept in tents with positive enjoyment all the time.

Dr. J. G. MACDOUGALL, of Amherst, N.S., has been appointed Provincial Examiner in Anatomy, in connection with the medical college of Halifax, N.S. Dr. MacDougall was gold medallist in his class at McGill University.

Dr. E. P. LACHAPELLE, on behalf of the Association of Physicians of the Province of Quebec, has entered an action against the Viavi Company of Montreal for unlawfully attending a citizen of that place and receiving a fee for such medical attendance.

Dr. CHESTNUT, Medical Superintendent of the Winnipeg General Hospital, while recently attending to his duties in the ward was suddenly struck blind. He had previously lost the sight of one eye. The sympathy of the profession throughout Canada is with him.

THE corporation of McGill University, at the suggestion of the Medical Faculty, will establish a new post-graduate course in legal medicine. There is talk also of increasing the matriculation standard so as to make it equivalent to the highest requirements of any of the provinces.

FOR "counter prescribing" twelve Toronto druggists have been recently walking the carpet before the Colonel. Some have been fined $25.00 and costs, or an option of thirty days in gaol with free feed and no work. The latter should prove a tempting alternative. Now will you be good.

THE following now comprise the staff of the Philadelphia *Medical Journal:* Editor-in-Chief, James Hendrie Lloyd, A.M., M.D.; Associate Editor, Julius L. Salinger, M.D. Assistant Editors: Joseph Sauer, M.D., D. L. Edsall, M.D., J. M. Swan, M.D., F. J. Kalteyer, T. L. Coley, M.D., and W. A. N. Dorland, M.D.

ASYLUM physicians moved: Dr. Wilson, assistant physician at the Brockville Asylum, has been transferred to the London Asylum to take the place of Dr. A. T. Hobbs, who has resigned to practice his profession. Dr. Laidlaw, Assistant at the Orillia Asylum, who has just returned from South Africa, has been promoted to the vacancy at Brockville. Dr. St. Charles, also of the Orillia Asylum, has been transferred to the Hamilton Asylum to succeed Dr. Herriman, recently transferred to Kingston. These changes took effect February 1st.

THERE were four deaths during the past year amongst the lepers at the Lazaretto, Tracadie, N.B., and three new admissions. There are now twenty lepers in the institution, thirteen males and seven females. Dr. Smith, the physician in charge, states that he has noted encouraging results from his trials this year of chaulmoogra oil and creolin.

Dr. J. H. ELLIOTT, formerly superintendent of the Gravenhurst Sanitorium, has returned to Canada after an absence in England and continental lands for two years. Amongst other places he visited the West Coast of Africa at the instance of the "Tropical School of Medicine," where he investigated the phenomena of malaria, in connection with two other physicians.

QUEEN'S Medical Faculty will found a new scholarship in medicine in commemoration of Dr. Fife Fowler, Dean of the Faculty, who has given forty-six years of service to the college. It will be known as the Dean Fowler scholarship. For the purpose $10,000 is required, and the graduates of Queen's throughout the United States and Canada will be asked to contribute this sum, of which a goodly portion has already been made up by the Faculty. Amongst themselves also the Faculty will raise an additional $10,000 for the purpose of enlarging and improving Queen's medical building.

THE quarterly meeting of the Ontario Board of Health was held in Toronto during the first week in February. Dr. E. H. Vaux, of Hamilton, the chairman, delivered his annual address. In it he referred to the smallpox outbreak during the past year throughout the United States and Canada, and spoke of the prompt action taken by the Ontario Board in stamping out this dread disease in twenty distinct districts where it had appeared in the Province of Ontario. Amongst other matters referred to was that of tuberculosis, which was still on the increase; and diphtheria, which had been very prevalent in Toronto, where 149 deaths had been recorded during the past year. In the entire province the total deaths from this cause had been 486. The Board of Health will co-operate with the railway companies in an endeavor to secure proper and efficient disinfection of Pullman coaches after having been occupied by consumptives.

Obituaries

DR. CHARLES W. PURDY.

Dr. Charles W. Purdy, the eminent Chicago physician and leading authority on uranalysis and urinary diagnosis, died recently in that city. He was born at Collins' Bay, Frontenac County, Ont., on the 18th of June, 1846, of United Empire Loyalist stock. He received his literary course at Victoria College, Cobourg, and his medical degree from Queen's University in 1866. He commenced the practice of medicine in the County of Hastings, where he resided for a year, when he removed to Chicago, where he has since resided. In recognition of his distinguished services to science and the profession of medicine, his *alma mater* some years ago conferred upon him the degree LL.D. Medicine Canada and Queen's mourns a distinguished son. Death is said to have been caused through acute uremia.

DR. ISAAC RYALL.

Dr. Isaac Ryall, Hamilton, Ont., died on the morning of the 20th of January. He had been ill for a week, and his death was due to hemorrhage from the stomach. Deceased was born in Fethard, Ireland, in 1830, and came to Hamilton over half a century ago. There he practised medicine for many years, and for the last twenty-six years had been medical health officer. During the Fenian Raid he was surgeon to the 13th Regiment, but he retired some years ago with the rank of surgeon-major. He was a member of Barton Lodge, A. F. and A. M.

Dr. G. H. DUNLOP, Moncton, N.B., is dead at the age of 45 years. Death was caused through heart failure.

THE death is announced of Dr. Eakins, of Belleville, Ont., for many years physician to the Deaf and Dumb Institute.

Abstracts

INDUCTION OF ABORTION.

F. Caruso *(Arch. di Ostet. e Ginec.)* describes the second case, in which he has induced abortion by means of curettage. In it, as in the first case, which he published in 1894, the indication for induction was hyperemesis gravidarum, but there was an additional necessity, consisting in the presence of pulmonary phthisis. There were also signs of metritis. Under chloroform the cervix was rapidly dilated with Küstner's dilators, the uterus was emptied by means of Rapin's curette and forceps, and iodine was applied to the uterine interior in the hope of curing the endometritis. In a few hours the vomiting had ceased as if by magic *(come per incanto)*. On the following day the temperature began to fall, and the operation was soon quite recovered from; the pulmonary condition remained much the same. A list of about thirty-seven cases, in which this method of inducing abortion has been used by various obstetricians, is given, from which it seems there has been no maternal mortality. The indication has generally been hyperemesis, but it has also been undertaken for phthisis, for pelvic contraction of high grade, for syphilis, melancholia, septicemia, and hystero-epilepsy. Caruso contrasts it with the injection of glycerine into the uterus, the application of iodine to the interior of the uterus with a metallic sound, the introduction of a piece of solid nitrate of silver into the uterus along with the giving of ergot by the mouth, and the injection of tincture of iodine through a catheter right up to the fundus uteri. He believes that it excels all these methods; that, in a word, it is the procedure of election for forced extemporary induction of abortion in the first three months of pregnancy.—*Brit. Med. Jour.*

SYMPTOMS AND DIAGNOSIS OF MEMBRANOUS COLITIS.

Membranous colitis is usually a primary disease (Boas, *Deutsche Med. Woch.*), though it may be a complication of appendicitis, cholelithiasis, intestinal sand formation, larvæ of flies in the colon, carcinoma of the ascending colon, and uterine diseases. It affects women more often than men, and consists in a peculiar catarrh of the colon, with a tendency to the formation of plastic casts. The disease described by Nothnagel as "colitis mucosa," which is characterized by paroxysmal attacks of colic, with the expulsion of mucous masses and the perfectly normal behaviour of the intestine between the attacks, is very rare. Even when these symptoms are present the cause is usually catarrhal colitis. Boas

produced typical membranous colitis by irritating the intestine with solutions of astringents, especially tannin (1 to 2 per cent.), nitrate of silver, alum, and acetate of lead. This result is most often observed when the enemata are given to patients suffering from ordinary colitis, with diarrhea; typical membranes are passed a few days after the beginning of the treatment and persist as long as the injections are employed, but disappear when they are discontinued. The writer thinks, therefore, that the addition of apparently harmless substances, such as borax, bicarbonate of sodium, glycerine and soap, to the water of enemata, or even water itself, if used at improper temperatures, may increase the secretion of intestinal mucus, or even produce catarrhal colitis. Possibly also certain astringents or purgatives may produce membranous colitis when taken by the mouth; they certainly may produce ordinary catarrh. The most constant symptom of membranous colitis is obstinate constipation. Colic is frequently present. The characteristic membranes are passed alone or mixed with the feces; they often alternate with structureless mucus, so that there are all gradations between ordinary mucous and membranous colitis. In cases in which there are suspicious symptoms, and, apparently, no membranes, the bowels should be irrigated; this often brings away membrane. The large intestine should be palpated for tenderness, and enteroptosis should be excluded. The hysterical and neurasthenic condition of many patients with membranous colitis is, according to the writer, merely a common complication and not a characteristic symptom. The course depends on the degree of intestinal atony present ("Review," p. 494). If normal intestinal activity can be established, the evacuation of membranes ceases. The obstinate character of the disease and the frequency of relapses, prove how difficult it is to permanently cure habitual constipation. This should never be treated by drastic purgatives, which are probably themselves a frequent cause of membranous colitis.—*Med. Rev.*

APICAL PULMONARY CONGESTION.

Samocovlieff points out the importance of careful diagnosis between certain forms of apical congestion and phthisis (*Thèse de Lyon*). In many instances apical congestion exists as an independent condition, while in others it is secondary to some other lesion of which it is a complication. Thus, in the first case, it is met with in gouty and rheumatic subjects, and arthritic congestion of the apex, with or without hemoptysis, is well recognized, and many cases are now on record. On the other hand, as a pathological condition related to some other disease, it may be met with in the course of typhoid, acute articular rheumatism, influenza, measles,

whooping-cough, malaria, nephritis, Grave's disease, and cachexia of malignant growth. The frequency of such a complication seems to be very variable, as in some of the diseases mentioned hemoptysis is a most uncommon symptom. The writer subdivides such cases into acute and chronic. In the first there is, of course, more or less pyrexia, but this is of the type of the prevailing disease and in no way resembles the tuberculous form. There is usually some cough, which may or may not be accompanied by expectoration. When this latter is present it may contain faint streaks of blood, or even dark sanguineous pellets. Occasionally the blood is much more abundant, especially in arthritic cases supervening rapidly. Physical signs show increased fremitus, impaired percussion note with prolonged expiration, and crepitations of various size. It is at once evident that the diagnosis of apical tubercle is very likely to occur to the mind of the observer; but the fact that the patient's general condition is quite out of proportion to the symptoms, should at once put him on his guard as to the possibility of the pulmonary apex being in a condition of simple acute congestion. In the second group, where the congestion is of a more chronic kind, there may be, on the one hand, somewhat greater difficulty in coming to a conclusion, but the careful history of the case and bacteriological examination of the sputum should prevent any mistake. It is in this group that occurs that peculiar form of apical congestion met with in some cases of malaria. The history of any such disease ought, therefore, to suggest not only the possibility but the strong probability of apical signs being due to the congestion. We probably find here the explanation of many so-called cases of cure of phthisis from certain well-known health resorts, such as Ems, Eaux-Bonnes and Cauterets. In reality these have been cases of what Samocovlieff describes as arthritic apical congestion.—*Brit. Med. Jour.*

HEART DISEASE AND INFLUENZA.

The commonest cardiac affections due to influenza are motor and sensory neuroses (Schott, of Nauheim, *Berlin. Klin. Woch*). There is frequently a considerable fall of blood-pressure, either during or after the acute attack, with tachycardia and arrhythmia, which have no relation to the amount of the pyrexia. More commonly, in fact, more often than in any other disease, bradycardia is found during or after the attack. In other cases tachycardia or bradycardia alternate with each other. Sensory neuroses are less common than motor; occasionaly an attack of angina pectoris ushers in the influenza. Atheroma of the vessels, which was previously unnoticeable, often advances rapidly after an attack. The influenza toxins have a directly poisonous action on

the cardiac muscle, and produce the signs of fatigue and exhaustion which are so marked, especially when there has been a too early return to work. Valvular disease is less common, and probably is usually due to a "mixed infection" with other organisms, such as the streptococcus or pneumococcus; in such cases the onset of the endocarditis may be extremely insidious. Occasionally, however, the endocarditis is due solely to the influenza bacillus, which has been found by Austin in the vegetations. More often valvular disease is secondary to influenzal pericarditis, pleurisy, pneumonia, or to a concomitant attack of acute rheumatism. The cardiac muscle may be involved secondarily by purulent pericarditis of influenzal origin, and the inflammatory process may extend to the endocardium. Lenhartz found metastatic abscesses in the myocardium, which were secondary to influenzal pneumonia, complicated by pleurisy and endocarditis. The deleterious action of the influenza toxins is especially marked in hearts which were previously weak or diseased, and in obese subjects, although there may have been previously no sign of fatty degeneration of the heart or of arterio-sclerosis. Acute cardiac dilatation, with considerable fall of blood-pressure, may supervene during the acute stage, especially in those who have previously suffered from cardiac neuroses. With the exception of acute rheumatism, no disease damages the heart so much as influenza and the recent epidemics have largely increased the frequency of cardiac disease.—*Med. Rev.*

THE USE OF OLIVE OIL IN ORGANIC AND SPASTIC STENOSIS OF THE PYLORUS AND DUODENUM.

Olive oil in large doses is highly recommended by Dr. Paul Cohnheim in organic and spastic stenosis of the pylorus and duodenum, and dilatation of the stomach consequent upon such stenosis. In his paper presented to the Thirteenth International Medical Congress, he reaches the following conclusions:

1. Cases of gastric dilatation not caused by an organic obstruction, but by a spasm of the pylorus in consequence of an ulcer or a fissure, are cured or greatly ameliorated in a short time by the daily administration of three to eight ounces of olive oil.

2. Even cases of pyloric or duodenal stenosis of a cicatricial nature, with resulting gastric dilatation, are relatively cured by large doses of the oil, systematically employed. Patients complain of no illness as long as they avoid all excesses in food and drink. In these cases the pain and resistance caused by the friction are relieved by the mechanical effect of the oil.

3. Those cases of relative stenosis of the pylorus and duodenum which are characterized by a continuous secretion, and by pyloric

spasm coming on after the principal meals, improve or are completely cured by the oil treatment.

The oil is best taken—either naturally or through a stomach-tube—in doses of about thirteen drachms, three times a day, one hour before meals. If for some reason it cannot be taken three times a day, it should be given in the morning on an empty stomach in doses of about three and a half to five ounces.

5. The oil answers three indications: it breaks the spasm, diminishes the friction, and markedly increases the nutrition; because, even in cases of very pronounced stenosis, it gets into the small intestine and is there absorbed.

6. In cases of ulcer, the oil acts on the spasm as an anodyne; provided it is pure and genuine, it produces no secondary disagreeable effect. There is no belching up, no diarrhea, and the patients take it willingly.

7. In cases of cramp or spasm of the stomach of a purely nervous origin, the oil produces no favorable effect whatsoever—a fact which may serve as a point of differential diagnosis between spasms of organic and of nervous origin.

8. By the aid of the treatment with olive oil we succeed in improving a great number of cases of pyloric stenosis with resulting gastrectasis, so that surgical interference becomes unnecessary. It is, therefore, desirable to employ this treatment in all cases of pyloric stenosis before resorting to surgical operation.—*Med. Age.*

CATALEPSY.

The cataleptic state is one which is somewhat rare in occurrence in general practice, although it is observed rather frequently in asylums for the insane. G. W. Norris (*Phila. Med. Jour.*, Dec, 15th, 1900) reports an interesting case of this disorder in a young man, twenty-three years of age, an inmate of the Pennsylvania Hospital for the Insane. This patient, a student, became very despondent after a failure to pass certain examinations. He continued to worry, ate poorly, and lost a good deal of flesh. One day he was found pounding his head against the wall. Six months later he became violent and destructive, and had to be restrained. He refused to dress or undress or help himself in any way. He repeatedly soiled clothes and the bedding with his discharges. He had not been heard to speak in six months. His limbs offered no resistance to movements and remained in any position in which they were placed for considerable periods. Because he was found masturbating, he was circumcised and blistered, and the habit checked. For nearly two years the patient's condition remained practically unchanged, although physically he had been considerably built up by food tonics, etc. Several times he screamed

loudly and once replied intelligently and volubly to an attendant who scolded him. During twenty-two months the patient has never relapsed from his cataleptic condition. The length of time his limbs would remain in given positions varied from day to day during this time. While his limbs were placed in a grotesque position, his face would be void of expression, with upturned eyeballs and a slight quiver of the lids, suggesting the almost total suspension of intelligence and oblivion to his surroundings. He would make no voluntary effort, although he swallowed food when placed in his mouth. When left to himself he would gradually lean against some object for support, his chin would sink to his chest, and his arms would dangle at his sides. His general appearance at such times, with his pale, clammy skin and scarcely perceptible respiration, was that of a corpse. On examination his knee-jerks were found to be much exaggerated. The conjunctival reflex was present, but there was no response to deep puncture of the skin in any part of the body. The pupils were normal. There was a slight divergent squint. Circulation was sluggish and the temperature was slightly subnormal. The writer discusses the etiology, duration, frequency, prognosis, and the treatment of this condition, and thinks that this patient will probably emerge from this state in time, but with probably more or less resulting dementia. Some photographs illustrate constrained positions in which the patient remained from twenty minutes to half an hour. —*Med. News.*

BRONCHO-PNEUMONIA IN INFANTS.

A recent paper by Rosenthal (*Thèse de Paris*, 1900) contains some interesting conclusions based on a study of twenty-three cases of broncho-pneumonia in infants. They are as follows: Broncho-pneumonia results from descending respiratory infections by non-specific bacteria, pathogenic or accidentally pathogenic ones. The infection is extremely contagious in infants. Out of nineteen cases of infantile broncho-pneumonia, fifteen were induced by Pfeiffer's bacillus, pure in two cases (one benign, one fatal), associated in the other thirteen cases with either the pneumococcus, streptococcus, diplostreptococcus and enterococcus. In several cases the author found the enterococcus of Thiercelin (broncho-pneumonia of intestinal origin). Rosenthal agrees with Martan that the cachexia of sucklings is primarily gastro-intestinal in origin, later becoming pulmonary in character. The terminal broncho-pneumonia progresses in an insidious fashion, the fatal ending occurs when the intestinal symptoms have disappeared. Fever is very slight, and the dyspnea scarcely appreciable.—*Med. News.*

PUERPERAL SEPSIS.

The method of treating puerperal sepsis at Bucharest is by systematic irrigation of the uterus whenever, after delivery (Draghiescu, *Annales de Gyn. et d'Obst.*, Paris), the patient has a chill, temperature of 38 C., and pulse 100. The uterus is then packed with iodoform gauze moistened with a five to ten per cent. solution of phenic acid. The gauze slightly distends the organ, and by direct contact cauterizes the surface and promotes uterine contractions. It is renewed twice in twenty-four hours. The patient recovers more rapidly with this than with any other method of treatment, and affections of the adnexa, etc., and phlebitis are much less frequent. The mortality has ranged from .05 to .22 per cent. of all accouchements since this treatment was instituted in 1895. There were three deaths, or .13 per cent., of 2047 deliveries in 1899.—*Jour. of Amer. Med. Asso.*

TREATMENT OF PUERPERAL ECLAMPSIA.

According to Porak (*Annales de Gyn. et d'Obst.*, Paris), eclampsia is an auto-intoxication of intestinal origin. He therefore treats it by copious flushing of the bowels, using 30 to 50 liters of tepid, 7 per 1,000 salt solution under weak pressure. This irrigation brings at last a discharge of pure bile, and then he desists. Infusion into the blood is also an important aid. He considers the convulsions of reflex origin, and consequently forbids all food or drinks by the stomach, and if obstetrical intervention is necessary, abolishes the reflexes by profound narcosis. Since he has been treating eclampsia on these principles he has had only five die out of forty-seven cases, and two of these deaths could not be attributed to the eclampsia.—*Jour. of Amer. Med. Asso.*

LEUCOCYTES IN ACUTE RHEUMATISM.

Achard and Loeper (*Comptes Rendus de la Société de Biol.*, December 7, 1900) have completed a study of the leucocytes count in acute rheumatic fever. In the fourteen cases studied, they constantly observed a leucocytosis reaching as high as 21,000 to the cubic millimeter; the increase was essentially polynuclear in type, rarely over eighty per cent. Toward the end of the acute period, as well as during convalescence, the eosinophiles were found rather high (thirteen per cent). Sometimes during the febrile period, myelocytes were present in two or three-per-cent. proportions. The joint fluid was examined in four cases and found to contain almost exclusively polymorphonuclear leucocytes.—*Med. News.*

Physicians' Library

The American Illustrated Medical Dictionary. By W. A. NEWMAN DORLAND, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital; Editor of the "American Pocket Medical Dictionary"; Fellow of the American Academy of Medicine. With numerous illustrations and twenty-four colored plates. Price, $4.50 plain; $5.00 index. Philadelphia and London: W. B. Saunders & Company. Toronto: J. A. Carveth & Co., Canadian agents.

An examination of the pages of this new work will readily convince any of its originality and worth. It is a new and complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry and kindred branches. These words will be found properly and clearly pronounced, accompanied by their right derivation and definition. Another worthy feature is that the work includes much collateral information of an encyclopedic character. Herein, also, will be seen new and elaborate tables of arteries, muscles, nerves, veins, etc.; of bacilli, bacteria, diplococci, streptococci, Ptomains and Leukomains; weights and measures; eponymic tables of diseases, operations, signs and symptoms, stains, tests, methods of treatment, etc.—all contributing to make Dorland's Dictionary the handiest work of its character issued to the profession of medicine.

Letter-Word, and Mind-Blindness. By JAMES HINSHELWOOD, M.A., M.D., F.F.P.S., Glasgow, Surgeon to the Glasgow Eye Infirmary. Price, 3*s*. England: H. K. Lewis, Publisher, 136 Gower Street, London, W.C.

This neat little volume is composed of five chapters, the last four being papers read before the Glasgow Medico-Chirurgical Society, and which have been published in *The Lancet*. In order to mass important matter into a compact space, the author has spent much time in careful reading, and the results of this, as well as his own observations, appear herein. That he has accomplished it in a clear and comprehensive manner is apparent. The volume is timely, and supplies literature with a want. It will no doubt meet with universal demand.