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Original Articles

CESAREAN SECTION—WITH THE REPORT OF TWO SUCCESSFUL CASES*

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The first Cesarean section in America was performed by Dr. John L. Richmond, at Newtown, Ohio, on April 22nd, 1827. Dr. Richmond states he arrived late in the evening at a new, unfinished cabin, surrounded by flooded, low land, seven miles distant from his home. There was no floor nor chimney in this cabin, and the spaces between the logs had not been chinked, so that blankets had to be held up to keep the wind of the stormy night from blowing out the candle. Two midwives were present, ministering as best they could to a young woman who had been in active, but ineffectual, labor for thirty hours. Uterine contractions were frequent and forcible, each ending in a convulsion. Exhaustion and a failing heart were evident. From the scant stock of medicines which he had brought, and with such means as the cabin afforded, he at once set about to give relief from this condition. Examinations revealed a deformity of the soft tissues of the birth canal, which rendered delivery by the natural passage impossible. Distance, the storm of the night, the flooded country and the late hour made aid from other doctors unavailable. Thus alone, weighed down by the sense of such responsibility, as can be known only by experience, for the safety of the two lives entrusted to his keeping, he studied and mentally struggled and prayed, and finally decided that only immediate Cesarean section afforded any hope for either mother or

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child. This operation had not been done in America. He must have been aware of the fact that in Europe the mortality had ranged from sixty to one hundred per cent. His experience in abdominal surgery was very limited. The use of ether as a general anesthetic was not discovered until nearly twenty years later, and antiseptic and aseptic technique had not been heard of. His equipment was an ordinary pocket case of instruments. He operated deliberately, and, as need arose, with courageous discrimination he decided that a childless mother was better than a motherless child, and acted accordingly. Anxious to know the true nature of the obstruction, he made bi-manual examinations with a freedom which shocks our ideas of aseptic precautions. He closed the wound with stitches and adhesive straps, allowing for drainage at its lower end. The child was lost, but the mother recovered, and went about her accustomed work on the twenty-fourth day, and five weeks from the day of the operation she walked a mile and back. Such was his achievement. During the nineteenth century, Cesarean section labored under the disadvantages of both a traditional and sentimental prejudice due to its early history. The enormous mortality attending the operation before the era of antiseptic and aseptic surgery made it one of doubtful expediency, to be advocated only in cases where the birth of a living child was believed to be impossible, and only to be resorted to after all other forms of delivery had been tried. As a consequence, it was performed upon women exhausted with other attempts at delivery; often after infection from repeated manipulation at the hands of several physicians, and with no, or at least incomplete, asepsis.

Twenty years ago the surgeon who had successfully performed one or more Cesarean sections was justly entitled to distinction. Now, this operation may be performed three or four times a day in a large metropolitan hospital service without causing any particular comment. Formerly, it must have been easy to decide in which cases these operations should be done, for it was held to be justifiable only as a last resort, when the birth canal was so obstructed that the child could not be delivered, even piecemeal. To-day, Cesarean section is an operation of election, in many cases coming into competition in difficult labors with other forms of operative delivery, such as high forceps, accouchement forcé, etc.

What members of our Association here, with a large obstetrical practice, have not repeatedly had not only a dead baby, but an invalided or a dead mother, following the high-forceps operation? Many authorities at the present time have scarcely any doubt of the ultimate substitution of other methods of delivery for that of

high forceps. Reuben Peterson, of Ann Arbor, goes so far as to say that, "The time is coming when the operation of high forceps will not be taught in our medical schools as an obstetrical operation." He is convinced that Cesarean section gives far better results. McPherson, consulting surgeon of the New York Lying-in Hospital, says: "If the physician undertook Cesarean section with the careless technique and lack of asepsis often used in high-forceps operations, the mortality would be appalling. Many forget that the successful use of high forceps in delivery needs greater technical facility on the part of the operator than is demanded for most other operative procedures. The serious sacrifices of life, relaxations and displacements of pelvic organs, the tears of the birth canal from forceps are in most instances inexcusable." There is still a tendency to adopt Cesarean section only after examinations by several physicians, and when all other methods have been tried and failed. Adopted in such cases, the operation stands a small chance of being successful, the patient succumbing to exhaustion or infection. The results of Cesarean sections vary according to the time, in reference to labor, the operation is performed. Reynolds said, in the analysis of two hundred and eighty-nine cases, that where the operation was performed prior to labor the mortality was 1.2 per cent., while late in labor 12 per cent. of the patients died. Routh, of London, has perhaps furnished the most convincing figures. From his list of one thousand two hundred and eighty-two cases, he found that where there has been repeated vaginal examinations, or where attempts had been made to deliver by means of the forceps, the mortality was 34.3 per cent. When the patient was in labor and the membranes ruptured, but with no attempts at delivery from below, the mortality after Cesarean section was 10.8 per cent. When the patient was not in labor, with the membranes ruptured, the mortality was 3.6 per cent., and when the patient was in labor, with the membranes unruptured, the mortality was 2.2 per cent. These figures can signify but one thing: that repeated examinations and attempts at delivery mean sepsis, and this in turn means high mortality, no matter whether the classical or other varieties of Cesarean section be performed.

There are two or three factors of paramount importance determining the success of these operations.

First.—Proper and sufficiently early ante-partum examination of the patient. In all primiparæ, at least, the pelvic measurements should be taken with the pelvimeter, and recorded, and a proper examination made to ascertain if there be any obstruction in or deformity of the birth canal, some time before labor is expected.

Second.—If the measurements or the vaginal examinations indicate any possibility of or necessity for Cesarean section, when labor begins, as few examinations should be made as possible, and these examinations should be made under the strictest aseptic precautions, preferably using gloves.

Third.—Freedom from previous attempts at delivery. It is now conceded that where, from the results of a proper ante-partum examination, Cesarean section has been decided upon at the onset or before labor, a 2 per cent. mortality is all that is to be expected. With such a low mortality as this, and with the increasing perfection of surgical technique, are we not justified, or even compelled, to decide between a clean, rapid abdominal section in preference to the slow, dangerous and oftentimes unsatisfactory or mutilating high-forceps delivery.

The indications for this operation at the present time may be enumerated as follows:

First.—Deformed pelvis.

Second.—Disproportionately large child.

Third.—Placenta previa.

Fourth.—Eclampsia, with partially dilated cervix, complicated or not by other causes.

Fifth.—Neoplasms of uterus, such as fibroids, carcinomata, etc.

Sixth.—Vaginal deformities, such as tumors or marked contractions from scars.

McPherson says: "The general shape and contour of the pelvis is as important an indication for Cesarean section as the measurements of the conjugate vera, for we now know that such irregularities as those of the Robert's type, on account of the lateral contractions of the sides, also render delivery by the vaginal route impossible, although the true conjugate may be longer than usual."

It can be readily understood, too, that even in cases where there is no malformation, and the true conjugate is normal, there may still remain the factor of disproportion of the size of the child to be born, necessitating possibly a Cesarean section in order to obtain a living child. And, upon the contrary, it is quite conceivable that a proportionately small child may be delivered through an abnormally small pelvis. About a year ago we had in our practice a case of this sort, a primipara, with the following measurements:

Inter-spinous	22	cms. instead of normal	25 cms.
Inter-cristal	25.5	cms. instead of normal	28 cms.
Extr-conjugate	17.5	cms. instead of normal	20 cms.
Inter-ischial	9.5	cms. instead of normal	10 cms.
Pubo-sacral	11	cms. instead of normal	12 cms.

We were expecting to do a Cesarean section. So certain were we of operating that we invited a number of our professional confreres, who had expressed a desire to witness the operation. Much to our chagrin at the time and since, because we have been twitted about the matter by certain physicians, after being in labor for some hours, the head engaged in the pelvic brim, and my assistant, Dr. Calder, was able to deliver a small, but healthy, living child with the high-forceps operation. Practically all modern authorities agree that craniotomy is a brutal operation, causing not only the death of the child, but frequently that of the mother as well. In the only case in which I have resorted to craniotomy, I lost both mother and child.

Craniotomy is unjustifiable, except:

First.—Where the mother is exhausted by long labor, and undoubtedly septic from many vaginal examinations and futile attempts at forceps delivery.

Second.—Where the fetus is dead, or so feeble that it is not likely to live under any condition.

Third.—Where the fetus is a monster.

Fourth.—Where, from necessities of the case, either craniotomy or Cesarean section must be performed by unskilled hands, craniotomy is probably the safest operation for the mother.

And now, in conclusion, a few words on the technique of the operation. After the usual preparation of the abdomen with benzine and iodine, I have used a six-inch incision, three inches above and three inches below the umbilicus, through the right rectus muscle. Some of the authorities are advising that the incision be made wholly above the umbilicus to avoid adhesions between the abdomen and uterine wounds. In my cases I have been able to draw the omentum down over the uterine wound, so that there has been small chance of adhesions. I think, too, that my using a continuous Lembert for the uterine wound would obviate any danger of this complication. After opening the abdomen, a long gauze roll, wrung out of hot salt solution, is packed around the uterus to wall off the intestines, and prevent the amniotic fluid from gaining entrance to the abdominal cavity. My second assistant then presses the abdominal wall firmly against the uterus while I make a longitudinal incision into the uterus, to be enlarged either with a knife or scissors. The placenta, if presenting, is pushed aside, or may be cut through, a leg grasped and the child extracted. In my last case, as it was a breech presentation, I grasped the shoulder and extracted the head first. While handing the child to a sterile nurse, and clamping and cutting the cord, my first assist-

ant grasps the broad ligaments to control the hemorrhage, and delivers the uterus through the abdominal wound, while my second assistant places a towel, wrung out of hot salt solution, across the incision for the uterus to rest upon, and to prevent any danger of skin contamination. I now extract the placenta.

My needles being already threaded with No. 2 chromic catgut, I inserted deep interrupted sutures through all the uterine tissues excepting the mucosa. The hemorrhage is now practically all controlled. I, however, insert a few superficial interrupted catgut sutures, and the peritoneal surfaces over the entire wound are brought together by a continuous suture of catgut, analagous to the intestinal Lembert sutures. The abdomen is closed in the usual way. The operation is not especially difficult to any surgeon doing abdominal surgery. The secrets of success are to do the operation before the patient is exhausted from long, continued labor, before she is infected by repeated examinations or manipulations, to have competent assistants, and to employ the strictest aseptic precautions in operating. We cannot expect a surgeon to do a successful operation for strangulated hernia, where the hernia has been down and strangulated for three or four days, nor a successful appendectomy where the case has been allowed to run on, the appendix rupture and general peritonitis develop. Uniform success in these acute abdominal infections demands early operation, operation inside of twenty-four or thirty-six hours. Nor must we expect any surgeon to do a successful Cesarean section if the patient is exhausted, as I have said, after repeated examinations and exposure to infection, after futile attempts at delivery with high forceps.

The after-treatment is the same as for any other laparotomy, or, for that matter, after the first few days, any other puerperal patient. I have performed the operation twice, and in both instances was able to save both mother and child.

My first case, already reported in the DOMINION MEDICAL MONTHLY, was a patient, Mrs. C., primipara, age 31 years, of Star City, Sask., who consulted me at my office, June 25th, 1909. Six years before this she had an abdominal operation performed in Montreal, the nature of which she did not know. She had been married eleven years, had one miscarriage in July, 1908. She had menstruated last on February 11th, 1909. In the West, she was informed that she was pregnant, by her family physician, but that it would be impossible for her to give birth to a living child at full term. As I had been her physician before marriage, she decided to come East and consult me. I found her pregnant, and having a contracted pelvis, with the following measurements:

Inter-spinous	21	cms.
Inter-cristal	25	cms.
Extr-conjugate	17.5	cms.
Inter-ischial	7	cms.
Pubo-sacral	10	cms.
Diagonal conjugate	9	cms.

I decided to keep her under observation and await the onset of labor, thinking perhaps that, if the child were small and presentation normal, she might be delivered *via naturales*. She had no untoward symptoms during her pregnancy. I had expected her to be confined along about the 18th or 20th of November. Beginning labor was delayed, however, until the 26th of November. On the evening of that day I was telephoned for, and saw her about 8 p.m. I found that she had been in labor for eight hours. Vaginal examinations showed little, if any, dilatation of the cervix. At 11 p.m. there was slight dilatation, although the pains were getting severe. At 5 a.m. the next day, as the pains were getting very severe, with little dilatation of the cervix, and as the head had not engaged in the pelvis, I decided to wait no longer, but to act while the patient was in fair condition and strong. I accordingly had her removed at once to the Wingham General Hospital and prepared for Cesarean section. With Dr. J. E. Tamlyn as anesthetist, and Drs. Margaret C. Calder and W. G. Hutchison as assistants, I operated in the usual manner. The entire operation took thirty-six minutes. The after-history of the case was uneventful. There was primary union of the abdominal incision, and the patient nursed the baby from the first. Both patients are still alive and well.

The second patient, Mrs. A., of London, was a primipara, age 32 years. Having formerly been her physician before marriage, she decided to come up from London and place herself under my care at the time of her confinement. She menstruated last normally the first of November, 1911, and in the usual course of events I had expected that she would be sick along about the first week or ten days in August. Labor, however, did not set in until the third of September. Her pelvic measurements showed contraction laterally, simulating the Robert's type of pelvis. Her measurements were as follows:

Inter-spinous	20	cms.
Inter-cristal	25.5	cms.
Extr-conjugate	18	cms.
Inter-ischial	10	cms.

I was called to see her about 5 p.m. on September 2nd, and found that she had been having slight pains since noon, and upon examination discovered that the membranes had ruptured, that it was a breech presentation, and that there was very little dilatation of the cervix. I had her removed to the hospital and kept under observation. Her pains gradually grew more severe during the night. At 4 o'clock the following morning I decided to do a Cesarean section, for the following reasons:

First.—Patient was undoubtedly one month past her normal period for delivery, and I consequently expected to have a correspondingly large child.

Second.—Pelvic measurements showed a transversely contracted pelvis of the Robert's type.

Third.—There had been premature rupture of the membranes, and consequently a dry labor.

Fourth.—A breech presentation, and the breech had not become engaged in the pelvis, after the patient had been sixteen hours in labor.

Dr. Adams being the anesthetist, assisted by Dr. Calder, I performed a Cesarean section in the usual way, and delivered the patient of a child weighing over nine pounds. There was not the slightest complication following the operation, and the patient left the hospital in three weeks in splendid condition. She is in perfect health at the present time, and has a beautiful, healthy child which, I am satisfied, could not have been delivered alive *via naturales*.

THORIUM-X.—This new agent is attracting attention in Germany. J. Plesh (*Ber. Klin. Woch.*) reports a case of leukemia and also one of pernicious anemia, with very marked improvement. It was administered by intravenous injection.

TABETIC GASTIC CRISES.—Hochenegg (*Deut. Zeitschr. f. Chir.*) believes that the cause of these in some cases of locomotor ataxia to be disease of the pneumogastric or nucleus, and advises section of the nerve. He performed this operation in two cases, the nerves being divided below the diaphragm, just above their ramification. The relief was satisfactory in one case, but not in the other.

Medicine

GRAHAM CHAMBERS, R. J. DWYER, GOLDWIN HOWLAND,
GEO. W. ROSS, WM. D. YOUNG.

Modified Cow's Milk as a Substitute Food in Infant Feeding

The subject of modified milk as a substitute food for infant feeding has been studied from many points of view, but two facts are being recognized more and more as of prime importance: First, that cow's milk is the most practicable substitute food for infants, and second, that it is just as important that the physical characteristics of cow's milk be modified as to the proportion of its food elements.

It is along these lines that First Lieut. W. E. Fitch of the Medical Reserve Corps, United States Army, has written a most practical paper upon the subject of "Modified Cow's Milk as a Substitute Food in Infant Feeding," published in *Pediatrics* (October, 1912). He studies the comparative chemical composition of healthy woman's milk and cow's milk, the general availability of cow's milk as a substitute food, the physical and chemical differences between cow's milk and woman's milk, and the modification of cow's milk with cereal decoctions.

He emphasizes the necessity of using pure cow's milk, not milk that has been pasteurized or sterilized, but fresh, wholesome milk from a healthy herd. We all recognize the fact that the milk offered for sale in the large cities is not as pure as it should be, but under the active work of the Boards of Health and the medical profession, it is rapidly improving in quality. When procurable, certified milk should always be used.

Dr. Fitch points out the fact that the modification of cow's milk with a cereal is a mechanical one, due to the gelatinized starch, which changes the hard-curdling cow's milk into a soft-curdling milk, like human milk. The casein of cow's milk clots in hard, lumpy masses in the infant stomach, the digestive enzymes cannot get at it, and any means whereby we can break up the clot and make it more flocculent will increase the digestibility of the milk; and this can be done by the use of a properly prepared cereal decoction.

Not only do cereals modify the casein of cow's milk, but they, also, through their gelatinized starch, facilitate the digestion of

fats by emulsifying the fats after proteid digestion in the stomach. This is important because, as Holt shows, the tendency to-day is to give a large percentage of fat, and the fats of cow's milk are more difficult to digest than the fats of human milk. With many infants it is often necessary to begin with an amount less than 2 per cent. of fat, and rarely is it necessary to exceed 4 per cent. There are numerous healthy infants who cannot even digest 4 per cent. of fat at any time, and many who, during the hot weather, do better on a reduction to 3 or 3.5 per cent.

Theoretically, the child under six months, because of the deficiency of salivary and pancreatic secretions, is said to be incapable of digesting starches. Practically, this is not true. Nearly every fluid in the human economy has a diastatic ferment, and, as a matter of fact, the very young infant does digest starch. We have seen too many babies successfully fed on arrowroot to deny this fact. The author quotes Finkelstein, of Berlin, whose experience and general sound judgment are respected by the leading pediatricians of the world, who is emphatic that very young children are capable of digesting starches, and quotes favorable published opinions by Jacobi, Epstein, Schmid, Minard, Keller, Newman, Heubner, and others, while our own Kerley has conclusively shown by his experiments at the New York Infant Asylum that "there is no age limit for cooked starch feeding."

The addition of cereals to cow's milk is not only allowable, but is to be most warmly recommended, not only in older, but also in very young infants. The advantages of cereal modification, in addition to the readier digestion and gain in weight, are to be found in the finer subdivision of the casein in the stomach, in the emulsification of the fat, in the disappearance of soapy and dyspeptic stools, in the proteid-sparing power afforded by the cereals, and finally, in the general increment of growth.

This is the experience of the leading pediatricists of the world. Not every infant, by any means, can take cow's milk, or ass's milk, or goat's milk; but starch foods may be added with benefit to cow's milk in the majority of cases, is established beyond all question, experimentally, chemically and clinically.

Dr. Fitch then considers the practical details of cereal modification, and gives formulas for milk mixtures, based on years of successful use. He gives, also, clinical reports upon a number of cases had with these formulas.

The article is an exceedingly clear and practical consideration of the much-befuddled question of the modification of cow's milk for infant use, and, best of all, it contains usable information.

The Acute Stage of Poliomyelitis

H. M. McClanahan, A.M., M.D., Omaha (*Journal A. M. A.*, October 22), discusses this subject in detail. He says that treatment of the acute stage has received scant consideration. If we can do nothing to modify the disease, certainly we can do something for the patient, and until specific treatment is discovered it is the duty of the physician to institute proper treatment to meet the indications in the average case. Isolation of the patient can do no harm to the individual and may protect others in the family. To my mind it is more important than rigid quarantine. The advice of the family physician is usually accepted, hence if he advises the mother at once to isolate the patient he has adopted the best measure to prevent the extension of the disease to others. If a mistake in diagnosis is made no harm can possibly result. If during local epidemics of this disease, such as prevailed in 1909 in Nebraska and during 1910 in Iowa, physicians everywhere would adopt this course many cases might be saved from exposure.

The important principle of treatment is elimination. This includes thorough depurative action on the bowels, for which McClanahan recommends castor oil, the ingestion of a liberal amount of fluid to promote excretion from the kidneys, the use of remedies to stimulate diaphoresis, a liquid nourishing diet and proper regulation of the temperature and ventilation of the room.

If the child refuses to drink enough liquid to keep up free elimination from the kidneys, then warm salines by the bowels should be given. To stimulate the skin nothing equals a hot pack. This is also of benefit in the polyneuritic type. If properly applied this is agreeable to the child, and it is always important to have the child's voluntary co-operation. A soft, white blanket, lightly wrung out of hot water (if there is evidence of stupor it should be wrung out of mustard water), is wrapped snugly about the child. A dry blanket should be wrapped over this—not a muslin sheet which absorbs water. The child should be encouraged to drink while in the pack. Some children will drink freely of grape-juice when they will not take water. When removed from the pack they should be gently rubbed dry and placed between blankets until perspiration has ceased.

The diet during the acute stage includes milk, plain, diluted or modified; buttermilk, broths, and, if there is much gas, some of the modified cereals, sometimes a poached egg, toast when properly made and fruit juices. Toast to be easily digested should be made from bread well dried, slices cut thin and heated through.

The fever seldom requires special attention, and when it does, sponging or a cool enema most safely meets the indication. Coal-tar derivatives should be avoided entirely. As a routine treatment McClanahan recommends the use of hexamethylenamine (urotropine). It is generally well tolerated by the stomach. Certain types of the disease require special consideration. By the cerebral type is meant cases beginning in a stormy way with fever, delirium or stupor, muscular rigidity, etc. It usually happens that these symptoms subside in two or three days, and if the physician has called it cerebro-spinal meningitis he begins to doubt his diagnosis. Lumbar puncture is now recognized as the only positive method of early diagnosis, but is also useful as a therapeutic measure.

In the polyneuritic type, with cutaneous hypersusceptibility, morphine may be required, at least in some cases. Relief can often be attained by the use of a suppository: Powdered opium, gr. $\frac{1}{2}$; extract of belladonna, gr. $\frac{1}{4}$; sodium salicylate, gr. 5; oil of theobroma enough for one suppository. One suppository is to be inserted every three hours until relief is attained. Here again the hot pack, as above described, will sometimes give relief. When the stomach will retain it, sodium salicylate is of benefit.

The mortality in this disease is chiefly from the involvement of the medulla, leading to respiratory failure. I think it is well to remember that this complication will occur in any type of the disease; hence such symptoms as shortness of breath, pallor of the skin with slight cyanosis of the lips, unwillingness to talk and an anxious countenance, should warn the attendant of approaching danger. Oxygen might be of benefit. If McClanahan should again see a case of this type he would do a lumbar puncture, on the theory that the bulbar paralysis might be due to pressure and that the withdrawal of fluid would tend to relieve this pressure.

Poliomyelitis from a Neurologist's Point of View

B. Sachs, New York (*Journal A. M. A.*, October 22), states that our views of the treatment of this condition have undergone a radical change. It will not do for the physician to sit idly and state that "there is little to be done." The disease calls for patient and intelligent treatment with prospect of reward. The entire aim of treatment, Sachs says, is mildly to stimulate the nerves and to exercise in one way or another muscles which cannot be exercised by will. This, he says, can be done by electricity, massage and by

active and passive exercises. He takes up in succession the proper form of electric treatment, the methods of giving massage, and emphasizes the importance of active and passive exercises especially in the earlier paralytic stage. He touches briefly on orthopedic treatment and states that as a rule much time is wasted in hoping for a return of normal conditions. If six months or a year after the onset of poliomyelitis a group of muscles shows considerable wasting, an absolute reaction of degeneration and no return of muscular power, it is useless to hope for spontaneous improvement. The orthopedist should then step in and attempt to correct the mischief done by the disease. He states that he knows of no drug which has the slightest effect on the spinal lesion or on the paralyzed muscles after the acute stage has been passed. While salicylates and mild narcotics will have to be employed in the earlier period of the disease, and even iodides and ergot may be administered in the earlier stages, there is no sufficient reason to exhibit these drugs in the paralytic and post-paralytic periods. For the relief of neuritic and muscular pains, give a combination of pyramidon, citrate of caffeine and aspirin, or aspirin alone, varying the quantities according to the age of the patient. If necessary, codeine may be added. Injections of strychnine or of arsenic are absolutely useless, he believes, though there can be no objection to the use of the ordinary blood and nerve tonics, provided the practitioner keep in mind that he is attempting to improve the general condition of the patient and is not endeavoring directly to effect a change either in the spinal cord lesion or in the paralyzed nerves and muscles. In conclusion, he insists that intelligent gymnastic exercise of the paralyzed or weakened limbs is the method to which one should pin one's faith, and from personal experience he states that the physician who directs these exercises intelligently, and who will direct them patiently, will have no reason to regret the time devoted to this cause. In recent epidemics the disease has been of such varying intensity that we have no right to claim that any case is a hopeless one, and much can be done by properly directed therapeutic efforts.

Surgery

WALTER MCKEOWN, HERBERT A. BRUCE, W. J. O. MALLOCH,
WALLACE A. SCOTT, GEORGE EWART WILSON.

The Treatment of Syphilis, from the Viewpoint of Recent Investigations. By JOHN M. THOMPSON, A.B., M.D., BOSTON.

The physician who is conversant with the principles and keynote of the modern healing art, and contemplates the exemplary services rendered during the past two years in the interest of syphilology, cannot fail to be struck with wonder and surprise. That so many eminent authorities in the field of etiology should have been disposed to pursue such persistent investigations in the effort to determine the particular organic compound of arsenic or other synthetic product capable of destroying the spirochetæ of syphilis, surely, must arouse the interest of the general reader.

While assured there was no reason to believe one should abandon the trust in mercury which five hundred years of crucial tests had confirmed, and held to be the only medicinal agent in our *materia medica* which could be regarded as a veritable specific, still the conviction entertained by so many eminent authorities in Europe and our own country compelled thorough investigation. Therefore, as a decision of the particular remedy of choice appeared to rest between mercury and that arsenical compound or synthetic product found to produce the best effects, naturally, it behooves me to bring to the reader's notice the conclusions reached by the most reputable authorities regarding the mercury preparation called *mergal*.

Among the several modified forms of mercurial medication brought to the attention of the profession of late, after cautious, practical experience, *mergal* deserves to be considered the remedy of choice, and is so regarded by eminent therapeutists. A typical synthetic product, it is composed of one part mercuric cholate and two parts albumin tannate. It is dispensed in capsules containing definitely gr. three-quarters of the former and gr. one and one-half of the latter. It is a yellowish white, loose, somewhat light powder, insoluble in water and alcohol, and almost insoluble in solution of sodium chloride. It passes through the stomach intact, and is decomposed into its constituents in the small intestine, where the mercury is quickly absorbed into the blood and excreted through the kidneys. It is indicated in all forms of syphilis, and in para-

syphilitic affections, such as tabes, general paralysis, and in the intermittent treatment of Fournier and Neisser.

As a general rule, the dose of *mergal* should begin with one capsule three times a day, continued for four or five days. On the sixth day, two capsules twice or three times a day, until ten capsules daily are taken, administered, as a rule, after meals, as thereby the best results are secured. The average patient should be treated along these lines for from ten to twelve weeks.

The reader, however, should entertain, also, a clear notion of the why and wherefore of *mergal*, and, in order that he may have an adequate conception of its therapeutic efficiency, it will be proper here to add a brief and explicit explanation of its peculiar properties.

Once convinced that mercury, as ordinarily prescribed, failed to be absorbed and assimilated to a degree sufficient not only to ensure the patient the full therapeutic value of the drug, but to prevent harmful and costly bi-effects, Overbeck and Gorup-Besanez entered upon a series of investigations, which proved that the liver was the "bone of contention," and retained a far larger amount of the drug than the other organs, and, therefore, deprived other parts of the economy from receiving their full and desired therapeutic portion.

From these facts, it became evident, if a form of mercury could be prepared, that had a close affinity to the biliary secretion, such form, after entering the alimentary canal, would undergo proper absorption, assimilation and distribution throughout the several parts of the animal economy, which must necessarily share in the destructive process resulting from the poisonous products of the syphilitic micro-organism and its products.

In addition to providing for the complete therapeutic action of mercury, it was necessary, also, to antagonize its corrosive effect in the digestive tract. This part of the problem found solution in the addition of *tannin albuminate* (with which mercury cholate possesses the closest affinity), serving as the proper adjuvant of the latter, previous to its expected therapeutic effect—a fact substantially borne out by the experience quoted below.

Apart from the employment of medicinal agents, in syphilis, however, it is hardly necessary to emphasize the importance of constitutional, supportive measures as adjuvants to *mergal*. And while detail is not called for, still it will not come amiss to mention such valuable helpmates as are certain to promote the work of reconstruction and to ensure the restoration of former well-being.

From the very start, the victim of syphilis must take home the fact that *mergal* helps those who are disposed to help themselves.

Owing to the general tendency of the disease to affect the skin, scalp, mouth, throat and eyes, it behooves the patient to adopt every precautionary means available in order to avoid probable involvement of any one or more of these parts. In short, he should observe regularity and temperance in work, sleep, diet, habits, rest, etc., and strive to the utmost to promote and preserve personal well-being.

The rank and file of physicians are compelled also to pay a proper amount of respect to the practical side of the problem of syphilitic treatment. Unlike the specialist of a large city, where abundant material is ever ready to serve him in administering as well as in determining the therapeutic value of a new remedy, the practitioner who must needs abide by existing conditions will find it awkward to give intramuscular and intravenous medication. On the other hand, what he desires is a remedial agent that will not cause pain, necessitate detention in a hospital, or prove an uncertainty in connection with injury to the eyes. Even though a longer time will be required in which to ensure desired effects, the physician must arrange to allow his patients to pursue their daily avocations, and still continue treatment to the desired end, by prescribing what fulfils every demand, and by all means does not jeopardize a patient's chances of performing each day's tasks. For these reasons, the physician can ill afford to employ the injection method, which compels personal visits to the office, an obligation often beyond the range of reason to expect patients to meet.

Now, it must be admitted that we have in *mergal* an ideal means of supplying the wants of both physician and patient; and I shall quote for the reader's benefit from Dr. Bolland, of the University of Graz, in order to confirm the truth of this statement:

"*Mergal* is superior to all other Hg. preparations that have hitherto been used internally, and in particular, on account of its safety and prompt effect; in these respects it scarcely yields to the inunction cure." (*Oestr. Aertze-Zeitung*, No. 2, 1909.)

Brunton remarks: "It appears that the metabolism of *mergal* is more regular than that of other forms of mercury, as might reasonably be expected from the scientific compactness of its structure—the compound of mercuric oxide with albumen is probably the form under which mercury . . . circulates in the blood." (*Pharmacology*, p. 684.)

Professor von Zeissl says: "I am convinced that in *mergal* we possess to-day an excellent preparation for the treatment of a large number of cases of even severe syphilis. And I can affirm with truth that it has so far been better tolerated by my patients than the

mercuric chloride or iodide, when these are given by the mouth." (*Med. Klinik*, No. 15, 1907.)

While it would be possible to acquaint the reader with the views entertained by many of our reputable syphilologists, I deem it sufficient to quote chiefly from the Nestor of all, from one who has devoted himself relentlessly and altruistically to the cause of syphilitic therapeutics no less than to that of human well-being. I refer to Dr. J. A. Fordyce who, while he appears disposed to believe that some arsenical synthetic product will be found to possess a quality indispensable to the removal of syphilis, recently reached the conclusion that arsenobenzol is not as yet deserving of a firmly established place in the *materia medica* of syphilology, and that satisfactory results from its employment have been observable only when Salvarsan, so-called, was combined with active mercurial medication.

He says: "The objections to its use are the pain which immediately follows the injection, the hospital care necessitated, and the present uncertainty in regard to its possible injury to the eye. Administration by the intravenous method entirely obviates the first objection, and it will, doubtless, be the method of choice in the future. It is, however, more difficult and requires more technical skill. If, by combining the mercurial treatment with Salvarsan, we can accomplish a cure of this infection in six months, and obtain repeated negative serum reactions, our views regarding the length of time that must intervene between the onset of this disease and marriage may be materially modified. *We are not yet, however, in a position to issue any dogmatic rules regarding this very vital question.*"

"Until we know more of the possibilities of the drug with regard to the eye, an attitude of conservatism should be preserved."

"Experience in the treatment of syphilis with the Ehrlich-Hata preparation has now been sufficiently extensive to enable us to draw certain conclusions regarding the effects of the drug and to cause us to modify some of the very enthusiastic early reports as to its curative properties. The impression so widely prevalent when Ehrlich first announced his discovery, that it would be possible with one dose thoroughly to eradicate the infection, may be true in a limited number of cases, but the relapses which have taken place in a certain percentage have proved that this opinion was premature." (Reprint from *Jour. Am. Med. Assn.*, Jan. 21, 1911.)

Fordyce also says: "In the primary and secondary stages of the disease two doses of Salvarsan, combined with active mercurial medication, materially shorten the duration of the disease." (Reprint from *N. Y. Med. Jour.*, May 6, 1911.)

In closing this paper, I cannot refrain from expressing my sentiments regarding the cause of experimental investigation, the results of which, naturally, concern each and every follower of Æsculapius, and to the extent that it would seem as if we could well afford to display more caution and better judgment in the future than we have been disposed to do in the past. Furthermore, while medicine still remains an art, there is no reason why we should fail to forget to profit by experience, and to abide by established precedent in waiting for the sanction of those authorized to determine when a remedy deserves therapeutic employment. For failure to entertain proper respect, on the part of the profession, in matters so sacred and serious, means arousing the suspicion and mistrust of the laity, the real significance of which I may readily allow the reader to interpret for himself.

While syphilis is a disease that calls for and yields to medicinal agents, the fact must not be lost sight of that it is chronic, malignant, and shows no special preference for one organ, or part, more than for another. Like tuberculosis, however, it runs an insidious, progressively devitalizing course, intent upon breaking down the body's internal defences.

Now, granting, as we must needs do, that disease is removed by a natural (*vis medicatrix naturæ*) rather than by an artificial or remedial process, it becomes plainly evident, there is little ground for believing that specific remedies have been, or ever will be, discovered. The physician, therefore, who strives to the utmost to promote and conserve the vital force, or disease-resisting powers, of his syphilitic cases, who does not claim virtues for drugs which do not possess them, and abides by the irrefutable principles of the new school, will have no occasion to regret the employment of *mergal* during the time that "Salvarsan" is being weighed in the balance—only eventually to be found wanting, in all probability.

EPISTAXIS.—*Med. Review of Reviews* says a strong solution of antipyrine (20 per cent.) on cotton is the most effective. Hydrogen peroxide is also good. In the habitual form, give hydrastis and hamamelis internally to prevent recurrence.

THERAPEUTIC NOTES

Lung Tuberculosis.—Balboni (*Boston Med. and Surg. Jour.*) considers that after eighteen months' experience with artificial pneumothorax, this procedure has a place in the treatment of lung tuberculosis. He says it is justifiable to try any new treatment in tuberculosis of the lungs. This method of treatment has given good results.

Hammer Toe.—W. J. Merrill (*Am. Jour. Orthopedic Surgery*) transplants the extensor tendons into the metatarsal bone. This preserves the function of the muscle. It also prevents atrophy of it. The muscle pull raises the metatarsal head, lessens the tendency to one feature in the mechanism of hammer toe, and as well, often relieves an associated metatarsalgia. The flexors are implanted into the base of the first phalanx.

Pituitrin in Child-birth.—Malinowsky (*Zentr. für Gyn.*) says pituitrin seems to possess a happy combination of therapeutic qualities—utero-vasculo-heart tonic. In proper doses it has a prompt ecbolic action. One dose of 1 cc. was found entirely adequate. The maximum single dose which still gave good results was 1.3 cc. A half dose, as well as repeated small ones, exhibited a weaker action. The action begins in three to seven minutes after an injection. These injections are entirely painless. The duration of action of one dose is about an hour. It seems to act most favorably in the first and third stages, and is apparently without danger to mother and child. It seems to be contraindicated in heart and kidney diseases.

Obesity.—Galisch (*Med. Klinik, Berlin*) reduces the weight successfully in corpulent patients by a simple measure. He reduces the amount of food taken after mid-day. By this method the patient has less opportunity to build fat at night time. The appetite receives satisfaction at breakfast and noonday dinner. For supper, one small sandwich and a cup of tea or coffee is allowed. Work or exercise is prescribed for the afternoons. Of the patients treated in this manner, all lost one or two pounds a week. There was no weakening.

Eclampsia.—C. Holste (*Monat. für Geburt. und Gyn., Berlin*) says the essential feature of Stroganoff's treatment of eclampsia is the long-continued administration of morphine and chloral hydrate. Avoid all external irritation by quiet and darkening of the room; in some cases, chloroform; delivery by forceps or version in extreme cases. The dosage is as follows: Immediately 0.01 or 0.02 gm. morphine; one hour later, 1.5 or 2.5 gm. chloral hydrate; the third hour, 0.015 gm. morphine; the seventh hour, 2 gm. chloral, and the thirteenth and twenty-first hours, 1.5 gm. chloral. He discontinues the drugs as soon as marked improvement is noticed.

Measles.—D. I. Connolly (*Practitioner*) gives a hot bath, immediately followed by a thorough application of oil of eucalyptus, to the entire cutaneous surface, except the hands and the face about the nose, mouth and eyes. Irrigate the mouth daily with weak alum lotion, and apply glycerine and borax to the mouth and gums. Carbolic oil, 1-10, should be applied to the tonsils and fauces morning and evening. Each day for four days the patient should have a blanket-bath, morning and evening, and then another eucalyptus inunction. Connolly believes, by giving particular attention to the mouth and throat, that he is striking at one of the chief strongholds of the disease. Out of 160 patients so treated, there were eight deaths, a case mortality of 5 per cent. Seven of the deaths were due to gastro-enteritis, and one to meningitis.

Cardiac Tonics.—According to the *J. A. M. A.*, digitalis can have its place taken by no other drug, in loss of compensation in chronic valvular disease. It has its greatest success in the valvular lesions that cause enlargement of the left ventricle, although it also acts for good on the right ventricle, but has little action on the auricles. It is simply a question of muscle. The heart muscle being somewhat similar to other muscles, should be stimulated moderately at first, and not overworked. It should be "trained." Large doses, then, should not be given to overstimulate suddenly, as a rule. Strophanthus cannot be compared to digitalis, except when the glucoside, strophanthin, is administered subcutaneously or intravenously. Strophanthin given intravenously has been shown to save life. It acts quickly and has a lasting effect. Caffeine is indicated if digitalis is contraindicated, and when the patient is not nervously excited, but stupid or apathetic; also when diuresis is desired. Strychnine is a much over used drug, although it is a valuable stimulator and heart tonic when used properly. It promotes museu-

lar activity of the heart much as it promotes all muscular activities. In the low blood-pressure of serious illness, such as pneumonia, it by no means raises the blood pressure. Strychnine is a general nervous stimulant, especially of the spinal cord. It is indicated when the heart is acting sluggishly and the contractions seem incomplete, and when digitalis either is not indicated or is not acting perfectly.

Gout.—George L. Kahlo (*The Therapeutic Gazette*) has employed atophan—a definite chemical substance discovered by Nicolaier, of the following formula: 2 phenyl-chonolin and 4 carboxylic acid—in 48 cases. All were in adult life. In every case of gout in its typical form the administration of atophan was followed by a reduction in temperature and a lessening of the pain and swelling within a very few hours, and in practically all by a complete subsidence of these symptoms in from twenty-four to forty-eight hours. A large majority of the patients had been treated by colchicum, the salicylates, aspirin, etc., and almost without exception they stated that the relief obtained from atophan was greater than that from remedies previously employed. Atophan is dispensed in tablet form, containing 7 1-2 grains. The dose varies from 30 to 60 grains per diem. In most cases, Kahlo prescribed after each meal and at bedtime.

Cirrhosis of the Liver.—Duckworth (*Practitioner*) says the gastric catarrh and intestinal sub-inflammatory conditions demand treatment. They are early symptoms of cirrhosis. Tartrate of sodium in effervescence, with a few minims of dilute hydrocyanic acid, is useful, given every six hours. In the diet, milk and arrow-root, or yolk of eggs and milk, he has found appropriate. Useful adjuncts are whey or curds and whey, and koumiss. If there is a tendency to vomiting, a mustard plaster to the epigastrium helps. For any irritability of the pharynx, bromide of ammonia will relieve. With the return of the digestive powers to the normal, the best treatment for the liver is full doses of ammonium chloride and liquid extract of taraxacum, flavored with liquid extract of licorice. This treatment should be spread over several weeks. When the digestive powers are weak, the following combination will be beneficial: Sodium bicarbonate, gentian, rhubarb, tincture of capsicum, with nux vomica. Strong liquors should be forbidden, and acquired vicious habits should be held in check. Over the hepatic region, inunctions of biniodide of mercury ointment may be employed from time to time.

Reviews

A Manual of Personal Hygiene: Proper Living Upon a Physiologic Basis. By Eminent Specialists. Edited by WALTER L. PYLE, M.D., Assistant Surgeon to the Wills Eye Hospital, Philadelphia. Fifth Edition, revised and enlarged. 12mo. of 516 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1912. Cloth, \$1.50 net. Sole Canadian Agents: The J. F. Hartz Co., Ltd., Toronto.

This manual is the standard book on personal hygiene. In matters of human health and life conservation, mankind is just coming to know and appreciate itself. We are entering upon the era of preventive medicine; and public hygiene, as well as personal hygiene, are taking a position in the minds of the people they never did before. Personal hygiene is a subject which must be taught; it cannot be enforced; and there is no class in the community more interested than the physicians, and they must, in large measure, be the teachers. No matter where he is, he will be forever consulted, or oftener asked personal questions of this character. The need of a handy volume covering the whole range of personal and domestic hygiene must then appeal to him. This one fills the bill. This is the fifth revised edition. It is written in popular style, and technical phraseology has been altogether avoided as far as possible. The glossary will be found acceptable by the lay reader.

Building a Profitable Practice. Being a Text-Book on Medical Economics. By THOMAS F. REILLY, M.S., M.D., Professor of Applied Therapeutics, Medical Department, Fordham University, New York City. Philadelphia and London: J. B. Lippincott Company. Canadian Agent: Charles Roberts, 608 Lindsay Building, Montreal.

This book will be especially of interest to the beginner, or at best to those in the first decade of medical practice. No doubt experienced and successful practitioners will find in it much of value. The graduate, on going into practice, immediately encounters difficulties of every variety, which he was not taught, nor of which he even thought as a student. But a careful perusal of this book

will equip him in many essentials not found in text-books, noticed in lectures, or even hinted at in clinics. We can heartily recommend it to all beginners. Indeed, we would commend it to the student as the best time to acquire the invaluable information and experience it contains.

Surgery and Diseases of the Mouth and Jaws. A practical treatise on the surgery and diseases of the mouth and allied structures. By VILRAY PAPIN BLAIR, A.M., M.D., Professor of Oral Surgery in the Washington University Dental School, and associate in surgery in the Washington University Medical School. With 384 illustrations. St. Louis: C. V. Mosby Company. Price \$5.00.

In the preface of this most interesting and instructive work, Professor Blair points out that "in spite of all the special work that has been done in the study of the teeth and allied structures, the ordinary standard of surgical treatment given to diseases and deformities of the mouth does not equal that attained in other regions. This is due largely to a rather general lack of reciprocity of ideas and observations between constructive workers in the medical, with those of the dental professions."

From the author's intimate association with the Washington University Dental School, and the Medical School of the same university, it is evident he has overcome the barrier of lack of reciprocity between these allied professions. Professor Blair, with the aid of his many assistants, has evolved a work at once exhaustive in subject matter dealt with, and replete with a wealth of illustration. He has evidently not been content to rely on the opinions of others (apart from those with whom he has been intimately associated) but has rather chosen to give to the profession the results of his abundant experience.

As a positivist of such large practical experience in his chosen field of observation, he should command the respect of our profession.

To merely mention the fact that this work embraced 44 chapters, together with 384 illustrations, should be a sufficient guarantee that the ground has been well covered.

One might devote many pages to the analysis and praise of this work did space permit. Suffice it to say, however, that such chapters as those devoted to plastic operations, malignant disease and tubercular adenitis, would in themselves amply repay the practitioner of medicine for the money spent on this book.

A Text-Book of Obstetrics. By BARLOW COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania. Seventh edition. Revised and enlarged, with 895 illustrations, 53 of them in colors. Philadelphia: W. B. Saunders Company. 1912. Canadian Agents: J. F. Hartz Co., Toronto.

In this new edition which has been brought up-to-date by a careful review of the current literature and incorporating whatever is considered useful and of permanent value is still a popular text-book for both practitioner and student.

The whole field of obstetrics has been gone over carefully, but it is still debatable in the reviewer's mind whether the combining of gynecological information is necessary in a book upon obstetrics. Gynecology is becoming more and more a surgical science, and the gynecologist without a sure foundation in the science and practice of surgery makes but a poor showing these days. The practitioner with a good surgical training which means a thorough knowledge of anatomy and pathology, will surely be a better obstetrician.

Outside of the mechanics of obstetrics a good surgeon will be a good obstetrician, as the complications of the puerperium are surgical chiefly. That the author feels this is shown in his extension of the article on diseases of the breast.

Aside from this viewpoint, one must congratulate the author upon compiling such an excellent book on the subject; containing as it does all the best of the recent researches it is a very valuable book both to the student and general practitioner.

WRITER'S CRAMP.—Noehte (*Deut. Med. Woch. B.*) says treatment must be by psychotherapy, exercises in writing, first moving the arm loosely through the air. Then he must be trained to make straight marks. Then unite the simplest letters, stopping at the first fatigue.

EXOPHTHALMIC GOITRE.—Eshner (*Med. Rec.*) has had best results from strophanthus, with or without bromides; rest. If these are unsatisfactory, resection. He says the hopes of adrenals and posterior portions of hypophysis have not been realized.

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COMMENT FROM MONTH TO MONTH

The Health Committee of the Association of Life Insurance Presidents: was created about one year ago for the betterment of life insurance service, and the first report was submitted at the sixth annual meeting in New York in December last.

It is a sign of progressive times that life insurance corporations are eager to seize hold of what the advancement in public health offers, not only in the interests of policyholders, but in the public interest as well, and possibly greater dividends.

The keynote of this report is struck in a quotation in the words of Dr. John S. Fulton, Secretary General of the 15th International Congress of Hygiene and Demography: "Public hygiene is built upon and directed by, and is everlastingly in debt to vital statistics . . . Every wheel that turns in the service of public health must be belted to this shaft."

The need for better vital statistics is emphasized in the great movement—the greatest upon earth to-day—of the conservation of human life.

As policyholders are almost everywhere, their education in personal and domestic hygiene and in public health measures, will be bound to be beneficial to all communities.

Fraternal societies should be more interested and should commence to sit up and take notice, as their universal slogan is "protection to the home."

The Question of Compensation for Reporting Cases of Communicable Diseases is engaging the attention of Ontario physicians. The Provincial Government will be asked to recompense physicians by fee for being put to this trouble. It is thought in this way more complete returns will be assured, especially in the smaller municipalities and outlying districts.

This is compulsory work for the Registrar-General's Department, for which the physician is entitled to be paid.

Every man is entitled to the dollar or the quarter which he earns.

The trouble with the medical profession as a body is that they do not stand together as a body and are not aggressive enough in prosecuting their rights.

Marriage Certificates should engage the attention of the medical profession. There has been a suggestion that all marriage certificates should be issued by the clerk of the municipality, and a movement is being made toward that end.

Doctors issue birth and death certificates and are required also to report communicable diseases.

Why not place this power in the hands of duly qualified medical men?

If we are coming to the day when no marriage will be consummated unless the contracting parties present medical certificates of physical and mental fitness, surely the issuance of marriage certificates should go hand in hand with this much to be desired innovation.

It would be a decided step forward in eugenics in this province if the medical man was empowered to issue the marriage certificate, and as well issue the necessary medical certificate.

In Canadian soil, eugenics should take root and be nurtured; for have we not taken as our prototype of Canadian citizenship, a strong, robust vigorous man, Johnny Canuck. To that end we should produce and develop.

In these pages we have several times before advocated the issuance of marriage certificates by qualified physicians; and as it is along the right lines of the tendency of the age, our provincial medical society should not stand idly by and see the issuance of marriage licenses pass into other hands when it should be in those of the medical profession.

Editorial Notes

ANESTHESIA AND ANOCI-ASSOCIATION

At the recent Clinical Congress held in New York, Dr. George W. Crile, of Cleveland, discussed methods of anesthesia introduced by him. By these methods all harmful effects to both the sensory and sympathetic nerves were excluded. Dr. Crile compared the effects of different anesthetics in his series of 1,000 cases and showed that the methods used by him reduced the morbidity and also the mortality. In the Lakeside Hospital, Cleveland, the mortality rate for all operative procedures was 6 per cent. in 1898, 4 per cent. in 1908; under anoci-association methods it was reduced to 2½ per cent.

SCHAFFER PHYLACOGENS

Under the title "Wonderful Health Guardians," *Pearson's Magazine* for January, has a popular article on the Phylacogens, as manufactured and marketed by the well-known house of Parke Davis & Co.

We have been furnished with copies of the correspondence instituted by Parke Davis & Co. when they learned Pearson's were to publish such an article in a then forthcoming number.

The correspondence clearly shows the publication of the article was discouraged by the manufacturers, as it was considered by them it would be derogatory to medical science, Dr. Schaffer and themselves.

The publishers, however, took the view that what would be interesting and instructing to their readers counted for every thing with them.

It was Edgar Allan Poe, we think, who once wrote "that, in general, it is the object of our newspapers rather to create a sensation—to make a point—than to further the cause of truth. The latter end is only pursued when it seems coincident with the former."

We have always held that popular articles of a medical character appearing in the lay press, when published at all, should be by one versed in the particular subject in hand, as, if the public demand information along such lines, they are entitled to receive the same from the pen of one well qualified to indite it, and not by a scribe who makes feature writing a special branch of journalism.

It is pretty well recognized, however, that editors would rather have even scientific subjects written about by experienced journalists than by scientific men who are not journalists. But would their readers?

We do not see how this sort of thing can very well be prevented, either by the profession, the manufacturers or the scientist. Will it come to this, that the patient will dictate to the physician the particular line of treatment to be pursued in a given case?

OZONE AS A WATER PURIFIER

The Scientific American says: In many European cities ozone works have been erected for sterilizing the drinking water, and it is reported that satisfactory results are being obtained. Typhoid, cholera and dysentery bacteria are claimed to be destroyed by ozonization process, and as the process may be used on a small scale, portable apparatus adapted for domestic use may offer a field for useful invention.

SMALLPOX IN QUEBEC

To December 20th, 1912, there were 971 cases of smallpox reported in the Province of Quebec for the six months as follows: July, 106 cases; August, 103; September, 63; October, 119; November, 495; December, 84.

According to Dr. Elzear Pelletier, the Secretary of the Quebec Board of Health, these figures are only a small percentage of the cases, as many municipalities refuse to report their cases of contagious diseases.

THE PINEAL BODY

Leonard J. Kidd, in *The Medical Chronicle* for Dec., 1912, reviews the histological, experimental and clinico-pathological evidence on the subject of the pineal body. This is accumulated from 65 recorded cases. His conclusions are as follows:

(1) The facts of comparative anatomy, embryology, histology, clinico-pathology, and experimental physiology, point to the belief that the pineal body is functional in all those vertebrates which possess one.

(2) The pineal body is a metamorphosed organ; not a rudimentary, useless, degenerated, degenerating, or disappearing organ;

the phenomena, which have been urged in favor of the latter hypothesis, have been erroneously interpreted.

(3) The pineal body probably furnishes an internal secretion; the crucial test for this may prove difficult of attainment: it has not yet been attempted.

(4) So far as our at present imperfectly applied experimental studies have taught us, the pineal body of very young birds and mammals has an inhibitory action on the development of the testes and—probably through them—on bodily growth and the appearance of the secondary sexual characters.

(5) A relationship of the pineal body with the ovaries is suggested by certain experiments of Biach and Hulles, but has not yet received confirmation from those of Foa (1912).

(6) A relationship with the pituitary and the adrenal cortex is probable, with the thyroid and thymus possible; but on these points nothing certain is yet known.

(7) Histological studies seem to show that the pineal has at least one other function besides its pre-puberal one; the former goes on to extreme old age. We have no knowledge whether it begins only at puberty or at birth.

(8) A true partial involution of the pineal body occurs normally at puberty: its meaning is that the pre-puberal sexual function has come to an end: those pineal elements which subserve that function undergo involution because their special work is finished.

(9) The neuroglial and connective-tissue elements of the pineal body probably have definite specific functions, quite apart from their purely mechanical role; the pineal body may thus really have at least three functions.

(10) The future of pineal physiology lies probably mainly in the hands of the experimentalist and the analytical and physiological chemist, to a less degree with the pathologist, and possibly to some extent with the experimental embryologist.

We are not yet in a position to say how the pineal body functions.

TORONTO AND TYPHOID

Toronto had 130 cases of typhoid with 25 deaths in 1902; in 1903, 156 cases, 35 deaths; in 1904, 133 cases, 41 deaths; in 1905, 197 cases, 45 deaths; in 1906, 259 cases, 63 deaths; in 1907, 186 cases, 58 deaths; in 1908, 201 cases, 60 deaths; in 1909, 331 cases, 77 deaths; in 1910, 739 cases, 151 deaths; in 1911, 520 cases, 81 deaths; to Dec. 26th in 1912, 276 cases, 54 deaths.

OPEN AIR SCHOOLS

The first experiment with outdoor schools for tuberculous children or those predisposed to this disease was made in Germany in 1904. According to the National Association for the Study and Prevention of Tuberculosis, there are in operation in the United States over 200 of these schools, all of which have been established since January, 1907, the first being in Providence, R. I. The association estimates that there should be one school in cities to every 25,000 of population. The results are said to be uniformly good.

SEICHES

This phenomenon was first discovered at Lake Geneva. The Swiss called the movements "seiches." Alfred J. Henry in *Bulletin No. 262 of the United States Weather Bureau* thus describes the rocking movements or seiches as observed on Lake Erie:

"It seems probable that the first effect of a strong wind upon the waters of the lake is to transfer from one end to the other sufficient water to disturb the condition of hydrostatic equilibrium which exists before the wind began. Shortly after the maximum force of the wind has been exerted, the lake tends to return to a state of equilibrium. The water that has been piled on the leeward shore of the lake will immediately recede, although the velocity of the wind may continue high for several hours, after the water falls. A condition of stable equilibrium is reached by a series of rockings of the water of the whole lake about a nodal line passing through the centre of the lake, the water at either end rising and falling alternately until a condition of rest is attained."

Thus it will be seen that the seiche movement is not a movement of translation, but an up and down movement—a "seesaw" movement.

CANADIAN MEDICAL PROTECTIVE ASSOCIATION

The eleventh annual report of the Canadian Medical Protective Association shows that that vigorous organization now has a membership of 795.

Dr. R. W. Powell, the President, in his annual report believes that the association should branch out by adding a sick insurance, seek incorporation, and as an essential requisite raise the annual fee. Progressive certainly, but a suggestion which should receive full and ample consideration.

The financial statement shows a cash balance in the bank of \$8,651.21, with all debts paid, which must be very gratifying to all the members thereof.

The solicitor's report is characterized by its brevity, as there is little to report upon. In the past official year few actions have been settled or commenced. This is exceedingly satisfactory. The existence of the association and the knowledge that many physicians are members of such an organization is apparently acting as a deterrent in bringing these annoying and mostly baseless actions.

Dr. R. W. Powell, Ottawa, has been the President since the association was organized at Winnipeg in 1901, and is deserving of great credit for promoting this association so successfully.

MEDICAL SUPERVISION OF SCHOOLS

Dr. W. A. Evans, former Health Commissioner of Chicago, says parents have a right to expect from school inspection :

That contagion will be less than in uninspected cities of the same size in the same climate.

That epidemics will be more than twice as far apart as before school inspection.

That it will never be necessary to close the schools for contagion.

That each generation will grow up stronger than its predecessor.

That there will be fewer deaf, fewer hunchbacks, fewer cripples.

That, eventually, the schools shall be properly ventilated.

Every parent has the right to expect his child to have fewer colds, fewer coughs, fewer sore throats, less rheumatism, and less heart disease than prevailed before inspection, to go through his school life without ever having been in danger of smallpox or losing a day from this contagion.

To go through school life without having diphtheria.

His child's chance of scarlet fever to be reduced to one out of six; of measles and whooping cough to be less than before school inspection.

To be told when sore throats are due to diphtheria and when to ordinary bacteria.

Not to get lice or itch or ringworm in school, or, if the child does, the school inspection shall correct the condition promptly.

To have headaches rarely or never; not to be tired at night, or listless, or pale and flabby looking.

That the child shall not become a mouth breather or get to be lantern jawed.

That he shall want to play, enjoy play, and know how to play.

That he shall make at least one grade a year and every year or so an extra grade.

That if he be feeble minded, or deaf, or blind, or crippled, or tubercular, he shall be cared for by special teachers in special schools and in a special way.

The parent should support his child in school, making little or no money during the school years.

That is about what the law says and it is good sense and good judgment as well.

If the parent is forced by law to keep his child in school for six hours a day five days a week for ten months a year for eight years he has the right to insist that the school room be well ventilated; that contagion be kept out of the group, and that the school do everything it can for the physical welfare of the children to the end that they study better, learn faster, and grow up in strength.”
—*The Medical Times*.

News Items

Perth, Ontario, will establish a general hospital.

A new hospital will be erected at Kootenay Lake, B.C.

The Welland County Hospital will build a tuberculosis annex.

North Battleford, Sask., is considering a new general hospital.

The nuns of St. Francis will erect a hospital at Limoilon, Quebec.

The Vancouver General Hospital wants \$325,000 from that city.

Dr. W. F. Hamilton, Montreal, has been visiting in New Brunswick.

The Victorian Order of Nurses will establish a small hospital at Burnaby, B.C.

The Misericordia Hospital, Edmonton, Alta., is seeking \$240,000 from that city.

The Brooklands hospital at Sydney, C.B., has been partially destroyed by fire.

River Glade in the Maritime Provinces is opening a new tuberculosis sanatorium.

Port Arthur, Ont., is considering a tuberculosis annex to the Isolation Hospital.

Toronto had 363 deaths from contagious diseases in 1912 as against 434 in 1911.

The Sisters of Providence will build a hospital at Moosejaw, Sask., at a cost of \$50,000.

Mr. George H. Gooderham, M.L.A., has donated \$25,000 to the Toronto General Hospital.

A psychiatric clinic is to be established in connection with the new Toronto General Hospital.

The Victorian Order of Nurses has been enriched by \$220,000 collected by H.R.H. the Duchess of Connaught.

The Medical Health Officer of Montreal is preparing to combat infant mortality in that city the coming summer.

Dr. W. B. Querry, Windsor, Ontario, died Dec. 12th, 1912. He was 82 years of age. He practised 30 years in Sandwich, Ont.

The Province of Quebec has commenced its new public health system. Dr. Adelard Corsin is the resident inspector in Montreal.

The King Edward Memorial Fund for the care of consumptives, promoted by the National Sanitarium Association, has reached \$1,000,000.

Dr. W. J. Wagner, for forty years a practitioner in Toronto, died the 10th of January, 1913. He was born in Rochester, N.Y., in 1849.

Dr. H. Hervieux, Montreal, one of the oldest and leading French-Canadian practitioners of that city, died on the steamer Rochambeau, en route from Havre to New York.

The Ninette Sanatorium, Manitoba, was opened in June, 1910. Since that time 433 patients have been admitted. Of this number 392 were discharged and forty died. New buildings are in course of erection, and when completed, will accommodate 110 patients. The Ninette institution will then be the third largest in Canada.

Publishers' Department

A POSSIBLE REVOLUTION IN THE TREATMENT OF INFECTIOUS DISEASE.—Are existing methods of treating bacterial diseases to be fundamentally changed? Do the phylacogens furnish the key to a new and enlightened therapy? Medical and other scientific men are beginning to ask these questions. Less than one year ago the name phylacogen had not been injected into the language. To-day you can scarcely pick up a medical journal that does not contain some reference to the remarkable group of products for which it stands. What are phylacogens? Briefly, they are sterile aqueous solutions of metabolic substances generated by bacteria grown in artificial media. The name phylacogen (from the Greek) means "phylaxin-producer"—literally, "a guard" and "to produce." The initial phylacogens were originated by Dr. A. F. Schafer in 1908, the method of preparation and technique of application being first presented to the San Joaquin Medical Society in Fresno, California, in October, 1910, and later to the San Francisco Medical Society (January 14, 1911). Subsequently the preparation of the phylacogens was entrusted to Parke, Davis & Co., the work of manufacture being carried on at the company's biological laboratories. The principle upon which the use of the phylacogens is founded is the theory of multiple infections. Three facts are set forth as the basis of the new therapy: 1. Practically all acute and many chronic diseases are caused by the metabolic products of bacteria. 2. The human subject is the host of micro-organisms that are pathologically latent, but capable of setting up a disease process under certain conditions. 3. The growth of infecting micro-organisms can be arrested and their effects neutralized by products derived from their development in artificial culture media. Five phylacogens are now available: Rheumatism phylacogen, erysipelas phylacogen, gonorrhoea phylacogen, pneumonia phylacogen and mixed infection phylacogen (the last named being applicable to the multiplicity of infections which may be said to be of questionable etiology). They are supplied in rubber-stoppered glass bulbs of 10 c.c. capacity and are administered hypodermatically (subcutaneously or intravenously). Many experienced physicians, representing both private and hospital practice, believe that in the phylacogens we have the most efficient remedial agents yet devised for the treatment of acute and chronic infections.

CONSCIENTIOUS OBJECTIONS.—Referring to the neglect of vaccination in the Seaham Harbour Urban District, Dr. Luke Dillon, M.O.H., quotes the following reasons given by parents who desired to claim exemption for their children:—(1) Smallpox is bred in the stomach, and if you keep the stomach clean there will be no smallpox. (2) God made man pure, and it would be wrong to put matter from a beast into him. (3) Would have no animal disease put into his child. (4) Would not have his child vaccinated unless the matter gave protection against all other diseases as well as smallpox. (5) Saw no good in vaccination, because although his brother had his boy done the lad had been only a week at work when he broke his leg. (6) Had none of his children vaccinated, because he had a conscientious objection to having anything done which would stop disease sent as a punishment for the sins of men. (7) Said he had a conscientious objection, and then asked, what did a conscientious objection mean. (8) Several persons said “they got the paper signed because the children were bother enough without vaccination.” As Dr. Dillon says, these “reasons” would be amusing but for the danger such ignorance involves.—*The Medical Officer.*

A SEVERE BURN. By H. B. Lee, M.D., Summerville, S.C.—My first use of Antiphlogistine in burns and scalds was accidental. I was called by telephone to Mr. J. T., aged twenty-seven, weight 180 lbs., brickmaker, a steam-pipe having exploded between his legs, scalding him badly. I ordered that no grease of any kind be used, but that cloths soaked in a strong solution of bicarbonate of soda should be laid on the parts till I could get there. I stopped at a drug store to procure another salve I had used in such cases, and by mistake the clerk gave me two boxes of Antiphlogistine. When I reached my patient I found him suffering intensely with a big blister extending from the crotch to the ankle on the inner side of both legs, at least three inches wide and surrounded by a red inflamed surface two inches wide on each side. I had used Antiphlogistine before in pneumonia and in sprains, so when I found that by mistake this had been sent I decided to try it. I covered the entire injured parts with a thick layer of Antiphlogistine (applied cold), put absorbent cotton over all, and after bandaging loosely to keep things in place, took Mr. T. home in my buggy. When I first saw him his face was contorted with pain and he could not suppress the groans that the agony wrung from him, but, as I covered more and more of the burnt surface with the dressing, I could see the expres-