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Original Communications.

THE CLINICAL ESTIMATION OF THE PRESSURE OF THE CEREBRO-SPINAL FLUID.*

By R. D. RUDOLF, M.D.

Associate Professor of Medicine in the University of Toronto.

The method of lumbar puncture was introduced to the profession in 1890 by H. Quinke, of Kiel. Since that time it has been used a great deal, and is looked upon, according to Rothmann, of Berlin, as one of the most valuable contributions to our clinical armamentarium for the study and treatment of diseases of the nervous system.

Lumbar puncture is used for the obtaining of some of the cerebro-spinal fluid for chemical and microscopic examination, and also for the study of the elastic pressure that the fluid is exerting within the cranio-spinal cavity. It is with the latter part of the subject that we are here concerned.

The subarachnoid spaces of the brain and spinal form the only cavity that normally always contains any considerable quantity of fluid. This fluid is constantly exerting a positive pressure upon the surrounding and contained structures, and it was partly with the object of measuring this pressure that Quinke first advocated his method of lumbar puncture. Since 1890 he has again and again urged that this pressure should be measured as a routine method whenever lumbar puncture is considered necessary, but this is certainly not usually done, it being much commoner to find the pressure merely guessed at by noting how rapidly the fluid drops from

* Read at the meeting of the Ontario Medical Association.

the canula; or it may spurt. During the past winter we have been doing it a good deal in the Toronto General Hospital and find the results interesting and sometimes of value.

The apparatus we use is of the simplest, and consists of a long glass tube bent at a right angle near to one end. This end is connected by a flexible rubber tube with the canula, and upon the rubber tube is placed a clamp. The whole apparatus is sterilised, and then filled with sterilised normal saline solution, and by the use of the clamp this fluid is allowed to escape until there is about 120mm standing in the vertical arm of the glass tube. The object of thus filling the tube up to this mark with the saline solution is that we may estimate the pressure of the cerebro-spinal fluid without much of this escaping first from the spinal canal, as would be the case if it ran into an empty tube. I have not seen this method mentioned anywhere and it seems of value.

The method of lumbar puncture that we use is the ordinary one; the patient being upon his side with the head low, and the back as much bent as possible. The only anesthetic that we have employed has been ethyl chloride. The little operation seems to give some pain at times, but not to a great extent, and often no more than is caused by the administering of a hypodermic injection. We puncture in the third lumbar space, where one is well below the level of the spinal cord, and it seems easiest to reach the spinal canal by keeping to the middle line. As soon as the first drop of fluid escapes from the canula showing that the subarachnoid space has been reached, the rubber tube is passed over the end of the canula, and the cerebro-spinal fluid pressure is quickly registered. It is more convenient not to use any scale upon the vertical tube, but merely to mark the levels of the fluid with a glass marking pencil, and afterwards to measure the height at one's leisure.

In a normal individual the fluid pressure is about 100 mm. of water, but anything between 40 and 150 is, according to Quincke, within the limits of health.

There are three fluctuations of a normal character noticed in the column of fluid: (a) One synchronous with the heart beat, (b) one synchronous with the respiration, the pressure falling with inspiration and rising with expiration, (c) a slower variation of a somewhat rhythmical character occurring about every ten to thirty seconds, and causing a variation in the height of the column of from 10 to 30 mm. The exact nature of this fluctuation is not clear. Further, any straining

or excitement at once sends the pressure up, and Nawratski and Arndt found the column to rise to 800 mm. during an epileptic fit in a case where it had previously been normal. If the patient's head be passively raised, and much more so if he be raised to a sitting posture, the pressure will rise very much. This rise is of course of hydrostatic nature. Theoretically the difference here should be about 600 mms., that being about the average height of the top of the cranial above the point of lumbar puncture, but, owing to the fact that the skull is a closed and rigid cavity, this amount of change does not occur. Kronig found that about 40 per cent. of the total height registered, and we found that it varied between 154 and 334, and the average (in 9 cases) was 256.7, which is 42.8 per cent. of the average 600 mms..

The fluctuations in the pressure due to the respiration and pulse are, according to Henneberg, only *transmitted* to the lower dorsal space, and hence when they are absent this absence is a valuable distinguishing point between myelitis and compression myelitis.

Without going into the very complicated question of what keeps up the normal pressure of the cerebro-spinal fluid, one may say that it depends upon the relation between secretion and absorption, and also upon the amount of solid contents. For example, if a large cerebral abscess rapidly form, this would tend to increase the total pressure within the cranio-spinal cavity. Compensation will be attempted here by either increased absorption or decreased secretion or both, but such compensation is often insufficient, and we have a pathologically raised pressure within the cavity of the skull and spine.

The communication between the subarachnoid spaces in the skull and the spine is normally so free that any increased pressure is soon equally distributed, and can hence be measured in the lumbar region. If, however, as sometimes happens, the communication between the two cavities is mechanically interfered with there may exist within the cranium a high pressure while within the spinal cavity this may be low, and in such a case lumbar measurements are of no avail. If, however the fontanelles be open and are bulging, showing an increased intra-cranial pressure, and yet the pressure in the lumbar region be low, then we could argue that there must be some mechanical obstruction about the foramen magnum due perhaps to meningeal thickening or some other structural cause.

Under pathological conditions the pressure of the cerebro-spinal fluid frequently rises. These conditions are always, according to Quincke, within the cranium, as it is here that the chief secretion and chief absorption both take place. The conditions which may give rise to increased pressure may come under the three headings of (a) proliferation of tissue which decreases space, such as tumors, etc., (b) purulent or serous exudates either within or without the brain, (c) effusions of blood either into the brain or between its membranes.

Frequently in diseased conditions the pressure reaches 300, 500 is high, 700 extremely high, but 1,000 has been recorded. As elsewhere in the body, a rapid rise will produce more acute symptoms than a gradual accumulation of a much greater extent. The nervous structures are able to accommodate themselves to an increased pressure if only given time.

There is apparently no relation between the pressure of the cerebro-spinal fluid and the blood pressure. In one of our cases, one of cerebral abscess following middle ear disease, the cerebro-spinal fluid pressure was 230, and yet the systolic blood pressure was only 90 mm. of mercury. On the other hand the blood pressure may be high, and yet the cerebro-spinal fluid pressure not raised as in a case recently observed in which there were periodical attacks of cerebral compression accompanying a cerebral tumor not of the base. During one of these attacks the cerebro-spinal fluid dropped rather slowly from the canula, showing that there was probably no marked increase in the pressure of the fluid, and yet the systolic pressure was well over 200 mm. This case was observed before we had begun to actually measure the pressure, which deprives the observation of much of its value.

When in various diseased conditions, especially in meningitis, when it is considered advisable to draw off some of the cerebro-spinal fluid the actual measurement of the pressure is of great importance.

The drainage can then be done via the glass gauge, and we can accurately know when the pressure has fallen to normal and hence the drainage should cease. Suppose, for example, that the pressure be found to be 500 mm. we could allow the fluid to escape until the pressure fell to 150, and then stop. To reduce it to below the normal suddenly would probably incur the risk of producing hemorrhage into the central nervous system from the removal of the support to the surface of the brain and spinal cord.

Occasionally it is found that the pressure falls very rapidly when only a very small quantity of the cerebro-spinal fluid has left the spinal canal. Quincke explains this by saying that a more or less complete obstruction about the foramen magnum, due to the abnormal brain being forced down as the pressure in the spinal canal is removed, has taken place. It is very urgent in such a case to at once stop the drainage. In one of our cases something of this sort happened. He was a man, aged 40, who was admitted unconscious, and apparently uremic. The urine contained albumin, and many casts. The leucocytes numbered 19,200. He had frequent fits, and Babinski's sign was present. The cerebro-spinal fluid pressure was only 54 mm., but fluctuated freely with respiration and the heart beat, and was easily raised by raising the head, all this proving that the communication between the cranium and spinal cavity was free. A few drops of the fluid were allowed to escape, and the pressure quickly fell to 40 mm., and stayed there. Post mortem examination in this case showed thrombosis of the lateral sinuses.

The only complication that we have had after lumbar puncture has been considerable headache, often lasting for a day or two. On the other hand it may not be amiss to mention that in functional nervous cases the psycho-therapeutic effect has been marked.

In this preliminary communication one would close by urging that in every case where lumbar puncture is considered advisable for diagnostic purposes the pressure of the fluid should be measured. Further, it seems most necessary that where the pressure is high and the fluid is being drained off to give relief, this withdrawing should be done *via* the measuring tube in order that we may the better know what we are doing, and when to stop.

REPORT OF A CASE OF JUVENILE PARESIS.

By J. G. FITZGERALD, M.D.,

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W. T. WILSON, M.B.,

Assistant Physician, Toronto Asylum.

The infrequency with which cases of juvenile paresis are seen in Canada might lead a student of current literature to regard it as unlikely that such cases were to be met with. It is with the purpose therefore of calling the attention of the profession to this rather unique condition that the following case is reported.

It is not our intention to review the entire literature of the subject; we will merely point out certain of the outstanding features that may assist in the diagnosis of other cases.

The condition was first described by Clouston in 1877, under the title of "Juvenile General Paralysis." Since the appearance of this first publication a fairly large number of cases have been reported, and interesting and valuable contributions to the literature of the subject have been made by Alzheimer, Mott and others. One of the most, if not the most important point elucidated by these workers is, that juvenile paresis never appears except in individuals who have suffered from congenital syphilis, in other words syphilis is a necessary etiologic factor in the causation of the disease. A second almost equally interesting fact has been established by Mott, and is illustrated in our case, namely, that the juvenile general paretic may show none of the usual signs of congenital syphilis. The real significance of this is of the utmost interest, and if we grasp it many analogies between this and certain cases of paresis in adults are evident. It is not at all uncommon for instance to get from a paretic a history of syphilis ten or fifteen years antedating the onset of the mental disease, but very frequently these patients show no evidence of a former syphilis, and they are insistent that they were entirely cured; to all outward appearances they were; but years after paresis develops.

So it also frequently happens in the juvenile general paretic the obvious symptoms of congenital syphilis are wanting, but fifteen or twenty years after birth the disease appears. Whether or not syphilis is the necessary factor in the causation of dementia paralytica is not definitely settled, and it would

REPORT OF A CASE OF JUVENILE PARESIS 551

seem, that, even with the recent advances in serology along the lines followed by Wasserman and Platt, it will be some time before the clinician can say definitely that syphilis is, or is not, necessary for the production. This is the only position an observer can fairly take, with our present knowledge, and a non-judicial leaning to one or other view is evidenced by the assumption of any other attitude.

One of the writers is engaged at the present time in a study of complement deviation in the cerebro-spinal fluid of paretics, and the results will be announced at a later date.

The history of our patient is as follows:

D. H., aged 16, Hebrew, single; public school education.

Family History.—Father living; apparently in good health. Denies having had syphilis. Is somewhat alcoholic, and has the reputation of having been a frequenter of disorderly resorts, and a friend of women of the demi-monde. His wife in describing her husband spoke of him as being "pretty sporty." Other and more definite information has been obtained which would point to the father having been exposed on many occasions, and it is the opinion of the writer, because of further evidence that will be adduced, that he has had syphilis.

Patient's mother is 54 years of age, and is in good health. She is a Jewess, and of a neurotic temperament.

There is no consanguinity between the parents.

History of the mother's pregnancies is as follows: Married when 18; her first four pregnancies all ended in miscarriages. She next gave birth to a healthy child, who is living, and has shown no evidences of physical or mental derangement. The next child lived only three weeks and was abnormal—possibly a monster. Of the next three children—two boys and a girl—the boys are healthy and well developed; the girl is distinctly neurotic, but a clever musician. The child born next lived only seven months and was never healthy. Following this there were twins, who lived only five days, dying in convulsions. The patient was the last child.

Personal History.—His personal history is interesting. He weighed eleven pounds at birth; was said to have been an unusually healthy child; had no evidences of any disease; no rash or other signs of congenital syphilis. When about three weeks old his nurse in cleaning out his mouth scratched the hard palate with her finger; this evidently became infected, and a doctor, who was called in said the child was suffering

from thrush. A mouth wash was prescribed, which patient's mother believes was too strong, because within a week the patient lost the use of his limbs, had vomiting and was very ill. This condition lasted three months when it apparently cleared up.

The significance of this trouble and its exact bearing on further developments, is rather difficult to determine. As a child the patient was precocious and unusual, but believed by his parents to have been brighter than the other children. Was a good boy; attentive to his music and read a great deal, according to his mother. He did not care to associate with other children; preferred to work at his music. The patient tells us that he made only fair progress at school, and was in the senior fourth class when he left school at the age of 14. He also said he usually adorned the foot of his class. He had early evinced a great interest in music, and his teacher reported that he made unusually good progress in his musical studies. His interests were not those of the ordinary boy of his years; his leaning towards things musical is believed to have accounted for this. He had no alcoholic history. In religion he was an orthodox Jew.

Present Illness.—The present illness. This probably dates back to the time when patient was fourteen years of age, and as is often the case exact particulars in regard to prodromata are extremely difficult to ascertain. We know, however, that the patient while getting off a street car had some sort of a dizzy spell, and would have fallen had not a fellow passenger supported him. Just at this time also he began to complain of being unable to concentrate his attention on anything other than his music, and he had some sort of an attack which lasted one week when there was a considerable degree of clouding of consciousness; some memory defect was also noted at this time. We learn that during the next two years the patient remained at home, running errands and assisting his father. During this time there was nothing to show that the disease process was developing, other than possibly some increasing childishness and a memory defect. Suddenly the patient became mildly grandiose; made many purchases without his parents' consent, and did not appear to be at all worried at not being able to pay for what he bought. Showed pronounced motor restlessness and had some vague hallucinatory experiences. He was sent to the General Hospital, Toronto, in June, 1908, and two days later was transferred to Toronto Asylum.

REPORT OF A CASE OF JUVENILE PARESIS 553

On admission he was in a condition of mild excitement; showed a marked feeling of well-being. Great motor-restlessness and considerable childishness.

His mental status was as follows: His general reaction indicated that his psychosis had extended over a considerable period, because gross psychic deterioration was evident. He had a memory defect for events both in the recent and remote past, and there was a lesion of the recording faculty. His school knowledge was recalled only with difficulty, and was rudimentary and fragmentary. His spontaneous attention was weak, and voluntary attention often distractible, difficult to maintain and direct. His general fund of knowledge was very childish in character, and there was little spontaneous thought production. He gave a history of auditory hallucinations. He was slightly grandiose but had no definite delusional fabric. His insight into his own condition was meagre, and his judgment was impaired.

A short time after admission he developed definite delusions of grandeur; believed he was worth millions of dollars; owned automobiles and was an extremely important personage. His physical examination revealed unequal, irregular and spastic pupils. The optic discs were normal. There were tremors of the lips, tongue and hands and patient's handwriting was tremulous. He had a speech defect, there being considerable slurring in articulation, particularly evident when patient was requested to repeat test sentences; tendon reflexes were diminished. Heart, lungs and abdominal organs negative; no weakness on either side. Organic reflexes intact. No Babinski or Oppenheim signs, and no ankle clonus, and a subjective complaint of vision being defective. An examination of the patient's visual fields was made, but owing to his distractibility of attention the results were uncertain.

Lumbar puncture was done and there was a spinal-leucocytosis of twenty-five cells to the cubic millimetre. The proteid content was increased and the fluid was held under increased tension. Some of the cerebro-spinal fluid was taken to determine whether or not there was binding of complement with luetic antigen, thus ascertaining whether specific anti-bodies were present. Hemolysis was present, and no binding of complement occurred. A definite diagnosis of juvenile paresis was made because of the combination of physical and mental symptoms, and the spinal leucocytosis. His memory defect could be well demonstrated by requesting him to play some-

554 REPORT OF A CASE OF JUVENILE PARESIS

thing he formerly knew, on the piano; almost invariably he forgot what came next after playing a few bars.

A short time after admission he became filthy in his habits, showed great emotional lability, with at times marked irritability. At the present time he shows signs of progressive mental deterioration, proceeding rather rapidly.

Just recently the patient gives a history of having had a focal attack; it was characterized by twitching of the right arm and right side of the face. The patient described the attack very well, comparing the twitching of the muscles to what occurred when a doctor had given him electricity, on a previous occasion. This is the only seizure he has had to date.

The symptom-complex then, that the patient presents includes, memory-defect, delusions of grandeur, general mental enfeeblement, tremors, speech defect, pupillary disturbance, a history of a focal attack and a spinal-leucocytosis. We believe therefore that the patient is suffering from juvenile paresis.

ADDRESS DELIVERED BEFORE THE GRADUATING
CLASS OF THE TRAINING SCHOOL FOR NURSES
OF THE WOMEN'S AND CHILDREN'S HOS-
PITAL, SYRACUSE, N.Y., MAY 30, 1908.

BY HENRY L. K. SHAW, M.D., ALBANY.

It was with some hesitancy that I accepted the invitation to give the graduating address this evening. I felt you were entitled to better treatment at the hands of your hospital staff, and while I question the wisdom of their choice, I feel and appreciate the honor of this occasion. As a physician I take pleasure in congratulating the members of the graduating class of the Women's and Children's Hospital on the completion of their course of training.

Medicine and nursing have and always will be, closely allied. In the parable of the Good Samaritan you recall how the Levite or lawyer and the priest studiously avoided the sick, wounded man, while the Good Samaritan, who was then, as now, a physician, bound up his wounds, took him to an Inn—it may have been a hospital—and provided a nurse.

The Jewish race had a wonderful insight into the value of sanitation and preventive medicine. The laws ascribed to Moses are not excelled by the most sanitary code of to-day. Jewish societies were founded with the sole purpose of visiting and caring for the sick long before the advent of Christ. In the early Christian Church some of the women workers were especially concerned with visiting and nursing the sick. St. Paul speaks of the deaconesses whose chief duties were the care of the poor and the sick. They ranked with the clergy and were ordained by the bishop. Phoebe was perhaps the first deaconess, and was a friend of Paul. He testifies to her ability as a nurse in that "She hath been a succourer of many and of myself also." She is credited with having started the work of the deaconesses in Rome when she made her visit there, taking with her the letter from Paul to his friends.

Until recently most of the women who devoted their lives to this work took upon themselves solemn religious vows and belonged to certain orders. The daily self-sacrifice of these women, the extent of which will never be known, constitutes a bright spot in the dark ignorance and superstition of medieval medicine.

Systematic nursing, outside of distinctively religious nurs-

ing orders, dates back to Johannes Gossner, of Berlin, who founded a "Woman's Society for Nursing the Sick" in 1833. This society sent previously instructed or trained nurses into homes not only in Berlin, but at a distance. He disliked the title "deaconess" and employed the term "pfegerin" or nurse, which is now in general use.

To Theodor Fliedner, however, is the credit given of popularizing nursing as a career and profession. Florence Nightingale herself made a pilgrimage to Kaiserwerth, and spent some time in the Fliedner School and familiarized herself with their methods and manner of treating the sick.

It is a fact, not widely known, that Dr. Valentine Scaman, one of the medical staff of the New York Hospital, instituted the first system of instruction to nurses on this continent. He organized a course of teaching in 1798, and gave a series of 24 lectures, including outlines of anatomy, physiology, and the care of children.

Nursing has attained the position of a practical scientific profession only in recent years. An important law in biology is that the excessive growth of any organism leads to its division. So in nursing. As the course of training lengthens and new opportunities for usefulness are presented, a tendency arises to specialize even in nursing. The name of your hospital suggests this thought, and to-night I wish to discuss very superficially the important period of childhood.

John Fiske has shown that of all animals, man has the longest period of infancy. This is true not only as to the actual time involved, but proportionately to the natural duration of life. This period of plasticity is the factor which has permitted man to rise so far superior to the other animals. The life of the codfish is a simple one. It is chiefly concerned with securing food and avoiding danger. It has little to learn from experience and requires no education. It has no infancy. The young puppy is quite helpless at birth, but his infancy is short, and he soon crystalizes into an adult dog. From a study of comparative biology, it is noted that the higher the intelligence of the adult animal and the more complex its life activities, the longer is its infancy or period of development. Fiske was right when he said that "it is babyhood that has made man what he is" and "out of the helplessness of the infant comes the helpfulness of man."

The keynote of this period is development. One-third the life of the individual who completes his three-score years and

ten is devoted to his development. In the first year he increases three times his birth weight. The brain and nervous system are only imperfectly formed at the time of birth. Scientists have conclusively shown that most of the child's earliest and many of his later movements are purely reflex, and not necessarily dependent upon the higher centres. This unripe condition of the nervous system is peculiarly sensitive to both internal and external influences. Children should not be looked upon as adults in miniature. They are distinctly and decidedly different, and every nurse and physician should bear this fact constantly in mind.

The early training and influences should be adapted for his unripe condition for they cannot be similar to that of the adult. For the same reasons, disease, although induced by the same cause, will follow a different course. There are a number of diseases occurring only in young children. Escherich has devised a division of the several periods of childhood which is based on certain distinctive physiologic and pathologic peculiarities of each period.

Never in the history of the world, certainly not in modern times, has so much intelligent and earnest effort been directed to the care and welfare of children as to-day. This has become a great national problem in several European countries for the birth rate is rapidly diminishing, and the infantile death rate is enormous. The study of mortality records in our own State shows what strides are being made to prevent the unnecessary slaughter of our babies. The number of deaths in New York City per 100,000 of population has fallen from 1,160 to 620 in the last decade. In Rochester it has fallen from 584 to 340, and in Yonkers from 880 to 660.

A calculation based on the present population shows an annual saving of the lives of 12,000 children under five years of age in New York City alone.

These striking results are due to many influences, but chiefly to an intelligent appreciation of the value of hygiene and preventive medicine in early childhood. The establishment of hospitals devoted to the special needs of children where nurses and physicians can receive practical training and instruction has had an important bearing in bringing about this result. The technical difficulties in the nursing of sick children have been demonstrated and overcome during your course of training, and this is not the place to enter into a discussion of how to nurse sick children or how to modify milk for infants' use.

One point which cannot be emphasized too strongly or too often is the value of maternal nursing to the child. Statistics show that out of every 100 bottle fed babies, about 50 die during the first year, and of every 100 breast fed babies, only about seven. Further than this there are many more gastrointestinal diseases among the remaining fifty than are to be found among the 93 breast fed infants.

In several cities of France and Germany the municipality pays a premium to poor mothers as long as they stay at home and suckle their babies.

The nurse has an important duty in this regard. Not infrequently it is solely on her advice that a baby is deprived of its rightful and natural heritage. The mother will often accept the nurse's judgment in this matter without consulting the physician, and the nurse should realize her responsibility. I have seen many babies the victims of nutritive and digestive diseases resulting in some instances in death, due to the mistaken judgment of the nurse or physician.

The nurse should assist the physician not only in the sick room, but in his efforts to educate the public. Preventive medicine is the highest branch of our science. How much better it is to prevent disease than simply to cure it! The reply attributed to Dr. Osler when a woman sought his sympathy because Providence had taken away her baby, that "It was not Providence, it was dirty milk," has deep significance. Perhaps the chief factor in the reduction of infant mortality is that of clean milk. Dr. Abraham Jacobi, whose wisdom we all admire, recently stated that in his opinion the greatest advance in artificial infant feeding during recent years, is the providing of pure milk.

The Department of Agriculture at Washington and Albany are very active in efforts to raise the standard of milk throughout this country and state. They send bulletins broadcast to the farmers in an effort to educate them. This is slow work and credit is due to the medical profession in obtaining more definite results. A physician in Newark twenty-one years ago found himself confronted with the task of feeding his own son. The responsibilities of foster fatherhood weighing heavily, he began a search for a pure milk supply. Discouraged and baffled in this attempt he interested the New Jersey Medical Society in this work. After two years the committee appointed to study this question discontinued their efforts as the task seemed well nigh impossible. The State Dairy Commis-

sioners wrote that "such a radical reform may not be accomplished in our generation." This aroused mighty indignation in the heart of Dr. Coit, and he formulated and put into effect the Essex County Medical Milk Commission. They, in brief, secured an intelligent dairyman whose dairy, cows, and methods were sanitary. As the number of bacteria are an index to the cleanliness employed, a bacteriologic standard was set. Milk coming up to all the requirements of this committee of physicians received their approval and was stamped as certified by the Milk Commission. This was the first certified milk, and the same plan has been adopted by twenty-seven medical societies in twenty-seven different cities in this country. The Onondaga Medical Society followed this plan three years ago, and through the efforts of its Milk Commission you are able to obtain certified milk in Syracuse.

The nurse enters into the home life of the patient more intimately than does the physician, and she should strongly urge that all milk used for the sick room, and for the children should come from a dairy known to be clean and sanitary. If the people insist on pure milk, it can be obtained.

A hopeful sign of the times is the rapidity with which infants' milk depots are being established in this country. These so conclusively proved a practical solution of the summer infantile mortality problem in France that now over one hundred such depots are supported by municipalities in a large number of cities. Last year in the United States there were twenty-one cities in which such milk stations were in operation. In nearly every instance these are supported by private philanthropy. These depots have passed the experimental stage, and should not be dependent upon the uncertainty of private charity.

John Spargo says in a recent work that "it is possible to save tens of thousands of baby lives each year in the United States alone, through the establishment of infants' milk depots, conducted upon scientific principles. Private philanthropy has shown the way. Is there civic enterprise to follow?"

The object of these depots is broader than the name implies. They are not solely to provide pure milk, but to teach the mothers how to care for their babies, both in summer and winter, how to feed them properly, and then provide them with the food they ought to have.

They should be under medical supervision, but the most im-

portant work is that of the nurse who superintends the actual preparation of the bottles, and who goes into the homes and sees that the directions are carried out.

In the warfare against tuberculosis, the nurse is in the thickest of the fight and has the hardest work. She is responsible for the hygienic care of the sick and for the instruction and protection of the family. The visiting nurse and home treatment go hand in hand. She must preach and put into practice the gospel of fresh air and hygienic living.

A word in closing more particularly to the graduating class. You have done good work during these few years of training, and this community has the right to expect much from you. The cheerful, intelligent care of the sick, the relief of suffering and distress, and the improvement of social conditions open the way for a life of useful service. It has been said that people may be divided into three classes: Those who give little and ask for little, those who give little and ask for much, and those who give much and ask for little. This is especially applicable to nurses. The choice in which of these divisions you are to be classed is left to your own conscience. May I offer for your life and daily inspiration the words of St. Paul: "We then that are strong ought to bear the burdens of the weak, and not to please ourselves."

THE VALUE OF THE REFLEXES IN DIAGNOSIS.*

By J. S. RISIEN RUSSELL, M.D., LONDON, ENG.

It seems probable that no better use can be made of an opportunity like the present than to attempt to show that, in spite of much that you may see written to the contrary, the reflexes are of the utmost value in the diagnosis of affections of the nervous system.

An attempt will be made to show that the reflexes are of great value:

1. In the diagnosis of organic from functionary affections of the nervous system.
2. In the diagnosis of one organic disease from another.
3. In localizing the seat of the morbid process.
4. In determining the extent and severity of the mischief.
5. That there are limitations to the value of the reflexes.
6. What part they play in the diagnosis of maladies outside the realms of neurology.

1. DIAGNOSIS OF ORGANIC FROM FUNCTIONAL AFFECTIONS.

One is inclined to question either the observation or the judgment of the author who, having elicited the extensor type of plantar reflex after an attack of convulsions, nevertheless concludes that the attack has been hysterical and not epileptic.

That true epilepsy may occur in a person otherwise hysterical, and that an epileptic attack may be followed by an hysterical state, are facts too well recognized to call for more than passing notice; but it is difficult to refrain from a desire to have the opportunity of observing the attack from its inception to its conclusion, before accepting the statement that hysteria was alone responsible for the convulsions which permitted the extensor type of plantar reflex to be elicited in the subject of the fit.

Abolition of the knee-jerks, followed by their exaggeration, coupled with ankle clonus, and supported by the extensor type of plantar reflex, form a combination which we have good reason to agree must be aids to the diagnosis of genuine epilepsy, as contrasted with either hysteria or malingering.

* Abstract of Address in Medicine delivered at the meeting of the Canadian Medical Association, Ottawa, June 10th, 1908.

2. THE DIAGNOSIS OF ONE ORGANIC DISEASE FROM ANOTHER

Let us take a common example. A patient experiences difficulty in walking, owing to the inco-ordinate condition of his lower limbs. Two of the most common diseases likely to be responsible for this are tabes dorsalis and disseminate sclerosis.

How quickly it can be determined which of these diseases exists! No knee jerk, no ankle jerk, and the plantar reflex not altered to the extensor type in tabes make striking contrasts to the exaggeration of the kneejerk; exaggeration of the ankle-jerk, amounting, it may be, to clonus, and the plantar reflex of the extensor type in disseminate sclerosis.

Even if, in the latter disease, the knee and ankle-jerks fail us by being absent instead of being exaggerated, the plantar reflex is not likely to play us false. And if it does, is there not still the pupil reflex on which we can fall back for assistance? The pupil which fails to re-act to light while it preserves the possibility of re-acting on accommodation, is a phenomenon sufficiently rare in disseminate sclerosis, and common in tabes, to make it a further point of contrast between these two diseases.

Take another example. The patient has atrophy of the small muscles of the hand. One of the first things we are anxious to know is whether or not the reflexes are altered, for much depends on whether they are, both in regard to diagnosis and prognosis. Exaggerated knee-jerks, ankle-clonus, and the extensor plantar reflex tell their tale, for it is clear from them that the spinal cord is involved by the morbid process that is responsible for the muscular atrophy. Thus, by testing these reflexes, we at once glean information that is of the greatest import. By testing the arm-jerks and the jaw-jerk, the diagnosis may be carried a stage further, for in the presence of an exaggerated jaw-jerk or clonus there is little likelihood that any condition other than amyotrophic lateral sclerosis is to be held accountable for the muscular atrophy. Although the Rontgen rays have done much to facilitate diagnosis under these conditions it cannot be said that they have in any way robbed the reflexes of the value that attached to them before the rays were put to such use. It may be safely said that the rays have supplemented, not supplanted, the reflexes in this sphere of their usefulness, for while they may reveal an accessory rib, caries or other disease of the cervical vertebræ to account for the muscular atrophy, in the absence

of these conditions they cannot tell us whether the atrophy is of central or of peripheral origin, nor can they further give us the good idea the reflexes can as to which of the several affections of the spinal cord is likely to be responsible for the condition.

Two affections that may easily be confounded, and that present considerable difficulty of diagnosis at times, although at other times the clinical pictures are so widely different that there is no possibility of confounding them, are cerebellar tumor and disseminate sclerosis. A proper appreciation of the different behavior of the reflexes in the two conditions will go far towards clearing up the question that is in doubt; indeed, the diagnosis may largely, if not entirely, depend on what, if any, alterations are determined in the reflexes. While various alterations of the tendon-jerks obtain in tumor of the cerebellum which may accord with what is found in disseminate sclerosis, the superficial reflexes prove of distinct service in differential diagnosis, for the plantar reflex commonly assumes the extensor type at an early stage of disseminate sclerosis, while it only does so as a late event in a case of tumor of the cerebellum, and is then to be ascribed to some complication rather than to the morbid condition of the cerebellum itself.

The reversion that has had to be made in regard to the plantar reflex does not apply to the other superficial reflexes on which a diagnosis may be based, for, assuming that the local conditions of the abdominal walls be such as to permit the abdominal reflexes to be obtained, their absence may be regarded of considerable importance in diagnosis, for, while they are unaffected in cases of tumor of the cerebellum, they are absent in a large proportion of cases of disseminate sclerosis. The reflexes may thus serve to determine whether we are in the presence of an affection in which operative intervention may be expected to bring relief, or whether the morbid condition is one in which operation would not only be useless, but actually harmful.

It is impossible to leave this part of our subject without referring to the value that attaches to the extensor plantar reflex in the diagnosis between multiple peripheral neuritis, in which it is absent, and that fatal disease, subacute combined degeneration of the spinal cord, in which it is present, for, while the former condition may be expected to result in recovery under appropriate treatment, the latter runs its course

to a fatal termination with unerring certainty in most, if not in all, cases.

3. LOCALIZING THE SEAT OF THE MORBID PROCESS.

The abolition of the reflexes in affections of the peripheral nerves, the variety of ways in which they may be affected in diseases of the spinal cord, and their unilateral exaggeration, diminution or special modification in affections of the brain, need no more than passing notice. It is impossible, however, to leave this part of our subject without a word of comment in regard to the part the reflexes play in the early diagnosis of morbid conditions of the brain and spinal cord, for it repeatedly happens that some departure of the reflexes from the normal standard is the first indication that we have, not only that organic disease exists, but as to what part of the nervous system is affected. Special note must also be taken of the important *role* they play in the localization of focal lesions of the spinal cord, in which connection nothing is more important than the aid to be derived from them in the diagnosis and localization of tumors of the cord.

The abolition of the reflexes which correspond to certain segments of the cord, the escape of all the reflexes above this level, and other exaggeration or other modification below it, must be regarded as the most valuable indications we have in determining the position of a focal lesion.

Similarly, unilateral alteration of the reflexes may be the first indication of which hemisphere of the brain is affected, and, while it may happen that hemiplegia or some other condition makes it superfluous for us to seek assistance from the reflexes, there are cases in which there is so much uncertainty that every source from which information can be gleaned must be welcomed, and then it is that the reflexes may prove invaluable. No better example of this can be found than what obtains in tumors of the frontal lobes of the brain. The difficulties of localization in such cases may prove well-nigh insurmountable, so that unilateral exaggeration of the knee-jerk or the appearance of ankle clonus on one side is welcomed. Of similar significance is the appearance of the extensor of the plantar reflex, or, as my colleague, Dr. Grainger Stewart, has shown, diminution or abolition of the superficial abdominal reflexes on the side opposite to that on which the tumor is situated.

4. THE EXTENT AND SEVERITY OF THE MISCHIEF.

It would appear to be self-evident that, inasmuch as the various reflexes have different segments of the spinal cord on whose integrity they depend, the fewer that are lost the less extensive the lesions, and the wider the extent of their affection, but more widespread the distribution of the morbid process. It must be clearly recognized, however, that this is by no means necessarily the case, for, in reality, this only applies in some instances, for a very limited lesion may give rise to widespread alterations of the reflexes. Take, for example, a case in which the lesion is limited to the cervical region of the cord, and abolishes the scapulo-humeral and other arm reflexes. Many other reflexes will also be altered, though not necessarily abolished, so that among the abnormal phenomena to be looked for are exaggeration of the knee-jerks, ankle clonus, and the extensor type of plantar reflex.

No better example of the value of the reflexes in determining the severity of a lesion can be suggested than is supplied by the knee-jerks in cases of transverse lesions of the spinal cord above the lumbar enlargement, for when, instead of being exaggerated, they are abolished and remain absent, the gravest fears are justified. When the knee-jerks do not return there is every reason to fear a severance of the cord so complete as to preclude the possibility of re-establishment of the paths through the damaged segments of the cord. Ankle clonus, a phenomenon that we view with concern under other conditions, would now be welcomed, as this would indicate possibilities of recovery which would not have been justified had the knee and ankle-jerks remained absent.

5. LIMITATIONS TO THE VALUE OF THE REFLEXES.

There are instances in which the reflexes only partly clear up the diagnostic problem. Take, for example, a case of myelitis with paraplegia as the result. From the reflexes alone the diagnosis may be made as to whether ordinary myelitis or polio-myelitis exists, but further than this they cannot take us. The X-rays may reveal tuberculous disease of the bone, which has not as yet produced spinal deformity, or the opsonic index may raise the suspicion of a tuberculous origin of the paraplegia in a way that is impossible to the reflexes.

Similarly, syphilitic pachymeningitis may not as yet have occasioned any alteration in the reflexes by which an organic

condition can be diagnosed, and yet lumbar puncture may permit the determination of a leucocytosis that allows a positive diagnosis to be made. Or the behavior of the superficial reflexes may justify the diagnosis of an organic hemiplegia, while it requires the ophthalmoscope to say that a tumor is responsible for it, or lumbar puncture to indicate that the thrombosis which underlies it is of syphilitic origin.

6. THE PART THEY PLAY IN THE DIAGNOSIS OF GENERAL DISEASES.

The question that next arises is as to whether the reflexes give any assistance in diagnosis in realms outside those of neurology. There can be no doubt that there are many cases in which, in the absence of any known disease of the nervous system, the reflexes are altered in the course of some general disease or special affection of some other organ of the body.

It will be remembered that in an affection like diphtheria absent knee-jerks may give the first clue to the nature of a sore throat that ought to have been long since determined by bacteriological examination of secretion from the fauces. Similarly, absence of the knee-jerks may call attention to the possibility of glycosuria, which routine examination of the urine should have forestalled.

Some attempt has been made to derive direct advantage from alterations of the reflexes as in favor of one as opposed to another disease in which the nervous system plays no part, except that the toxins of the one malady have a more profound effect on the nerve centres, and occasions alterations of the reflexes in consequence, in a manner that does not obtain in the other disease. Thus, the knee-jerks have been found absent in a large proportion of cases of pneumonia due to the diplococcus or the diphtheria organism, while they are not affected in septic pneumonia and found exaggerated in tuberculous cases (Stanley Barnes).

The chief value, however, that attaches to these observations in the present state of our knowledge is that they prevent us from concluding that some organic condition, as, for instance, myelitis or meningitis, has of necessity developed because these alterations in the reflexes are determined. Those interested in the welfare of the patient are thus spared the anxiety that would be caused by the opinion that might have been expressed in ignorance of the fact that the alterations noted are compatible with transitory effects due to toxic conditions without any permanent organic change.

THE OPSONIC TREATMENT OF DISEASES OF THE SKIN.

D. KING SMITH, M.B.

The object of this brief paper is not to describe the method introduced by Wright and Douglas in the treatment of bacterial infections by means of injection of appropriate vaccines, but to discuss the results of the treatment in certain diseases of the skin.

As the technique of carrying out the treatment is quite complicated, great chance for error arises, hence it is not surprising to find considerable differences of opinion regarding the results.

To arrive at a satisfactory and fair conclusion, it would not be advisable to consider the work of anyone, unless he was especially trained in the method, therefore my results are taken from reports of those who have devoted much time to this particular branch of medicine.

Probably the most brilliant results of the opsonic treatment are found in cases of furunculosis and carbuncles; all workers seem to agree on this point. Whitfield, of King's College, says, "That in his hands it has been a complete and brilliant success, that it is uniformly successful and is the only treatment for general furunculosis, which is in the slightest degree reliable." He also says, "That one or two of his patients have had a boil after the treatment has been begun, but most have had no more after the first injection."

Ross, of Toronto—in the Annual Report of Toronto General Hospital—says: "The results of treatment of boils and carbuncles have been most gratifying." Many of his cases were severe and had resisted the usual methods of treatment. Control and cure were rapidly obtained in 27 cases of the 33, and a cure was ultimately obtained in the remaining six cases.

Von Eberts, Montreal, says: "Practically all cases react favorably."

Schamberg, Philadelphia, reports cures in about 50 per cent. of his series, and says, "That the raising of the patient's defensive power against the invasion of the staphylococcus would appear to be the only scientific treatment."

In Coccogenic Sycosis the same good results have not been obtained, probably for the reason that the organism is generally shut off from the body by the epithelial barrier of the root sheath, which undoubtedly renders it more difficult of approach by the vaccine.

In this disease Whitfield says: "The treatment is a valuable aid, but must be continued for long periods in proportion to the duration of the case, and is best combined with X-ray depilation." After the first injection there is often marked improvement, but there seems to be a great tendency to recurrence.

In a number of cases reported by various workers 50 per cent. of the cases resulted practically in a cure, and a much larger percentage was improved, so that, no doubt, the treatment is of much benefit to this disease, which is so hard to overcome by ordinary methods.

In acne the treatment is very uncertain, in some cases being most useful, in others without the slightest avail. In cases of a severe type it is well worthy of a trial, and will often be of great service along with other methods.

In tubercular ulceration it is of great value, while in lupus vulgaris the treatment alone is too slow and uncertain to be recommended. It has been found valuable after Finsen's treatment in preventing relapse, and is also valuable combined with X-ray.

In reviewing the literature on this subject, the results obtained by various workers in the above diseases are wonderfully uniform, and the treatment in the hands of careful workers shows most encouraging results.

22 Wellesley Street.

DR. W. GIBSON

said: It gives me pleasure to congratulate Drs. Silcox, King Smith and Ross on their papers and results. It has been a great privilege to me to listen to them, and I am sure I shall be much benefited thereby.

In discussing these papers, I have taken the privilege of jotting down some of my grievances and a few of my troubles in applying opsonic methods to the small series of cases which have come to me for treatment by opsonic therapy.

Let me say at the outset that we have not lately made so many calculations of opsonic indices as we did in the beginning of our work along these lines—not on account of the inutility or inaccuracy of the opsonic index as a guide, but because the number of cases which have come to us for treatment have so increased as to prohibit, for lack of time, the calculation of the opsonic index at appropriate intervals in the treatment of the various cases. Hence we have to content ourselves by making one or two preliminary opsonic calculations, both in pyogenic

and tubercular infections, and then making our inoculations at weekly intervals in pyogenic infections, and in tubercular cases at ten days or two weeks' intervals.

Very often we have been compelled, on account of the obstinacy of a particular case, to resort to opsonic calculations in order to gain an idea of the proper dosage and interval, and almost invariably the opsonic index has given us the desired information. The query naturally arises, since we depend so much on the opsonic index, why do we not apply our vaccine therapy, guided at all times by opsonic calculations? Let me say to those not initiated into the mysteries of the opsonic index, that the labor involved would require the entire time of one man at least, for the treatment of rather a small number of cases (I shall not state definitely how many before skilled experts), and I have been devoting only my afternoons to this class of work. Still, we have succeeded in getting fairly satisfactory results in our work, but I firmly believe much better and more uniformly satisfactory results might be secured were the opsonic index followed throughout the entire treatment of cases.

In the beginning of our work, when opsonic indices were calculated more frequently, as we had not then so many vaccines to make, we never found such inconsistencies in our results as could not be explained by errors in technique, and this we believe in spite of adverse reports appearing in various medical journals as to the accuracy of the opsonic index in applying vaccine therapy. The preparation of the bacterial emulsions, the pipettes, the measurement of the columns of white cells, emulsion and serum, the thorough mixing of the three, before and after incubation, the making of perfect smears, and, lastly, the counting, are so replete with sources from which errors may arise that one thoroughly cognizant with the opsonic technique can easily understand how adverse reports might come. Though not used by some in counting, and at first not by us, I believe the mechanical stage to be of value both in the phagocytic and the emulsion count in the manufacture of vaccines.

As to homologous vaccines, we have used them almost entirely in our work, except, of course, in tubercular cases, in most of our carbuncle cases, and some few cases of gonococcus infections we have treated by vaccines made from two strains of gonococcus. Just in this connection, as a grievance, I might say we have had difficulty in calculating our opsonic indices in connection with gonococcus infections, both because of the difficulty

of getting a clear definition of the individual cocci and clumping. In connection with T. B., we had difficulty with clumping some of our stock emulsions particularly. I hope to gain some light on this subject while here.

PAPER LED BY DR. D. KING SMITH.

Boil cases probably form the largest number in our series of cases treated by opsonic methods, and all have closed up very rapidly. One case under treatment at present has proved rather obstinate; it is really a combination of pustular acne on the chin and face, and crop after crop of small boils on the back of the neck. The case was rather chronic, having run about a year previous to beginning vaccine therapy. The organism isolated was a pigmented coccus, the *Cercus Flavus*. About eight weekly inoculations have been given (not guided by the opsonic index), and when last seen there was considerable improvement.

We have had no cases of sycosis.

It has been our experience that the more severe forms of acne vulgaris give better results from this treatment than those cases of the mild type where only a few recurring pimples are complained of. Our acne vulgaris cases have been rather limited in number.

I do not know whether the other workers have used Tuberculin R. in lupus erythematosus or not, and because of the probability of its non-tubercular origin it is scarcely indicated, though it has been used. We have used it in one case with no result. Of lupus vulgaris we have had no cases for treatment.

In connection with a case of tubercular periostitis of the tibia in a patient suffering from fibroid phthisis, which was treated by T. R., two tuberculides, involving the skin just over the patella, gradually disappeared as the periostitis cleared up. This particular case has cleared up any skepticism I had as to the value of Tuberculin in localized tuberculosis, if properly applied. This case was of two years' duration, during which constitutional and local treatment was tried without result. An ulcer developing over the mass, which, by the way, was quite large and extended from the middle of the shaft of the tibia to an inch and a half above the inner malleolus, obliterating the sharp anterior and lateral borders of the tibia, the patient went to Toronto, where a skiagraph revealed that only the periosteum was involved. X-ray treatment was recommended, but the patient returned from Toronto and immediately began treatment by T. R., guided at first by the opsonic index. The inocu-

lations were made about two or three inches from the margin of the ulcer, and the patient during the treatment did her usual work, keeping the leg elevated only when resting. The ulcer began to heal immediately, and in three months it was entirely healed, while the great mass over the tibia had almost disappeared, as well as the two tuberculides. It is now five months since the treatment was begun, and the patient is still taking her tuberculin inoculations, and the leg is practically well.

Selected Article.

EXTRACTS FROM ADDRESS IN MEDICINE, DELIVERED AT THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.*

BY JAMES KINGSTON FOWLER, M.A., M.D., HON. D.Sc.,
F.R.C.P.

Dean of the Faculty of Medicine, University of London, etc.

VACCINE-THERAPY.

There is, perhaps, no subject which is exciting greater interest in our profession to-day than the treatment of bacterial infections by the inoculation of vaccines.

I had lately the pleasure to hand to Sir Almroth Wright the Fothergillian Gold Medal of the Medical Society of London, which is given triennially for scientific work in connection with medicine or surgery published within a period of five years. It is fitting that a society of which Edward Jenner was a distinguished member should be the first to publicly recognize the value of the labors of one who has made the immortal discovery of Jenner the basis of his work. Whilst faddists and politicians have been, and still are, endeavoring to prevent the people of this country from rendering themselves immune to smallpox, vaccination has gradually acquired a wider and wider meaning, until now the principle underlying its action has become the basis of the most advanced medicine of to-day. Thus may science ever confound her enemies!

The claims of vaccine-therapy to acceptance as a method of general application are receiving strict examination, and such they will continue to receive, and it should be welcomed, for of it nothing but good can come.

The minds of workers in science are, however, not always more free than those of humbler folk from a certain narrowness of view and an inability to appreciate the value of the work of others, and sometimes I fancy that I can see traces of this in the warfare that is now raging over the opsonic index and protective inoculation.

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THE PROCESS OF IMMUNIZATION.

The process followed by Nature in the cure of an infectious disease, and in conferring upon the individual immunity to it in the future stands now to some extent revealed.

The first stage in this march of science ended with the proof that organisms are the cause of the infectious diseases. The second closed with the demonstration that by cultivating the bacteria under artificial conditions their pathogenic virulence can be greatly reduced, and that whilst an animal can be killed with a very small dose of the organism freshly isolated, a similar or larger dose of the attenuated virus will produce only a slight illness.

The third stage toward the desired goal was reached when it was shown that the animal thereafter was protected against repeated doses of the actively virulent culture of the organism, and that the artificial production of immunity had been attained. Up to this point there is no difference of opinion, but beyond it rival theories contend for mastery.

Are the leucocytes the sole active agents in the destruction of the infecting organisms? Is immunity brought about by phagocytosis, or are the bacteria first killed or their vitality seriously lowered by soluble constituents of the blood serum, the leucocytes acting either as scavengers or disposing of the bacteria already devitalized by the serum?

The weight of opinion appears to me to be overwhelming in favor of the view that agents other than the leucocytes play the more important part in this process. Some of these substances are present in the blood serum of a normal animal that has been submitted to no immunizing process; others appear in the blood as the result of infection, whether occurring in the ordinary manner or induced in the process of artificial immunization by bacterial vaccination. The bacteriolytic substances which dissolve micro-organisms; the agglutinins cause bacteria to swell up, to lose their motility, and finally to aggregate in clumps. The opsonins discovered by Sir Almroth Wright and Douglas are substances which do not kill the invading bacteria, but produce in them a chemical change of such a nature that they are rendered susceptible to the phagocytic power of the leucocytes. Whether these bodies are distinct from or identical with that which appears in the blood as the result of infection or immunization is a question which must be left for the decision of those who are specially engaged in bacteriological research.

THE RESULTS OF VACCINE-THERAPY.

As to the great advance which the introduction of vaccine-therapy marks in the treatment of the infectious diseases, there can, I think, be little room for doubt. Sir Almroth Wright and his co-workers have established very clearly that in a variety of localized bacterial infections in which the staphylococci are the causative agents, for example, general furunculosis, suppurating acne and sycosis, it is possible by the use of a standardized emulsion of the dead micro-organism either to cure or favorably influence the course of the disease.

Also that in many localized and chronic infections of streptococcal origin, especially when a vaccine derived from the patient's own particular strain of organism can be procured, a like favorable result may be obtained.

Where, however, this is not possible, and a so-called polyvalent market vaccine is employed, the result is frequently disappointing; an experience not limited to the use of stock vaccines of this kind only. A polyvalent antistreptococcal vaccine, it is to be remembered, is made by the use of *Streptococcus pyogenes* obtained from various sources, not from streptococci of known difference in reaction.

Moreover, in certain generalized streptococcal infections, both acute and chronic, the treatment by specific inoculation has given results which hold out promise of great possibilities in the near future. The majority of these latter affections occur in surgical practice with which we are not now so closely concerned, but in the treatment of the diseases of the heart we may ultimately possess an effective remedy for malignant endocarditis, which has, as its name implies, been regarded hitherto as a necessarily fatal malady.

A variety of local infections of the kidneys, the bladder, the colon and other organs in which the *Bacillus coli* is the infecting agent can now be successfully treated by the use of a bacterial vaccine, and it is satisfactory to learn that the method of protective inoculation against typhoid fever which Sir Almroth Wright introduced has been extensively used in the British army, the German army, and the Indian Civil Service, and that Lord Kitchener has expressed an opinion that all soldiers before proceeding to India should be submitted to this treatment.

Perhaps the greatest degree of interest attending the employment of a bacterial vaccine centres at the present moment around its use in pulmonary tuberculosis. That the new

tuberculin is a remedy of value in the treatment of lupus, of tuberculous arthritis and of various other localized tuberculous affections has, I think, been abundantly proved. Before considering its use in pulmonary tuberculosis it will be necessary to discuss the question of the opsonic index and the theory of auto-inoculation.

THE THEORY OF AUTO-INOCULATION.

Let us now consider briefly the theory of auto-inoculation, which also has been evolved from a study of the opsonic index.

The theory is that from a focus of infection within the body a process of auto-inoculation may be in operation, and that many of the phenomena indicating recurrent activity of the organism are best explained by assuming that at intervals the patient is spontaneously inoculating himself with a varying dose of the virus of his disease. This theory took its origin from the investigations of Freeman on the effect of massage on joints affected with gonococcal arthritis. He showed that any movements, passive or active, which are sufficient to affect a focus of infection result in a discharge of poison into the system, and that the discharge produces the same effect on the blood measured by variations in the opsonic index as an artificial inoculation.

In a case of pulmonary tuberculosis with a lesion which is neither arrested nor quiescent, exercise beyond a certain moderate degree almost invariably causes some amount of pyrexia, either temporary or permanent. The theory of auto-inoculation explains the fact which I have observed, that in nearly all the cases in which arrest obtained by sanatorium treatment has been followed by relapse, this has been due to over-exertion in sport or games and not to the effects of work. The importance of rest as the main factor in the treatment of the fever of the disease has long been appreciated. Have we not now an explanation of this and a proof of the accuracy of our clinical observations?

THE STUDENT OF THE FUTURE AND THE UNIVERSITIES.

What of the student of the future? I think we may confidently conclude that he will in larger and ever-increasing numbers resort to the universities for the preliminary and intermediate subjects of his education, and that the medical schools will become, as in my opinion they should be, clinical

576 EXTRACTS FROM ADDRESS IN MEDICINE

schools, limiting their sphere to the teaching of those subjects of the curriculum which must necessarily be studied in connection with a hospital.

These subjects are undergoing, and will continue to undergo, such an enormous expansion that the schools, even when they restrict their energies to the task, will find it year by year more difficult to teach the whole of them satisfactorily.

Medical education is a form of technical education in the efficiency of which the public, if they only realized it, are interested as much if not more than in many others to which public money is given, inadequately it is true, but without hesitation.

In the future, endowment and the financial support of public bodies will only be given to the universities, and nothing can be more shortsighted than to exclude our students from the benefits enjoyed by those in other faculties.

THE PRACTITIONER OF THE FUTURE.

In time the student becomes a practitioner. What advice shall we offer him at the outset of his career? To maintain the high traditions of unselfish devotion to duty which have characterized the profession in the past; to be guided in all the difficulties which he will meet by the simple rule to act as a gentleman; to cultivate a cheerful and hopeful disposition, and to keep an open mind. In the latter lies the secret of perpetual youth. Sir Andrew Clark, whom to know well was to love much, was fond of saying that "No man is old until he ceases to be able to adapt himself to his environment. When I go into the country," he said, "and meet a practitioner who talks about those damned microbes, I know he is old. It does not matter what his age may be." But how will the practitioner fare for a livelihood in the future if the ever-increasing tendency of the people to expect gratuitous medical attendance continues unchecked, and neither political party considers it to be its duty to encourage habits of thrift amongst the working population?

THE PHYSICIAN OF THE FUTURE.

Let us now pass on to consider the physician of the future.

Sir Almroth Wright is of opinion that he will be an immunizer. We shall all agree in hoping that it may be in his power to afford immunity to his patients from as many

diseases as possible, and we shall also agree that as a student and subsequently, he must have received a careful and prolonged laboratory training. But I submit that he must continue to be in the future, as he has been in the past, above all things a man of wide clinical experience. No matter how great the advance of science may be in the future, there will never be a royal road to medicine; it will be the common road that all must tread who aspire to treat disease, and, after the class-room has been left behind, it will lie through the wards of the hospital, the *post-mortem* room and the clinical laboratory, and will always lead back to the bedside. The physician of the future will have to deal with human nature as we have had to deal with it. Times may change, ideals may alter, but water and human nature will ever remain weak. They are the only two things in this world on which it is safe to stake one's last shilling. It used to be thought that there was a third—namely, beer—but recent events have shattered that opinion.

In the future, as in the past, the first and most important thing will be the diagnosis of the patient's malady. Once that has been accurately determined, the rest is comparatively easy. I lose no opportunity of impressing on students that the one thing that cannot be read up is "diagnosis"; that must be learned at the bedside. Some may think that as medicine becomes more and more firmly fixed upon a sure basis of science the diagnosis of disease will gradually prove an easier task. It will become more certain in competent hands, but it will never be easy, for, as science grows it will continually place new burdens upon the physician and the practitioner. I have had many opportunities of observing that the recent increase in the number of laboratory tests available is surely leading to the disuse of the older methods of investigation—the employment, that is, of all the senses with which Nature has provided us; and it is a physiological law that atrophy follows disuse.

It must have occurred to every physician to be called to a case in which the condition of the blood and of every secretion that lends itself to examination had been carefully investigated, not once only, but several times, and yet the diagnosis was as far, if not further, off than ever; whereas, an intelligent use of the old-fashioned methods of inspection, palpation, percussion, and auscultation, showed that it was literally staring one in the face.

In so saying, I shall not, I trust, be thought to undervalue the very great assistance given to diagnosis by the newer methods. I am only urging that the older should not be allowed to fall into disuse.

The bacteriologist, in some at least of the general hospitals, is now regarded as the servant of the physician, who orders that certain investigations shall be undertaken. This is not, I submit, the position to which he is entitled. In important cases in which his advice and assistance are required, he should consult on equal terms with the physician at the bedside, and the investigations to be made or the treatment to be adopted should be the joint result of their deliberations. If they differ, the view of the senior partner should prevail. The future will determine for itself whether, or to what extent, these two individuals should be united, but it is clear that in the transition period to which we belong they must act together, as each is the necessary complement of the other. That any person professing ignorance of clinical medicine should independently attempt to treat disease is a position so unsound that it needs but to be stated to be condemned.

Meeting of Medical Societies.

AMERICAN PROCTOLOGIC SOCIETY.

Tenth annual meeting, held at Chicago, Ill., June 1st and 2nd, 1908. The President, Dr. A. Bennett Cooke, in the chair.

Officers elected: President, Geo. B. Evans, M.D.; Vice-President, John L. Jelks, M.D.; Sec.-Treas., Lewis H. Adler, jr., M.D.

The place of meeting for 1909 is Atlantic City, N.J., May 31st and June 1, 1909.

The following is an abstract of the principal papers read:

PRESIDENT'S ADDRESS.

The President, Dr. A. Bennett Cooke, of Nashville, Tenn., showed some of the results which had been accomplished in the ten years of the Society's existence, chief among which was emphasized the assured position as a legitimate, dignified and important specialty which is now universally accorded to proctology. "Ten years ago special instruction in this branch, with a few exceptions, was only to be had in the post-graduate institutions of the larger centres. To-day the curriculum of any medical college which does not include a course on proctology is rightly considered to that extent defective and behind the times. The benefit of this new order of things to the public cannot be estimated."

"THE TREATMENT OF CHOICE OF STRICTURE OF THE RECTUM"

Was the title of a paper by Wm. M. Beach, A.M., M.D., of Pittsburg, Pa., who stated that in his early proctologic experience he became an enthusiast on this or that method of treatment only to be disappointed by a recurrence of the ailment. All the classical recommendations were tried, namely gradual dilatation, proctotomy internal and external, excision, and a few other technical schemes, ideal but not practical. Each promised favorable results for a time but experience taught him that instead of cure the condition uniformly became worse.

In order to answer the query, what is the choice of treatment? It is important to consider first, the history of syphilitic stricture, and second, the location and form of stricture to determine the degree of obstipation, third, the effect of a rectal stricture is to induce obstipation and extreme dilatation of the colon. Moreover, immediately above the various constrictions are found the active ulcerations, the source of profuse discharges of pus, blood and mucous. Among other symptoms may be found colicky pains in abdomen, distension of abdomen, backache, aching down the legs, loss of flesh, and withal a general anxiety and neurasthenia.

Regarding the treatment it is apparent that if the disease was seen early much could be done to avoid disastrous consequences, but as the disease is so insidious in onset and development, by virtue of the fact that the trouble is usually located in painless area, and that nothing short of obstipation drives the patient to seek advice, it is obvious that palliative treatment only increases the irritation, and produces a greater degree of stricture. For this reason the injections of fluids is needed only for cleansing purposes and such procedures as gradual dilatation by the passage of bougies, forcible division, proctotomy, and even excision are only temporary.

For these reasons the author concludes that a permanent colostomy is the preferable plan, as this procedure admits of direct irrigation of the rectal cavity. The administration of strontium iodide in ascending doses for interrupted periods the writer believes is of extreme value, but he states that he has never been able to destroy the syphiloma with its use.

Irrigation should be used daily for the first month and less frequently thereafter. For this purpose normal solutions should be used of salines, alternating with solutions of one to one-thousand permanganate of potash, or nitrate of silver twenty grains to the quart, or of ichthyol a drachm to the quart. Boracic acid solutions are often beneficial.

Defecation through a properly constructed inguinal anus is completely painless, and under reasonable control. The patient soon becomes reconciliated to his condition and rapidly improves in health.

The author from his experience concludes his paper with the following remarks:

1. Syphilitic stricture of the rectum is believed to be the result of badly treated cases of syphilis in the early stages.

2. It is more frequently found in the female, for the reason that the primary lesions are more apt to be overlooked.

3. Direct surgical attack of rectal syphiloma does not insure permanent relief, but rather aggravates the condition.

4. Specific constitutional treatment should be instituted, with the hope of making a favorable impression upon the diseased tissue.

5. Permanent colostomy is the treatment of choice for the purpose of irrigation and restoration of bowel functions.

“AMEBIASIS, ITS SYMPTOMATOLOGY, DIAGNOSIS, SEQUELAE
AND THE USE OF FORMALIN AND COPPER PHENOL
SULPHONATE IN THE TREATMENT.”

By Dr. John L. Jelks, Memphis, Tenn.

who called attention to the great prevalence of this disease in the South.

Marked differences have been ascribed to the ameba, as to its character and actions in different cases, especially with reference to its phagositic properties and its motility. The author referred to associated infection as playing an important role in many cases, and attributes to this mixed infection the difference in character of ulceration in the higher parts of the colon, and that in the rectum.

Cases of amebiasis are referred to as occurring in nests, in the low marshy districts, in the sparsely settled alluvial sections, and in the suburban mill districts of the city. None of the cases in the city were residents of the highland portion, and all of them partook of fresh vegetables which were grown in the bottoms and washed with water from shallow wells.

The author viewed with suspicion all cases of violent, acute dysentery or chronic diarrhea with mucous discharge.

In the majority of cases the patient complains of, and the predominant symptom in chronic cases is that of, recurring diarrhea, which has existed for several months or years, associated with a quantity of mucus, and occasionally blood stained. Sometimes large casts of mucosa are expelled, as also casts of mucous and fibrin.

In the treatment, the author first referred to the importance of selecting a proper diet for these cases, and then referred to the use of formalin and boracic acid solution, and formalin and copper phenol-sulphonate solution in high irrigations through a recurrent tube which he has devised specially for

that purpose. He also referred to treatments through the sigmoidoscope with silver nitrate followed by the installation of boracic acid and aristol, or iodoform and bismuth sub-nitrate and olive oil.

The author concluded that the washing away of necrotic material and debris, as also the infecting agents, is an important matter in the treatment of these cases, and stated that these stimulate the vaso-motor supply, relieve passive congestion and stasis, increase the amount of flesh blood to the inflamed structures, and perhaps aid in the development of anti-toxic bodies.

“SOME RECENT CONTRIBUTIONS TO THE PHYSIOLOGY OF THE RECTUM.”

By Dr. Samuel T. Earle, Jr., of Baltimore, Md.,

who stated that the properties of the external sphincter resemble those of plain muscle; that the anus closes by permanent tonus of the two sphincters independent of the will, but is supplemented by it for voluntary control, that the tonus practically disappears after section of the *nervi erigentes*, proving thereby that the closure depends upon the constant expenditure of nervous energy, and not upon the elasticity of the muscle and the arrangement of its fibres.

That there are constrictor and dilator fibres to the internal sphincter which can be stimulated reflexly through the spinal cord, proving a reflex centre in the lower portion of the cord; that through this centre, either reflexly or voluntarily, the internal sphincter can be dilated or constricted and the external sphincter can be inhibited.

“PLATE WITH FALSE TEETH IN SIGMOID.”

Report of a Case by Dr. Samuel T. Earle, Jr., Baltimore, Md.

Mrs. F. H. D., the latter part of August, 1907, while eating ham, swallowed a plate with two false teeth. Ten days later she had a violent attack of pain in the abdomen, followed by a chill and fever; there was no recurrence of this for one and a half months. Since then they have recurred from time to time, but not as severe, nor have they been attended with chill and fever. A skiaograph taken of the lower abdominal and pelvic regions showed the plate in the sigmoid flexure of the colon, on a level with the promontory of the sacrum. Examination through the sigmoidoscope brought them into view

at the point shown by the X-ray. There was considerable tenesmus, and the passage of a good deal of mucus, also a tendency to constipation. Under the influence of two hypodermics of morphine gr. 1-4, hyosein hydrobromate gr. 1-100, and cactina which produced satisfactory anesthesia, Dr. Earle was able to grasp the plate, through the sigmoidoscope, with a pair of long alligator forceps, and withdraw it immediately behind the sigmoidoscope.

"GALVANIC ELECTRICITY IN THE TREATMENT OF HEMORRHOIDS, FISSURE, PROLAPSE, ULCERATION AND NON-MALIGNANT STRICTURE OF THE RECTUM."

By Dr. Wm. L. Dickinson, Saginaw, Mich.

Who stated that he did not claim that this is *par excellencē* the treatment for each and every case of hemorrhoids, fissure, prolapse, ulceration and non-malignant stricture of the rectum, but that in suitable cases, and also where from fear, physical conditions, or other reasons, the patient refuses to submit to surgical measures, the method had proven its utility.

In the use of galvanism, sight should not be lost of the different properties of the two poles, remembering that we always have physical and therapeutical properties peculiar to each pole, and exactly opposite in effect. The positive pole produces oxygen, is acid, hemostatic, sedative, contracts and hardens tissue, is an acid caustic, and produces hard, firm cicatrices, is also a vaso-constrictor. While the negative pole produces hydrogen, is alkaline, dilates blood-vessels, thus increases bleeding, causes hyper-sensitiveness, liquifies and disintegrates tissue; being an alkaline caustic, the resulting cicatrices are soft and yielding; it is also a vaso-dilator.

Internal hemorrhoids are successfully treated with the electric needle, as follows: Cocanize the hemorrhoid, then introduce a platinum or common cambrie needle into it, attached to the positive pole, while the negative pole is connected with a large abdominal pad. Use a current strength of fifteen milliamperes for fifteen or twenty minutes, or until the hemorrhoid is rendered hard and unyielding. Best to treat one hemorrhoid at a time.

Anal fissure should be cocanized, then a copper probe attached to the positive pole should be applied until a pronounced deposit of the oxychloride of copper salt is obtained. There will be considerable soreness for a few days, but the patient

is always greatly benefited by the first treatment if not cured by it, and is always cured by five or six treatments.

Where the edges of a fissure are greatly hypertrophied the negative pole should be applied to cause liquifaction of the dense tissues.

In cases of prolapse where the redundancy of the rectal wall is of moderate degree, galvanism is of marked benefit, an electrode attached to the positive pole should be introduced into the rectum and a current of fifteen to twenty-five milli-amperes used daily for ten or fifteen minutes.

"DYSENTERY."

By Dr. J. M. Mathews, Louisville, Ky.

who reported a case of amebic dysentery in a man, 45 years of age, who had never been farther south than Louisville, Ky. He had been treated for ten years for a diarrhea which entirely disappeared at times, but in the course of a few months it would reappear. A proctoscopic examination was made and an ulcerated condition of the entire rectum and lower half of sigmoid was observed. A number of the ulcers were curetted and a microscopic examination made. No amebæ were present. Ulcers were all healed and patient well in three and a half months. In about ten months patient returned to the office, and was found to be in about the same condition as before. Another scraping was done and a microscopic examination made. Numerous amebæ were present.

Patient being a wholesale fruit dealer had handled and eaten raw tropical fruits for more than twenty years. There is no doubt about his infection occurring in this way.

Position for Examination, Treatment, Etc.—About three years ago Dr. Mathews' partner, Dr. G. S. Hanes, in treating a difficult case, discovered a position that has been employed ever since where the proctoscope is used. The patient is placed in an absolute inverted position, hanging over the edge of a table or chair on the thighs, with one shoulder supported on a chair of sufficient height. The opposite hand is supported upon the floor or two chairs can be used, one for each shoulder, the head passing down between them.

A special table for this position is in course of construction.

When the patient is in this position the entire weight of the abdominal viscera falls upon the diaphragm which pulls upon the sigmoid and rectum and brings them more nearly in the

direction of a straight line. Atmospheric pressure completely distends the rectum and lower portion of sigmoid in most cases. A complete view of these parts can be had by the use of a reflected light. The discomfort to the patient of distending the bowel by forcing air into it is never necessary except in high examinations. The surgeon, is in a comfortable position, standing by the patient, and looking down into the bowel. An enema can be given easily in this position, and you know the solution passes up into the sigmoid and colon. It affords many advantages over other positions.

“THE CHOICE OF AN ANESTHETIC IN RECTAL SURGERY.”

By Dr. Jerome M. Lynch, of New York City.

It is important that some method of shortening the anesthesia be employed; that the intake of chloroform or ether be lessened by giving the patient some less objectional or less toxic drug, or by some preceding anesthetic less hazardous.

Morphine and hyoscine, either as a substitute or preliminary to general anesthesia, have been used successfully in some seventy-five cases. At the New York Polyclinic, St. Bartholomew's, and in private practice, considerable experience has been had with ethyl chloride, and it has been used now in over six hundred cases, as a general anesthesia for short operations and examinations or as a preliminary anesthetic to chloroform or ether, without a single accident or bad result.

The author was the first to advocate the drop method in the use of ethyl chloride. He found that by this method the drug could be used more intelligently and that much less of the anaesthetic was required. Another advantage in this procedure is that it does not crystallize all over the mask as it does in the spray method.

The author did not advocate this anesthetic to the exclusion of ether or chloroform; but held that for examinations, short operations, as a preliminary to ether or chloroform, and as an adjuvant to hyoscine and morphine, it is safer and more efficacious than any anesthetic we use to-day. He was decidedly opposed to any form of closed inhaler. To the open method must be attributed the good results with ethyl chloride. He did not find ethyl chloride, however, suitable for any anesthesia which lasts over ten minutes, as vomiting is apt to follow a prolonged use of this drug. It is also contra-indicated in alcoholics, children with adenoids, patients suffering from

acutely inflamed conditions of the throat, or advanced cardiac disease. Spasms of the larynx has occurred in some 5 per cent. of the cases; but this is at once relieved by withdrawing the anesthetic, or by substituting a few drops of chloroform.

Another anesthetic that has been overlooked, and one that is particularly safe, is nitrous oxide, alone, or with oxygen.

“SURGERY OF SPECIFIC DISEASES OF THE RECTUM.”

By Dr. Geo. B. Evans, Dayton, Ohio.

who said that venereal diseases of the rectum constitute maladies which have neither been mastered by the syphilographer nor the proctologist. The former is not familiar with the armamentarium for rectal exploration, and the latter is not thoroughly familiar with venereal diseases. The manifestations of syphilis escape the former because they are often removed from the field of vision, while the attention of the latter is called to the fact because pain exists in the rectum. The following conclusions were formulated: That rectal stricture may follow chancroidal infection by virtue of its pathology, which may be the result of absorption or lodgment of infectious matter on mucous membrane, or in submucous, or even perirectal tissue, and that rectal strictures may be but a latent manifestation of syphilitic infection. That this belief is in accord with the author's experience, and is the reasonable deduction from the experience of other competent observers. Moreover, that while iodides are usually prescribed in these conditions, they are not of curative value, and that it is only by incision and internal mechanical dilatation that these strictures of specific nature can be made tolerable.

(To be continued.)

Editorials.

THE UNIVERSITY AND THE MEDICAL COUNCIL.

At the last meeting of the Alumni of the University of Toronto, the retiring President made some references to the relationship of the University and the Medical Council.

As there has been much misconception respecting his utterances on account of the inadequate newspaper reports, we desire now to publish Professor Cameron's remarks:

"The Medical Council of Ontario is the only one of the Provincial Councils which has not entered into reciprocity with the General Medical Council of Great Britain in the matter of registration, and the fact of this medical degree of the University of Toronto has been prophetically announced in the statements recently published in the daily papers that the Provincial Medical Council of Quebec has at length accepted the scheme of reciprocity within the Empire. The medical degrees of the University of Laval and McGill University are registrable upon presentation in the Province of Quebec, and the holders become thereby entitled to the license of practice. Now that reciprocal registration between the Councils of Great Britain and Quebec has been adopted, the medical graduates of Laval and of McGill are admissible to the registry of Great Britain, and so the portals of the public service of the empire (which is a vital and important point) are open to them likewise. But not so to the graduates of the University of Toronto, who cannot practice itself in their own province without undergoing a further examination. The remedy suggested is one which has been broached several times before, and one which has withstood the test of practical experience in the Old Country. It is a simple one, and consists merely in inducing the Medical Council of Ontario (or of Great Britain for that matter) to send assessors to the examinations (and the assessors if they chose might be invited to take an active part in the examination) and upon their

report the approved candidates might be admitted to registration. . . . But in addition to this it would be still necessary to the Medical Council to secure reciprocity in registration with Great Britain in order that our graduates might stand upon the parity in the Old World with the councils of McGill and of Laval, and here it may be necessary to invoke or aid in convincing the members of the Medical Council resident throughout Ontario of the wisdom and the justice of this proceeding."

And to Dr. Daniel McAllister, President of the University of Glasgow, and President of the General Medical Council of Great Britain, Canadian graduates are deeply indebted for his strenuous and untiring efforts to make this possible.

THE INTERNATIONAL CONGRESS OF TUBERCULOSIS.

The International Congress of Tuberculosis will be held in Washington from September 21st to October 12th.

Dr. A. Jacobi, President of the fourth section of this Congress, in writing to the *New York Medical Journal*, calls attention to the fact, "that with the exception of those of 1876 and 1887 this will be the first great International Medical Congress held on this continent. Europeans who have been taught to expect great things from America are looking forward to the congress of 1908 as an event of the first magnitude. Its objects are the study, prevention and eradication of tuberculosis, the most formidable enemy of mankind, sapping its vigor and endangering its future."

Dr. Jno. S. Fulton is Secretary-General, 704 Colorado Building, Washington, D.C. The membership fee, including admission, and a copy of the transactions of the Congress, is placed at \$5.00.

We have just received an intimation from Dr. Maginn, Secretary General, Paris, that the President of the French Committee, Prof. Landouzy, Dean of the Medical Faculty, Paris,

with Prof. Triboulet and a distinguished body of savants, will probably visit Toronto en route to the Congress.

Among the probable visitors are Prof. Calmette, Director of the Pasteur Institute at Lille; Prof. Arloing, of Lyons; Prof. Courmont, of Lyons; Prof. Tissier, of Paris; Prof. Crespin, of Algiers; Mlle. Chaptal, philanthropist, of Paris; M. Lenne, of Paris; Viot Bey, of Cairo; Dr. de Fournier, of Paris; Dr. Leon Bernard, of Paris; M. Augustin Rey, of Paris, and others.

THE BRITISH MEDICAL ASSOCIATION.

The seventy-sixth annual meeting of the British Medical Association was held in Sheffield, July 28 to 31 inclusive.

The retiring President, Dr. Davy, when inditing the president-elect, Mr. Simeon Snell, spoke of him as one who "played the game." Mr. Snell, in his presidential address, stated that this was the third annual meeting of the Association held in that city. The first meeting was held in 1845 and the second in 1876. When the first meeting was held the Association numbered less than 1,900; at the second meeting it numbered 7,000, and at the present time it numbers more than 22,000, and is the greatest Association the members of any profession have ever seen. Its far-reaching character is such that it is limited only by the confines of the British Empire, serving not only as a bond between medical brethren in different parts but as a link in the chain of imperial unity.

The British Medical Journal tells us that everything at Sheffield worked with the greatest smoothness, and the meeting from the time of its commencement with the representative meeting, July 24, up to the end, was one of the most successful on record. The new and compact university buildings were admirably adapted for the purposes of the different sections, practically each section had a room in the main building specially designed for the deliverance of lectures and the like. On the social side Sheffield nobly upheld the reputation of Yorkshire for hospitality.

THE DIRTY CUFF.

The *London Lancet*, in a recent issue, discusses the important question of the dirty cuff. It tells us that the shirt cuff, as it rubs against the counter or the desk or table picks up a multitude of micro-organisms. The journal, of course, does not pretend that such a statement is nothing more than the ordinary universal recognized truism.

The main desire, however, of the writer appears to be to show that colored shirts are worn chiefly by persons who seek to conceal the soiled state of the shirt. Is not this rather a singular reflection on many who during the hot months are fond of wearing that very comfortable garment known as the negligé short. Of course the reason why so many are fond of the colored shirt is the desire to be relieved of the heat and stuffiness of the starched shirt bosom.

The *New York Medical Journal*, in commenting on this subject, expresses a very sensible wish that men would go a little further, and refuse to wear the starched collar, that most uncomfortable of articles for hot weather. We cannot speak quite so positively about the Englishmen residing in their native land, but we are certain that many of the cleanest Englishmen who reside in Canada are fond of the unstarched fronts during our "dog days." We might with truth make the same statement concerning a large proportion of our Canadian physicians.

PASTEUR AND LISTER.

We publish in this issue portions of Dr. Fowler's admirable "Address in Medicine," delivered before the British Medical Association. The following extract is so interesting, especially to Canadians, that we desire to give it special prominence:

"Amongst the many to whom those victories have been due the name of Pasteur stands pre-eminent. Those who have

not read his life by Vallery-Radot have missed the most inspiring work of our time. What a record of simple faith, of patient labor, of scientific insight, and great achievement! As one reads of the opposition which he encountered, and which he was so frequently compelled to turn aside to meet, one grudges every moment of the time lost in strife with men who were unable to appreciate his greatness. But we need not waste our indignation upon his compatriots, for there were not a few in this country who were no less ungenerous to his great disciple, Lister, to whom mankind is so deeply indebted, and to whom now all are mindful of what they owe.

“The seal has lately been placed upon the bond which unites two races under one flag on the Plains of Abraham; not far distant stands the single monument to Wolfe and Montcalm, leaders of opposing armies in life, but united in death.

“Let us on this side of the Atlantic not be behindhand in setting up a memorial which will serve as a record to posterity of the friendship which, originating on the Throne of England, spread over two great nations and helped to preserve the peace of the world, let us hope, *in saecula saeculorum*. What memorial could Science and Medicine desire better than that Pasteur and Lister should stand in marble side by side in the entrance hall of the University of London, of which Lord Lister is the greatest living graduate?”

THE USE OF TOBACCO.

Tobacco is said by some to be a poison, but the late Professor Croft, who was an inveterate smoker, used to tell his classes that he could assure them it was certainly a very slow poison. On the other hand, many tell us that tobacco when used in moderation is not a poison, but an actual benefit to the human system. Nobody has been able to tell us in a definite or scientific way how smoking tobacco can produce beneficial results.

American Medicine, in editorial comment, tells us that the real use of tobacco has in some obscure way a sedative effect upon the nervous system, particularly the higher cerebral cells, but at the same time the effect of excessive indulgence causes the condition bordering on delirium. Mankind has instinctively found that it is comforting in some way which no one can describe, and (latter days) womankind is discovering the same effect.

We are told that an army deprived of tobacco is so inefficient that it may become demoralized and almost unfit for active service. Perhaps the most important fact from a medical standpoint is that the excessive use of tobacco is injurious, especially, so far as it effects the digestive and the nervous systems. We can, however, lay down no fixed rules of use to individuals. The amount of tobacco which produces solace and comfort and perhaps something more in a beneficial way will frequently produce well defined symptoms of poison in another individual, such conditions as the smoker's throat and smoker's heart, etc., are serious. The physician and patient should both realize these facts and act according to the dictates of common sense and under such circumstances moderation or abstinence is desirable.

CARLSBAD.

Carlsbad is a station on the Northwestern Railway of Bohemia, distant from Berlin about 9 hours, from Bremen 17, from Dresden 5, and from Paris 22. It is situated in the eastern portion of the Austrian Empire in Bohemia. We visited there during the month of May. It is most charmingly located in a valley surrounded by high hills which are covered with a growth of fir, pine, oak and beech trees, and are remarkable for the varied and picturesque views which they present. The town proper rises on both banks of the Tepl stream, and has a population of about 15,000 resident

inhabitants. The number of patients visiting for the use of waters amounts to over 60,000 annually. The authentic history of this town begins in the 14th century, and both legend and history agree in naming Charles IV. of Austria as the founder of this most noted watering-place. The regular season opens on the 1st of May, and lasts until the end of September, but as the flow of waters continue throughout the year, and their medicinal effects and analysis do not vary, many visitors are found here at all seasons.

Anyone remaining in Carlsbad more than a week is obliged to pay what is known as the "cure" tax, which varies according to the class, from 8 to 20 crowns. To all graduated physicians, their wives and children, however, are extended the courtesies without payment, including a music tax which varies from 10 to 34 crowns; and the music at Carlsbad is wonderful indeed, there is scarcely a piece of classical music of recognized merit which does not figure on the programme at some concert during the season. The principal concerts are held in the "Stadtspark" and at "Pupp's Garden" during the day and evening, while the town band plays at the Sprudel and Muehlbrunn Colonnades every morning from six until eight, the usual hours of drinking in Carlsbad.

Of hotels there are plenty of all kinds and descriptions, for one dollar a day or even less accommodation can be secured, but the noted, largest and most comfortable hotel is Pupp's establishment. Those who wish to have the better class of accommodation during the height of the season, in July and August, would do well to write in advance, and the strangers visiting there should be careful not to be entrapped on arriving at the station by "touts," who invariably say that all the available lodging space has been taken up, but for a consideration they will find a room for the night, and if the visitor discovers that the apartment is not to his liking, and gives immediate notice of his desire to vacate, he will find himself required by the law to pay a full week's rent.

The first official Visitors' List dates from the year 1756. Some of the most noted names in the world's history are

found in this list. Kings, queens, diplomats, noted physicians, artists, statesmen and poets. It is reported that Goethe spent fourteen seasons here; that Beethoven conducted concerts, and that Schiller lived his three weeks honeymoon at Carlsbad.

The first analysis of the water was made in 1787, and subsequent analyses show that the waters have remained unchanged in both their qualitative and quantitative composition. The Carlsbad treatment is a combination of internal and external use of the thermal waters supported by the diet designed to assist the effect of the waters, and the individuality of the patient being fully taken into account.

Baths can be taken in the bathing establishments belonging to the town, which are fitted up with comfort and convenience. Here are to be had mineral water baths, mud baths, vapor baths, electric baths, carbonic acid baths in addition to massage and the Swedish medical gymnastics, Prof. Zander's method.

Much has been said of the modern diet of Carlsbad, and the physician consulted prescribes the "Carlsbad-Kur," with the proper diet. As a rule patients are advised to retire between the hours of nine and ten o'clock, and rise at six in the morning, in order that they may be at the springs to drink their full quota of water, usually three glasses before eight o'clock. Three-quarters of an hour after the last hot dose is taken, it is interesting to watch the crowd of visitors disappear one by one from the long promenade in the colonnades to the numerous bakery shops on the Alte Weise, where they select according to instructions rolls, cakes, brown bread, gluten bread, home-made bread or zwiebach, and march off with their little bags to the hotels, or up the hill under the trees, where they may order coffee, milk, chocolate, an omelette or cold ham and eggs. But after partaking of the three drinks and a light breakfast, it is well for visitors not to stray too far afield, but to be near the comforts of home, for the waters are active and the calls are urgent.

Great moderation is advised by the resident physicians for the noon-day meal. Fish, eggs, light meats, vegetables,

macaroni, milk, rice and mace are very much in evidence on the bills of fare.

We spent truly a delightful week in Carlsbad, and particularly enjoyed the drives through the surrounding hills, one being to Geisshubler, eight miles from Carlsbad where the Mattoni Springs are situated, and we have to thank Dr. Arnold Lorand for the courtesý extended, and for many kindnesses shown to us in Carlsbad through his influence and consideration.

W. H. B. AIKINS.

Personals.

Dr. W. H. Carveth has removed from Toronto to Powassan.

Dr. Edmund E. King has returned to Toronto and resumed practice.

Dr. T. H. Whitlaw has been appointed Medical Health Officer of Edmonton.

Dr. R. D. Allway left Canada some months ago, and is now practising in Graceville, Minn.

Dr. J. M. Jory, of St. Catharines, has been appointed Coroner for the County of Lincoln.

Dr. D. A. Sinclair, of Milburn, has been appointed Coroner for the County of Middlesex.

Dr. Jno. Caven, after spending part of the summer on the Georgian Bay, returned to Toronto, August 2nd.

Dr. Chas. O'Reilly, of Toronto, sailed from Montreal for Liverpool, August 8th. After visiting London and Dublin he will return to Canada early in October.

Dr. W. A. Young entertained a number of medical men at dinner at the Yacht Club, to meet their old friend Dr. Jno. Leaming, who has made a conspicuous professional success in Chicago.

Dr. W. P. Caven, of Toronto, returned from England, and spent the month of August partly in Stoney Lake and partly in Muskoka. His friends will be glad to learn that he has quite recovered from his serious illness of last winter and spring.

Drs. Bruce Smith and J. N. E. Brown, of Toronto, after spending a couple of weeks in London studying hospital construction and hospital administration, left the metropolis July 22nd to visit some of the newer hospitals in provincial towns.

Professor Landouzy, who is expected to visit Toronto this month, was born at Rheims in 1845. His grandfather was a physician of that town. He went to Paris in 1867, was Hospital Intern in 1870, appointed assistant Professor in 1879, Physician to the Lannec Hospital in 1890. In 1893 the distinguished professor obtained the Chair of Therapeutics in the Faculty of

Medicine, and a year later was elected a member of the Academy of Medicine. His contributions to the medical press, his clear sightedness, originality and patient research have brought him into great prominence. He is one of the directors of the *Presse Medicale* and the *Review de Medicine*, and an officer of the Legion of Honor.

Marriages.

Dr. J. H. Lowe, of Toronto, to Miss Maude Dover, June 15.

Dr. W. J. Dobie, of Weston, to Miss Mabel James, June 2.

Dr. A. R. Jackson, of Bolton, to Miss Mildred Gray, June 10.

Dr. A. McCannell, of Minot, N.D., to Miss Violet Rose, June 17.

Dr. Robert R. Fitzgerald, of Lockport, N.Y., to Miss Edith Bowley, June 24.

Dr. Wesley T. Rich, of Horning's Mills, to Miss Blanche Webster, June 24.

Sept 1908 Obituary.

J. CURRY SMITH, M.D.

Dr. J. C. Smith, a well-known physician in Barrie, died, July 30th, aged 44. He had been ill for only a week with what was supposed to be a comparatively mild attack of appendicitis or typhoid fever. Without any apparent reason he suddenly grew worse, passed into coma, and died in a few hours.

He graduated from the University of Toronto in 1891, and then practised for a short time with Dr. Harvey in Orillia. He went from Orillia to Barrie several years ago, and soon built up a large practice, and was highly respected by the community generally.

P. PALMER BURROWS.

Dr. Burrows, of Lindsay, died suddenly at his residence, July 31st, aged 67. He had been out making his usual calls in the morning, and on reaching home complained of pain in the region of his heart, and expired in a few minutes.

He graduated from McGill in 1866. He was recognized as a man of more than ordinary ability, both in medicine and science, and soon became prominent in Lindsay, both as a physician and a public man.

JOSEPH ARTHUR MALLOY, M.D.

Dr. J. A. Malloy, a graduate of Toronto and Trinity Universities of 1895, formerly of Brampton, Ont., died at Okanagan Centre, B.C., June 22nd.

Book Reviews.

TRANSACTIONS OF THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS. Seventh Triennial Session, held at Washington, D.C., May 7, 8, 9 and 10, 1907. Published by the Congress.

We congratulate the Congress on this material method of bringing before the profession many excellent papers.

The first sixty pages give in full the names of officers, guests, members, etc., following this come two main articles, the first on the "Historical Development and Relative Value of Laboratory and Clinical Methods in Diagnosis," associated with the names of Osler, Barber, Stengel, Cabot and Blumer; the second on the "Comparative Value of the Medical and Surgical Treatment of the Immediate and Remote Results of Ulcer of Stomach," discussed by Musser, Stockton, A. J. Mayo, Munro, Jacobi and Janway. The address of R. H. Fitz, the President, on the "Borderland of Medicine and Surgery," concludes the volume.

MODERN MEDICINE, ITS THEORY AND PRACTICE, in original contributions by American and foreign authors; edited by Wm. Osler, M.D., Regius Professor of Medicine in Oxford University, England; assisted by Thos. McCrae, M.D. (Tor.), Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. IV., illustrated. Philadelphia and New York: Lea & Febiger. 1908.

This latest addition to the new system of medicine deals with diseases of the circulatory system, the blood, spleen, thymus and lymph glands. Prof. Osler contributes a chapter on acute endocarditis, another on diseases of the valves of the heart, one on diseases of the arterics, and one on aneurism. The other contributors maintain the high standard set by the first three volumes and amply fulfil our expectations. The only criticism we have to offer to the volumes, as a whole, is that there is not the same easy flow to the sentences as one finds in some English works. But everywhere the utility of the American continent is in evidence, and perhaps makes amends. We are not sure that this is not a better library system for a busy general practitioner.

A **MANUAL OF PATHOLOGY.** By Guthrie McConnell, M.D., Pathologist to the St. Louis Skin and Cancer Hospital and to St. Luke's Hospital, St. Louis, Missouri. 12mo of 523 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1906. Flexible leather, \$2.50 net.

It is a book that should be appreciated by students and by those who wish a ready reference work.

The volume is well illustrated with cuts and colored drawings from Ziegler, Cabot, etc., and contains much practical matter on laboratory technique, such as the preparation of stains and the methods of staining in blood work and in bacteriology. The chapter devoted to the method of conducting post-mortem examinations is especially valuable. The only thing to be regretted is that more space was not given to general pathology, but in view of the evident desire of the writer for compactness, it may well be overlooked by the reader.

PHYSICAL SIGNS OF DISEASES OF THE THORAX AND ABDOMEN. By James E. H. Sawyer, M.A., M.D. (Oxon), M.R.C.P. (Lond.); Casualty Assistant Physician and Medical Registrar, the General Hospital, and Physician to out-patients, the Children's Hospital, Birmingham. Published by Bailliere, Tindall & Cox, Henrietta St., Covent Garden, London. J. A. Carveth & Co., Yonge St., Toronto, agents.

The above is an excellent and eminently clear and practical work, adapted more especially for students; no available space has been wasted on improbable theories, only those of a practical import have been discussed. Differential diagnosis from the aspect of physical signs has been carefully considered, illustrations and tables being employed for their elucidation. The book is well worthy of a place in the students' library.

GREEN'S ENCYCLOPEDIA OF MEDICINE AND SURGERY, Vol. VIII; Physiology (nutrition) to Rhinolalia. Published by Wm. Green & Sons, Edinburgh and London.

The first 100 pages are taken up with the completion of the section on Physiology, by Prof. Noel Paton. We note that the

subject of Hormones has been discussed. Other outstanding sections are those on Pregnancy and the Puerperium, Post Mortem methods, the Pulse (fully illustrated by sphygmographic tracings), Refraction, Retinoscopy, and an excellent chapter on Rheumatism. The volume is in keeping with those already issued, and fully up to the same high standard.

Miscellaneous.

The Proteid Iron Preparations of the National Formulary, or the N. F. Propaganda, with some Queries and Conclusions.

When we have the temerity to state that some of the pharmacopeial and most of the National Formulary preparations intended as *substitutes* for well-known standard remedies are not "just as good" as the originals, that in fact some of these imitations are nasty, ill-tasting and ill-smelling concoctions (and that it is, therefore, wicked to mislead the physician and the pharmacist—the former to prescribe and the latter to dispense these substitutes), we are accused by some narrow-minded druggists, and some misguided or ignorant doctors, of bias. To assure our accusers that we are as free from bias as any living human can be, and that our only misfortune is that we have a penchant for telling the truth, regardless of consequences, would be a waste of time. Let us, therefore, see what pharmacists themselves—and real pharmacists with laboratory facilities—have to say about some of the National Formulary preparations.

Prof. W. H. Harrison, of the Northwestern University School of Pharmacy, Chicago, read a paper before the Chicago Branch of the American Pharmaceutical Association entitled "Notes on Proteid Iron Solutions." The paper appears in the *American Journal of Pharmacy* for April, and we advise every honest physician and pharmacist to read it there in its entirety. An abstract of it also appears in the *A. Ph. A. Bulletin* for May. Dr. Harrison considers the three proteid iron preparations of the National Formulary: *Liquor Ferri Peptonati*, *Liquor Ferri Peptonati eum Mangano*, and *Liquor Ferri Albuminati*. Of the first Dr. Harrison has the following to say :

LIQUOR FERRI PEPTONATI.

"The present National Formulary formula yields a product which is a thick red-brown liquid, with a very *disagreeable gluey** odor. It is clear in neither reflected nor transmitted light, and of such a colloidal nature as to render filtration impossible even under greatly increased pressure. The taste is

* Italics are ours thruout.

at first pleasant, followed by a strongly *alkaline* and *feruginous* after-taste, which persists."

He then proceeds to show the reasons why a good preparation is impossible. The chief trouble lies in the peptone, of which it is impossible to obtain in the open market satisfactory or uniform specimens. Whether obtained from meat or fish albumen they "are prone to *rapid putrefaction* and yield iron combinations of most *offensive* odors."

Of *Liquor Ferri Peptonati cum Mangano*, which is openly and frankly intended as a substitute for *Pepto-Mangan Gude*, and on which substitute an immense amount of time and labor has been expended, the author has the following to say:

LIQUOR FERRI PEPTONATI CUM MANGANO.

"When made according to the present formula, with the materials obtainable on the market, the National Formulary preparation may be described thus:

"A dark brown *sluggish* liquid, with a most *offensive* odor, not unlike a mixture of *ammonia* and *putrefied beef extract*. Taste *alkaline*, *saline* and *nauseating*. It deposits after a time a *dirty white sediment*, which soon covers the bottom of the vessel.

"The finished product contains about .15 per cent. iron, .145 per cent. or less manganese, and .234 per cent. ammonium hydroxide, the latter serving the *sole purpose* of developing more *offensive* odors.

"I have prepared four samples, in each case using different samples of peptonized iron, the finished products being almost identical.

"The trouble with this preparation lies principally with the peptonized iron and ammonium hydroxide, although there is room for improvement elsewhere.

"Of six samples of peptonized iron examined, the products of the principal manufacturers of pharmaceutical chemicals, *all* showed that *putrefaction* was in progress.* Of seven examined for iron content, only one showed over 5 per cent. Fe O (3.5 per cent. Fe), and this one sample has not yet been on the market under the name of peptonized iron or iron peptonate.

* Dr. Harrison is not alone in his opinion. All pharmacists who investigated the matter think the same. Mr. M. I. Willert, one of our foremost pharmacists, and a member of the Council of Pharmacy and Chemistry of the American Medical Association, says: "This formula [*Liquor Ferri Peptonati cum mangano*] directs that commercial ferric peptonate be used. This substance at best is *variable*, is *unstable*, and, as usually met with, is *decomposed* and *unfit* for use. Commercial manganese peptonate, suggested in the alternative formula, is even more unsatisfactory than the ferric peptonate."—*Amer. Jour. of Pharmacy*, May, 1907, p. 211.

"At the time this work was started, but two samples of iron peptonate and none of the soluble manganese citrate were obtainable on the Chicago market.

"After some time I succeeded in collecting some direct from the manufacturers, seven samples of peptonized iron and two of soluble manganese citrate.

"These two samples of soluble manganese citrate, although bearing the same title, are *entirely different substances*.

"(1) A light red-brown powder with a strong odor of acetamide and ammonia. It is a manganese-ammonium citrate containing about 18 per cent, manganese. Incompletely soluble in water, but solution is rendered clear by standing for some time with a slight excess of ammonia.

"(2) Pearl-colored scales (evidently made after the formula of F. B. Power, Proceedings A. Ph. A., 1902, 937). Contains 13.5 per cent. manganese. It is a manganese sodium citrate, freely water-soluble."

"In view of the above facts, it seems that a satisfactory preparation according to the present N. F. formula is *impossible*, although with a good sample of peptonized iron it could yield a *passable one*."

Now, gentlemen of the medical and pharmaceutical professions, please read the above carefully, very carefully. Here we have a preparation of great, thoroughly established, therapeutic value. That it is of great, thoroughly established therapeutic value is seen from the fact that it is prescribed by physicians universally throughout the country. That it is prescribed universally is seen from the fact that every manufacturer, big or little, and every would-be pharmaceutical chemist is racking his brains and spending his time and labor in his endeavor to prepare a successful substitute for Dr. Gude's peptomangan. And what is the result? What have we got? After hundreds and hundreds of attempts, after many years of labor, the leaders of pharmacy give us in the *third* edition of their book as a substitute for a well-known ferruginous tonic a formula, which yields in the hands of the *best* pharmacists a preparation of "a most offensive odor, not unlike a mixture of ammonia and putrified beef extract. Taste alkaline, saline, and nauseating, and depositing after a time a *dirty white sediment!*"

Is this the aim of real professional pharmacy?

And I appeal to you all to answer this question: If you had a boy, or girl, wife or mother who was very anemic and

was in need of a mild, assimilable, non-irritating ferruginous tonic, would you give the original pleasant-to-eye, smell and taste—and stable pepto-mangan, or would you give the National Formulary Liquor Ferri Peptonati cum Mangan, which is physically, pharmaceutically and therapeutically *rotten* (there is no other term possible), which, according to the testimony of pharmacists themselves, has a *most* offensive odor, alkaline, saline and nauseating taste, and becomes very quickly decomposed? Would you run the risk of ruining their stomach and making them still sicker, because the imitation product may perhaps cost ten cents cheaper? And if you would not, if in your own family you would use the genuine product, why should you treat the outside public so badly?

Dr. Harrison claims that after numerous trials he has succeeded in preparing a satisfactory solution of iron peptonate with manganese. He gives an exceedingly elaborate formula and process. Assuming this to be the case, does anyone believe that one druggist in a thousand would go to all these pains to select materials of the highest quality? And does anyone believe that one druggist in a thousand would succeed in making a satisfactory preparation by following Dr. Harrison's elaborate directions, which it took him months to perfect? And what is it all for? And this leads us to the important question:

WHAT IS IT ALL FOR?

Who inoculated us with this crazy substitution-mania? What obsession has taken possession of us, that no sooner has a preparation become popular, no sooner has a real demand been created for it, than pharmaceutical professors and sub-professors, their assistants and sub-assistants, our manufacturers and their employees, anxious for a raise, and, what is worse, our National Formula makers, begin to spend time, labor and material, in order to prepare a more or less satisfactory (?) *substitute!* As a result of this we get a hundred different imitations, all varying in color, odor, taste, chemical composition and therapeutic action, and many of them positively rank, irritating and injurious. And this is called the elevation of pharmacy and therapeutics! It is not thus in Europe. We do not hear of the English, German, French or Italian professors and pharmacopeia makers spending their time and labor in the attempted manufacture of imitations of well-known products. They spend their time and labor in *original research and investigation!*

The imitations, we said, all differ widely in character, and not one of them is as good as the original. The reasons are easy to understand. The manufacturer of one or only a few specialties devotes his entire time, energy and capital to those specialties. He makes numerous experiments; he uses materials of the highest obtainable quality; he invents or instals special machinery, if necessary. All these things are entirely out of the question with the retail druggist, and even with the big general pharmaceutical manufacturer; for, making several hundred to several thousand different preparations, it is impossible for him—*it does not pay him*—to devote too much time, labor and expense to an imitation of somebody else's specialty—especially as he has no reputation to gain or lose on it. Yes, the reasons are perfectly plain, why the imitations are never as good as the really worthy original additions to our therapeutic armamentarium. But while I knew a priori that this was so, I wanted to convince myself by concrete examples, by incontrovertible facts. I secured samples of practically *every* preparation which our noble pharmaceutical leaders have introduced into our Pharmacopeia and National Formulary as substitutes for well-known proprietary products. I secured samples of the "official imitations" of arsenauro, antiphlogistine, aristol, lysol, pepto-mangan, Gray's glycerine tonic, Gardner's hydriodic acid, Fairchild's essence of pepsin, Carlsbad salts, glyco-thymoline, listerine, even of such a simple thing as resinol, and *not in one instance* was the imitation equal to the original in purity, taste, homogeneity, stability, etc. Some of the preparations were absolutely rank, disgusting, and I could but feel contempt, mixed with indignation, against certain high moguls of pharmacy, who mislead the poor retail druggist and the unsophisticated physician into the belief that their careless, imperfect, theoretical, extemporaneous formulæ will yield products "just as good" as the standard products, which are the result, perhaps, of many years of chemical or pharmaceutical research, and which are prepared in specially adapted laboratories with the utmost care.

We will now pursue another line of thought. Let us assume for a moment that after the expenditure of a lot of time and labor somebody has succeeded in preparing an imitation of some well-established proprietary, which is *absolutely* "just as good"—absolutely the same—pharmaceutically, chemically and therapeutically. Let us assume it. What has

been accomplished? What has been added to pharmacy and chemistry? Nothing! Not an iota. Merely a product that has already been in existence and in use, has been duplicated by somebody else. But here somebody will be sure to interject: "Why, the product has been cheapened." A product that can be manufactured by everybody is generally cheaper than a monopoly product. But to whom is the product cheaper? To the public? Any such assertion would be emphatically untrue. Just prescribe 12 ozs. or a pint of the imitations, let us say, of Liq. ferri peptonati cum mangano or Elix. gentian. glycerinat. and see how much a druggist will charge. As a matter of fact, I have been told and know personally of instances where my good friends, the druggists, make it a rule to charge *more* for the N. F. preparations than for the original products. Incredible? Just try it yourself. Do you want additional testimony from an unimpeachable source? Take the *American Journal of Pharmacy*, for May, 1907, and open it to page 236. On that page you will read the following:

"Professor Remington, in the course of his remarks, strongly deprecated the reported tendency of pharmacists to charge *more* for U. S. and N. F. preparations than for corresponding proprietary preparations, and expressed the belief that practices of this kind would surely do much to discredit the propaganda and do an infinite amount of harm."

It is thus *seen*—and seen in a manner which cannot be gain-said—that the public is not at all benefited by this U. S. P.-N. F. propaganda. Who then is benefited? The druggists? Yes, that I admit. The druggist is to a certain extent benefited by this propaganda. And nobody begrudges it to him. Eking out, as he does, a very poor living, after working longer hours than any other tradesman or professional man, nobody, I am sure, will grudge the druggist a few extra cents profit (*provided* the imitation products are really in every respect as good as the original ones). But, this being so, that is, the manufacture of imitation products *not* tending to the elevation of pharmacy and chemistry, and *not* being of the slightest benefit to the public, let us say so! Let us have a clear understanding as to what all this propaganda is about. Let us stop talking about the elevation of professional pharmacy, let us stop throwing dust into the eyes of the unsophisticated physician, and let us acknowledge openly and honestly that the entire N. F. propaganda is a movement instituted for the purpose of affording the druggist a larger profit

on physicians' prescriptions and—if it must be said—of making substitution respectable, of giving it, so to say, an official status. Is this putting it too strong? But it is the truth, and the language of truth, said the Romans, is simple; simple, plain and direct.

A WARNING.

And here I wish to utter a word of friendly warning to the pharmacists of this country, which warning I trust will be heeded by the readers of the *Critic and Guide*. Suppose the N. F. propaganda is successful and the doctors begin to prescribe N. F. preparations instead of standard long-established products. Then the druggist must be *sure*—and this is my warning—that the preparations he dispenses are really of high merit physically (taste, odor, etc.), pharmaceutically and therapeutically. Otherwise, he will only hurt himself, the thing will act as a boomerang; the doctor's confidence in the retail druggist's ability will be shaken still further, and he will be still further strengthened in his belief that the safest thing is to prescribe brand preparations of known composition—or he will be driven into self-dispensing. Here are two actual experiences—two out of many that I could relate. A physician was in the habit of prescribing large quantities of Hayden's Viburnum Comp. The druggist to whom most of the prescriptions used to go thought it wise to do some missionary work with the doctor, showed him circulars about nostrums, etc., and urged him to prescribe the N. F. substitute for H. V. C., which, he claimed, was superior. The doctor finally, half-persuaded, wrote a prescription for Viburnum compound N. F. The druggist prepared it extemporaneously and dispensed it. The woman complained to the doctor that the medicine did not taste like the other times, made her sick at the stomach, and didn't do her any good. The doctor, as he told me, then sent the N. F. to —, continued to prescribe as formerly, and the missionary druggist is now getting fewer prescriptions from him than formerly. The second case is one in which a druggist dispensed a muddy, ill-smelling, strongly alkaline mixture instead of pepto-mangan, which the doctor had prescribed, and as a result lost almost his entire prescription trade, for the doctor was one of those who looked at the substitution business very seriously and took pains to tell the members of his medical society that the druggist O. was a substitutor.

Yes, make sure, when you do create a demand for U. S. P. and N. F. preparations, that you are able to supply the demand. For it is a well-known fact that *not* 5 per cent. of the druggists in the country are capable of preparing even the half-way complex preparations of the U. S. P. and N. F. (such as the organic iron preparations, effervescent salts, etc.).

We are not alone in our opinion that the N. F. propaganda is not the best thing in the world: Some prominent pharmacists think the same way. Take the *American Journal of Pharmacy* (June, 1907). On page 296 you will find a report of a paper entitled "Practical Results with N. F. Preparations," read before the Philadelphia College of Pharmacy. In discussing that paper, a prominent pharmacist, Mr. D. J. Thomas, "was inclined to question the advisability of pursuing this line of work at the present time, thinking that *the rank and file of pharmacists were not prepared to meet the demand* for U. S. P. and N. F. preparations. He recounted some experiences that had come to his attention that appeared to indicate that pharmacists in his locality, like pharmacists in other sections, had been remiss in their duty to themselves and their customers, and had not kept themselves posted on the progress of pharmacy along the more practical lines. He also called attention to several formulas that *when followed exactly did not give satisfactory preparations*. Among these he enumerated the glycerinated elixir of gentian and the cataplasm of kaolin."

This article could be drawn out so as to occupy an entire issue—for numerous facts and illustrations could be offered as proofs in support of our position—but we believe we have said enough to show the tenability, the validity of our reasons, the impregnability of our position, to any fair-minded person, to any person who really wants to know the truth.

And now for a brief resume of the conclusions based upon the facts and arguments presented in our editorial. The conclusions are as follows:

1. The products introduced into the Pharmacopeia and National Formulary as substitutes for other well-established products are inferior, in practically every instance, to the originals, while some of the formulas yield nasty, irritating, nauseating and, therefore, therapeutically worthless products.

2. To urge the physician to prescribe these imitations *in lieu* of the original products is, therefore, dishonest. The

physician is *not in any way* benefited, while the patient is distinctly injured.

3. This so-called National Formulary Propaganda has nothing to do with ethics. Instead of elevating, it tends, as we have shown, to degrade both pharmacy and medicine. It is purely a money-making proposition.

4. The public is not in any way benefited by this propaganda, for the patient has to pay just as much (and often more) for the *inferior* substitute as for the *superior* original.

5. The deduction which logically and inevitably follows from the above conclusions is this: If you know the composition of a product and that product has given you satisfactory results in your practice, stick to that product; prescribe it and see that you get it; and do not allow yourself by specious reasoning and false claims to be persuaded to use an imitation or a substitute, *be that imitation or substitute official or non-official.*—*Critic and Guide.*

Summer Dysentery as it Appears Hereabouts, its Treatment, etc.

By C. H. POWELL, A.M., M.D., Prof. Principles of Medicine, Physical Diagnosis and Clinical Medicine, Barnes Medical College, St. Louis, Mo.

CASE 1. DYSENTERY IN A CHILD AGED SEVEN YEARS.—I was, one very hot day in August, summoned to the bedside of little Jimmie McL., who was suddenly compelled to go to bed screaming and crying with his stomach paining him. I found his little features pinched and lips pursed together, his face very pale and eyes looking hollow and expressionless. His mother stated that the little patient had been complaining of not feeling well for the past twenty-four hours, and she noticed that he slept but very little the night before, and made several trips to the closet. Believing that dysentery after all is brought about by germ activity, the thought occurred to me that if I could give some efficient but mild germicide internally, and at the same time could flush out the bowel with the same antiseptic, I would have the key to the situation. Accordingly I gave a teaspoonful dose of Glyco-Thymoline internally every three hours, and put about one ounce of Glyco-Thymoline to the pint of water, with which I flushed the fluid through a good sized catheter high up into the bowel. An immediate improvement at once manifested itself. The pulse became perceptibly stronger, the fever reduced, the little patient became brighter in the face, and the case at once changed from a very