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A MONTHLY JOURNAL DEVOTED TO MEDICINE & SURGERY

Vol. XXII. HALIFAX, JANUARY, NOVA SCOTIA. 1910. No. 1

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THE MARITIME MEDICAL NEWS

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WORLD OF MEDICINE.

Vertigo.

In concluding an article on this subject in the *British Medical Journal* of April 10, 1909, Simon says that as regards treatment, this naturally has reference to the underlying aural affection, and in giving a prognosis one has to take into consideration the possibility of the amelioration of this condition, and also the period of association of the deafness and vertigo. In non-suppurative affections of the middle ear in which the vertigo has shown itself much later than the deafness or tinnitus, it has seemed to the author that the treatment of the aural condition was more likely to lead to its improvement or disappearance. In treating the symptom itself the drug of most efficacy is quinine. Charcot instituted this treatment on the principle that it gradually destroyed the hearing, when, as it has been seen, the vertigo disappears. On the other hand, Urban Prichard reports a case of severe vertigo from a poisonous dose of quinine. It is, however, not necessary to give it in such large doses. Given a grain at a time, it seems to reduce the irritation of the vestibular nerve, probably by overcoming congestive changes.

On the ground that vertigo is due to anæmia of the labyrinth—which, however, is probably not as a rule well founded — Lermoyez suggested the use of amyl nitrite. We are all aware, of course, that in conditions of severe anæmia vertigo is common, but whether this is an aural phenomenon or not, even when associated, as it often is, with tinnitus, is a doubtful point. At the same time it is quite probable that the actual cause of vertigo is not so much either congestion or anæmia as the alteration in the pressure of the endolymph which may be brought about by either of these states. The bromides and iodides are sometimes useful, and pilocarpine, especially in patients in whom the aural condition is dependent on congenital or tertiary acquired syphilis, has sometimes seemed of value. Repeated lumbar puncture has been used with some, though probably only with temporary, benefit. Patients should be advised to eschew alcohol, tea, coffee and tobacco, to avoid as far as possible mental excitement and loud noises, and to keep the bowels acting well. During a severe attack the recumbent posture should be enjoined, with ice to the side of the head. When all other measures fail, and when life is made practically intolerable, the advisability of destroying the labyrinth—at any rate the static portion of it—should be entertained. The author now refers to cases of non-suppurative ear diseases. This has been caried out in England by Milligan, Lake, and Yearsley; or, as Ballance suggests may yet be possible, the vestibular nerve, as distinct from the auditory nerve, may be divided before it enters the internal auditory meatus.

The Wasserman Reaction. In "Studies of Wassermann Reaction" contributed to the *Medical Record* for December 25, 1909, E Carson White and S. D. W. Ludlum compare the Wassermann reaction, the Noguchi modification, and the globulin tests with reference to those nervous diseases due directly or indirectly to syphilis. There was a marked uniformity of result with all the tests; the Noguchi modification was more sensitive than the Wassermann, thus making it give positive results in non-syphilitic cases. The most positive tests were found in active secondary cases, the faintest in treated tertiaries. The intensity of complement fixation showed a direct relation to the acuteness of the manifestation, and absence or incompleteness of treatment, or length of time since treatment. The globulin tests were more positive in parasyphilitic cases where the deviation tests were less constant. It is of great corroborative value in diagnosis between brain tumour and cerebrospinal syphilis. The Noguchi butyric acid tests gave a positive reaction in every luetic case with meningeal involvment when applied to cerebrospinal fluid. It was positive in almost every meningeal case with reference to the cause. The Wassermann test means syphilis active in some part of the body. In infants where mothers have been thoroughly treated the reaction was frequently negative, the highest results being in latent syphilis. Variation in primary cases is due to the differences of duration of the disease when test was taken. In some treated cases the reaction becomes negative quickly, in others very slowly. A positive reaction indicates further treatment. As a clinical test the Wassermann is of greatest value as an index of treatment.

The Treatment of Uric Acid. In speaking of the value of drugs for the removal of so-called uric acid states, Goodhart in the *Practitioner* for July, 1909, says that all the uric acid solvents, so much vaunted, appear to be equally useless for that special purpose; but he believes that salines have their value, if given with discrimination, for facilitating the excreting power of the several abdominal glands. And in this way water is probably one of the best remedies, but even water-drinking, if excessive, is, he thinks, not to be indulged in with impunity, for he is by no means prepared to assent to what appears to be the popular belief that water being harmless, it matters not what amount is imbibed in the twenty-four hours

In his opinion the late Sir William Roberts's simple prescription of half a drachm of bicarbonate of potash in a tumbler of water at beatime, to stem the nightly acid tide, is, on the whole, one of the most useful recommendations, apart from tonics, cures at watering-places, and change of scene and air.

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Infectiousness of Poliomyelities. Basing his article upon a personal study of sixty-five cases, LeGrand Kerr contributes a paper on "The Infectiousness and Contagiosity of acute Poliomyelitis" to the *New York State Journal of Medicine* for December. In the concluding paragraphs the author says:

"There is very little in the history of any of these cases to support the theory that the infection is due to the introduction into the body of a small number of microbes of a high virulence. On the other hand there is much to indicate that the offending agent is one of low virulence. In support of this there are the prominent

facts that in this as in other epidemics of the disease there is a widespread distribution. The disease does not usually affect more than one child in a family, nor is the infection of adults of frequent occurrence.

"Its common occurrence during the heated term and particularly after a prolonged dry spell would indicate either a low virulence of the agent which is unfavourably influenced by low temperatures or which is so low that it requires the aid of the favoring factor of heat to give its power.

"The indications seem to be quite clear that it is carried bya third person who remains healthy but who is capable under favoring circumstances of being the innocent agent in its spread.

"From this study of sixty-five cases, I am quite firmly convinced that in acute poliomyelitis, we are dealing with a hæmatogenic infection of a microbic agent of low virulence. That this infection is engrafted upon a tissue susceptibility which is acquired through the agencies of local malnutrition, exhaustion and nerve impairment and that this local condition is dependent upon the two factors of functional activity and a general state of malnutrition and that the most favorable factor of all is an individual susceptibility over which we have absolutely no control."

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Treatment of Tumours of the Bladder.

Dr. E. S. Judd, in a paper on this subject, appearing in the *Northwestern Lancet*, concludes as follows:

"If the neoplasm is in one of the upper quadrants near the dc me of the viscus, dissecting the peritoneum intact from its posterior surface, the suprapubic incision exposing the bladder through the space of Retzius, gives a very good exposure.

"In case the tumour has its attachment at or near the base, it is necessary, in order to do a technical and radical operation to open the peritoneum first and pack off the intestines and omentum as in resection of other organs, and then open the bladder through its peritoneal surface. It was not until we learned that the bladder had been accidentally opened without serious consequences to the peritoneum during the abdominal operations, that we felt justified in deliberately approaching these tumours in that way. We have now removed tumours through a transperitoneal incision in nearly twenty cases and in none of them have we seen the slightest soiling of the peritoneum. In four cases we have removed the quadrant of the bladder containing one or the other of the ureteral orifices, and have transplanted the ureter to another section of the bladder.

"From the statistics given us by Watson, and from the histories of our own cases, we are led to believe that it is always advisable to remove a section of all coats of the bladder wall.

"The incision into the bladder is closed in a manner similar to that employed in closing the stomach or intestine after a resection. All of the coats are turned in, and the peritoneal surfaces approximated. No leakage occurred in any of our cases where the incision was made through the peritoneum, while some of the suprapubic cases developed temporary sinuses. The rapid and firm healing of the peritoneum probably accounts for the better results obtained with the former method.

"It will not be necessary to establish drainage unless the prostate or urethra has been interfered with. In our experience patients have done better without a permanent catheter.

Many of them will void their urine from the beginning, though some of them will require catheterizing for the first twenty-four hours at intervals of every two hours until they are rid of the clots of blood."

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Treatment of Diphtheria.

In an article on the "Treatment of Diphtheria, with Special Reference to the Prevention of Heart Failure," Porter in the *Archives of Pediatrics* for August, 1909, reaches the following conclusions. He thinks the essentials of treatment for the heart condition accompanying diphtheria are:

1. Prompt and sufficient dosage of antitoxin.
2. Rest in bed not less than three weeks.
3. Attention to the condition of the abdominal viscera.
4. A nutritious, easily digestible diet.
5. Certain drugs, each acording to the indications. For a slow heart, atropine; for a racing heart, camphor, and ice to the præcordium; for vascular failure, ergot.
6. If the heart failure is indicated to an overwhelming toxæmia with lethargy hypodermoclysis.

Finally, the factors determining the number of units of antitoxin to be given are:

1. The intensity of the toxæmia.
2. The extent of the involvement.
3. The time elapsed since the first manifestation of the disease.
4. Whether or not there is stenosis of the air-ways.

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Tuberculous Peritonitis.

In an article contributed to the *American Journal of Obstetrics and Diseases of Women and Children*, for May, 1909, Brown, after calling attention to the fact that primary tuberculosis of the peritoneum is extremely rare, the infection being received through the intestinal tract, or, in women, through the Fallopian tubes, alludes to the insidious onset of the affection, though at times the cases commence suddenly with symptoms of acute pain and tenderness simulating cases of appendicitis or acute pelvic inflammation, followed shortly by pronounced ascites.

Ochsner is quoted to the effect that fully 50 per cent of the cases of tuberculous peritonitis recover in the hands of the physician. Strapping the abdomen is suggested as an efficient means of increasing thoracic respiration and thus exaggerating lymphatic absorption. The most important medical treatment is regarded as incident to the use of tuberculin. The time to operate is after effusion has become chronic. Shattuck is quoted to the effect that four to six weeks should elapse before surgical measures are instituted . The cases most favorable for surgical intervention are those of a serious type without adhesions, also in localized collections of fluid. Yet no classes seem to be at times beyond the beneficial influence of surgery.

Wunderlich's statistics are quoted to the effect that 23 per cent. of the ascitic form are cured, 9.8 per cent. of the fibroadhesive form, and that all exhibiting the ulcerative form perish.

Leuret's conclusions are indorsed. These are as follows:

Genital lesions are the most frequent cause of peritoneal tuberculosis in women, in particular, the clinical type known as idiopathic ascites in young women.

Tuberculosis of the adnexa is always accompanied by tubercular peritonitis, the form occurring being one of two types—ascitic peritonitis, free or encysted, and dry pelvic peritonitis with adhesions.

The type of pelvic peritonitis with adhesions is subject to frequent exacerbations.

Mayo stated that he has had no recurrence of the ascitic type after removal of the tubes. The abdominal route is preferable. Moreover, the appendix should be examined and removed in every instance when any suspicion may exist that it is the focus. All writers warn against extensive separation of agglutinated intestines, pointing out that the especial danger in this class of cases is incident to the intestinal walls being usually much infiltrated and easily torn. After abdominal section the wound should be closed and drainage discarded.

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Pus Tubes of the Male. Writing under this caption, in the *Journal of the American Medical Association* for December 25th, 1909, W. T. Belfield says that these conditions in the male are generally unrecognized, and he defends the use of the name he had given them by describing the clinical anatomy of the parts, showing the analogies with other tubal suppurations. He describes the symptoms, the vesical and rectal tenesmus, the abdominal pain simulating appendicitis, the toxæmia causing the neurasthenic symptoms, and the impotence and sterility which are the results. The surgical treatment of these conditions and its advantage over the medical treatment are pointed out. He has operated for draining and medicating the vas ampulla, and vesicle 149 times in 107 patients by vasotomy, usually in the office under cocaine anæsthesia and often without assistance, relieving pus tension and offering opportunities for direct medication, also protecting the epididymis from infection, or if infected from pressure infection, as free drainage is afforded through the vas incision. In the technic of vasotomy three features are important: (1) Fixation of the vas, which otherwise may drop into the scrotum; (2) raising the vas through the skin cut for accurate manipulation; (3) exploration of vas for obstruction by sounding with a silkworm thread. When resection is performed a silkworm or catgut thread is passed into the lumen and out through the wall of each cut end and the ends tied above the skin, the thread serving as an axis splint securing exact apposition of the cut end. This method of anastomosis, devised by Mayo, should, he thinks, supercede all others. His experience has taught him the value of accurate vaccine therapy, especially with autogenous vaccine, as a constitutional aid to the local treatment. He summarizes his paper in the following conclusions: "1. Pus infection of the seminal tract plus occlusion of the ejaculatory duct soon converts vesicle, vas and finally epididymis into a closed abscess. 2. Vasotomy is the simplest and least objectionable means of evacuating pus, relieving tension and medicating vas and vesicle. 3. Among the effects of these infections on the urinary organs are bladder irritation and obstruction of the ureter with consequent kidney lesions. 4. Impotence, sterility and sexual neuroses in the male are frequent results of pus infections of the seminal tract and amenable to appropriate treatment thereof, 5. Vaccine therapy, accurately applied, is the most valuable internal measure against the infections which produce pus tubes in the male."

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Treatment of Collapse. Kothe, in the *Therapie der Gegenwart* for February, 1909, confirms the favourable experiences of Hoddick, Rothschild, Calmann, and Meissl in

the treatment of peritonitis and severe collapse with adrenalin. He summarized the results of his experiences as follows: "Adrenalin is the most powerful restorative which we possess at present. Intravenous adrenalin injections are particularly indicated in acute dangerous disorders of the heart and respiration. It constitutes the most active remedy in the severe collapse that sometimes follows spinal anæsthesia and narcosis, and is also of service in severe surgical shock. In case of hæmorrhage and in peritonitis a combination with chloride of sodium infusions is recommended. Whenever patients are rendered insensible, adrenalin should be kept on hand besides other excitants, such as camphor, etc. The dose for intravenous injection is ½ to 1 c.c. of a one-per-cent. solution undiluted, or diluted 20 times —that is to say, from 10 to 20 drops in one litre of physiological salt solution.

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Sanitary and Moral Prophylaxis. Of late years our American neighbours have given much attention to the social evil, both on the platform and in the medical and lay press. Dr. Prince A. Morrow, in the *Medical Record* for December, 1909, reviews the results achieved by the movement. He states that since the movement began, the position of the public toward its work has naturally changed. From finding it impossible to get a hearing, the position has changed so that it is now found easy to get auditors. A number of states and cities have joined in the work and a large number of lectures have been given on this subject. Educational work has been done in three ways by public meetings and conferences, by educational leaflets and pamphlets and by lectures to State societies, to parents, to clubs, etc. The Chicago society has been most active and energetic. In Germany this work has been going on for some years successfully. Restrictions on the treatment of venereal diseases have ceased; opposition of the populace has ceased to such treatment, and much has been done in an educational way. The chief obstacle in the way of the work is the inability to reach the masses in America. The press and periodicals have not been ready to give the subject space in their columns. It is to be hoped that a course in hygiene of these diseases will be given to all high school scholars. The work of this society takes no part in the regulation of prostitution. It seeks to prevent prostitution by education, not to make it easier for the male offender. Prophylaxis by treatment of venereal diseases is a phase of the work. Better facilities in hospitals have been obtained. A national organization should be formed, and a journal for the entire world should be published. A census of venereal morbidity is much needed.

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Typhoid Perforations An article by Edgar N. McGuire, entitled "Perforations in Typhoid Fever, appearing in the *New York State Journal of Medicine* for December, 1909, is concluded as follows:

1. Early diagnosis is often so difficult that in doubtful cases exploration is the only safe procedure.

2. Rapid exploration causes little if any harm.

3. The sooner after perforation the operation is performed the greater the chance of recovery.

4. Rapid operating is essential to success.

5. Operation in the presence of advanced general peritonitis is practically useless,—it only brings discredit upon surgery.

Contact in the Spread of Typhoid. For several years the Hygienic Laboratory of the Public Health and Marine Hospital Service, at Washington, has been studying the origin and prevalence of typhoid fever in the District of Columbia. The last bulletin on the subject is discussed by the *Medical Council* of Philadelphia, and the "conclusions" are of considerable interest.

It is not our purpose to give the details, but one can not but be impressed with the fact that despite a proper care of the water supply and most stringent regulations along all of the lines considered necessary, typhoid continues to be endemic in the city of Washington.

The majority of cases occurred in houses in good or fair sanitary condition; the non-sewered districts had about the same proportion or at most very few more cases than occurred in the sewered districts; there was no evidence that day servants were a factor in carrying infection to the homes of their employers; flies and cesspools do not enter into the equation very much in such a city with few cesspools; the water supply did not seem to be much of a factor, and oysters and shellfish were not proven to be a matter of any importance.

The milk supply accounted definitely for about 10 per cent. of the cases, "bacillus carriers" are believed to account for a proportion of the total hitherto and unsuspected, and "contact" is enough to be one of the major factors in the spread of the disease. In other words, typhoid is carried somewhat like tuberculosis and other diseases not considered as "water borne."

These findings are disappointing. Evidently typhoid can not be eliminated by public and municipal control of the utilities. Milk we must get from the country, and rural hygiene seems essential for the health of the city. The bacillus carrier is hard to locate and harder yet to control. We can locate them in the case of tuberculosis, but typhoid and diphtheria are quite another proposition.

Contact can be rendered less of a menace only by quarantine of cases clinically manifesting the disease and those unfortunate individuals whose stools and urine contain the bacilli for an indefinite period.

The real prophylaxis of typhoid is at the bedside, and while we should not for a moment neglect the purification of the water supply and the sanitary disposal of sewage, there is much within the province of the attending physician. In Washington the 48 per cent. treated at hospitals did not appear to be responsible for any appreciable number of other cases. Of the cases treated in private residences, "the treatment of stools and urine with disinfectants was considered efficient for 152 cases, inefficient for 146, of doubtful efficiency for 38, and method not ascertained for 4." It appears that the nurses and physicians did not use a sufficient amount of adequate disinfecting agents. Since the text-books give full directions for such disinfection it appears that a large proportion of the Washington physicians are remiss in this matter or leave details too much to the trained nurse.

The lesson the *Council* reads to readers is that the bedside contact, the milk supply and the sick room disinfection of urine and stools are all important matters in the case of typhoid.

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Some Eye Troubles of Early Life. John Waite Avery, of New York, describes (*Medical Record*, January 15th, 1910), most interestingly and plainly the occurrence among

children of hypermetropia, myopia, and astigmatism as developmental results of the congenital condition of hyperopia, and shows how they bring about nervous symptoms as soon as the eyes begin to be used at school. Muscular imbalance is responsible for strabismus. Internal strabismus results from hypermetropia, and lack of accuracy of vision of one eye. It is curable by correcting glasses in many cases, while operation is necessary as an adjuvent in others. Divergent strabismus accompanies myopia, and is curable by operation only. The hypermetrope accommodates and is made nervous. The myope gives it up and becomes dull and sluggish. Remote reflex disturbances are often seen as well as headaches, and general nervous symptoms. Complete and rapid relief of all symptoms follows correcting glasses. These imperfections should be remedied early in life, and examination should be made under atropine.

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Urine Examination. J. E. Dale, Fort Collins, Colo. (*Journal A. M. A.*, January 15th), has used the following routine in urinary examinations for the past 6 years and recommends it as useful as a systematic method for detecting the rarer urinary proteids. He claims no originality in any single step of the method, but only that it is a convenient grouping of well-known reactions. Any examination for these bodies presumes a chemically pure acetic acid and clear urine. If the urine is turbid it will be well to add a little magnesium carbonate in fine powder, allow it to stand a few minutes, and be filtered "1. A portion of the clear urine in a test-tube is acidified with acetic acid: a clouding indicates nucleoalbumen. If a precipitate forms, it should be filtered. 2. (A) A portion of the filtrate of No. 1 (or if No. 1 be negative, the clear acidified urine) is added slowly to a portion of a solution of common salt, a precipitate may be any of the following any albumose (except deuteroalbumose), histon or blobin. (B) If a precipitate is not formed, the addition of urine is continued until it is in excess of the salt solution; the upper third is shaken and boiled; a clouding indicates serum albumin. (C) If a precipitate is formed, it should be filtered, care being taken that the urine has not been added beyond the point at which it is saturated by the salt solution. The filtrate should be boiled. A clouding indicates serum albumin. (D) If a positive reaction is had in A, it is my practice first to saturate a portion of the original urine with saturated salt solution without adding acetic acid to determine whether a precipitate is formed in neutral solution, and second, to determine whether the body present is one of which loosely combined sulphur is a characteristic, using Boston's method (equal parts of urine and saturated solution of salt, rendered strongly alkaline with potassium hydrate, are boiled in the upper third, and 10 per cent. lead acetate added, drop by drop, while boiling continues, a heavy black precipitate showing loosely combined sulphur.) No. 3. A few drops of the original urine are added, a drop at a time, to a considerable quantity of clear water. Milky streaks in the track of the drops indicate globulin (Robert's method). No. 4. (A) A portion of the original urine is acidified with acetic acid and filtered: the filtrate is then rendered faintly alkaline with ammonium hydrate and boiled for a few minutes, then filtered. The filtrate may contain peptone or deuteroalbumose. (B) The second filtrate from A is saturated with am-

monium sulphate and boiled. A white precipitate indicates deuteroalbumose. (yellow or brownish ammonium urate.) (C) B is filtered and filtrate examined for peptone; if deuteroalbumose has been found, the saturation with ammonium sulphate must be complete and the boiling decided to assure its separation." He gives the reasons for the steps outlined above and says that, while the description may seem complicated, it is really simple, and in the vast majority of cases nothing, unless it be serum albumin, is likely to be found. The presence of the rarer albuminoids is indicated, but the details of their identification, especially of the albumoses, are not given, as being beyond the scope of the paper.

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Trichiniasis. J. L. Hirsh, Baltimore (*Journal A. M. A.*, January 8th), reports a house epidemic of trichiniasis caused by eating raw ham and involving five adult members of a family of eight, the other three not having partaken of the ham. The first symptoms showed themselves about the sixth or eighth day after the injection, probably at the time when the larvæ had fully developed. Edema of the eyelids was observed in all, and in three it was the first symptom. All had abdominal cramps, very severe in two. Nausea and vomiting were observed in two cases. Troublesome constipation was the rule; there was no diarrhœa. Muscle pains were a prominent symptom. In two cases the temperature was constantly high. In the others there were intermissions. None of the patients had chills. Pulse and respiration followed the same course as the temperature. The urine was negative and no parasites were found in the stools. Urticaria was present in one case and in an aggravated form which lasted three days. In only two cases was there a leucocytosis, and that in moderate degree. There was, however, in all an eosinophilia, varying from 18 to 45 per cent., but not in relation to the severity of the infection. As regards treatment, the author thinks that free purgation, if sufficiently early, may do some good, but very little after the worm has penetrated the mucosa. Relief of the muscle and abdominal pains with opiates and hypnotics to secure sleep it about all that can be done until Nature takes care of the parasite. All the patients recovered, the duration of the attack varying from two to six weeks.

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The Sandbag for Comfort. A sandbag as a warmer is said to be greatly superior to a hot-water bottle, which many people prize so highly, says *Health*. Get some clean, fine sand; dry it thoroughly; make a bag about eight inches square of flannel, fill it with dry sand, sew the opening carefully together, and cover the bag with cotton or linen cloth. This will preven the sand from sifting out and also enable anyone to heat the bag quickly by placing it in an oven or on top of a stove. The sand holds the heat for a long time.

EDITORIAL.

SPINAL ANÆSTHESIA.

IT is now more that a quarter of a century since Dr. Leonard Corning published his paper on spinal anæsthesia by cocain, and he is rightly regarded as the pioneer in this procedure. Many experiments have been made since then, much has been written, new drugs, less toxic than cocain have been introduced, and, largely owing to the influence and practice of Tuffier in France, Bier in Germany, and Barker in England, the practice of spinal anæsthesia has been proved to have a definite value, and there is scarcely a hospital clinic of importance in which it has not been tried, or in which its value in certain conditions is not accepted. Some operators indeed, such as Barker, use this method very largely, and Wertheim, of Vienna, who has achieved such eminent success in hysterectomy for malignant disease, employs spinal anæsthesia in these cases. But most observers are agreed that there is a serious element of danger in this method, and so experienced an operator as Bier, one of its chief exponents, estimates the death rate under it as not less than one in four or five hundred, an opinion which goes far to dissuade most of us from its use. The advantages claimed for it are especially that it is safer than either chloroform or ether in cardiac and pulmonary complications. Also that consciousness is not abolished. For our own part we think there are very few operations in which it is any advantage to have the patient conscious of the operator's manipulations. The method generally employed is the introduction of the anæsthetic fluid into the subdural space of the spinal cord, at a point between the third and fourth lumbar vertebræ. The needle is first introduced, and the presence of its tip in the subdural space is indicated by the escape of the cerebro-spinal fluid; the syringe containing the proper amount of substance used, whether cocaine, eucaine, stovaine, or novococaine, is then attached, and the material injected. Barker, of University College Hospital, London, by ingeniously varying the specific gravity of the fluid, and by attention to the position of the patient, has attained excellent results.

Our purpose at present is to discuss the most recent developement of this mode of anæsthesia, that introduced by Professor Thomas Jonnesco, of Bucharest, who has quite recently been giving demonstrations of his method in some of the leading hospitals in the United States and as is usual, affording material for nine days wonder and startling exhibitions of pseudo-scientific expositions in the lay press.

Professor Jonnesco has introduced two entirely new features. The first of these is the addition of a solution of strychnine to the stovaine, which is the anæsthesia he prefers. This combination of strychnine with cocaine was used by Leonard Corning in his experiments, but does not appear to have been employed by others. Dr. Jonnesco claims that the addition of strychnine causes the anæsthetic fluid to be more easily tolerated by the nervous centres.

But the most striking feature of Dr. Jonnesco's proceeding is his use of a high puncture. This, as is pointed out by the *New York Medical Journal*, was practised ten years ago, injections having been made in the cervical region, but this was certainly

abandoned, and we believe Jonnesco claims to have developed this method independently. It is quite certain at all events that the leading exponents of spinal anæsthesia have used the lumbar puncture entirely, and have taken special precautions to prevent the fluid from ascending too high in the spinal theca. Jonnesco, in cases where the operation is to be done on the head, neck or upper limbs, makes his puncture between the first and second dorsal vertebræ, and the lower puncture, used for operations on the lower limbs, perinæum, pelvis and abdomen, is made between the twelfth dorsal and first lumbar vertebra. The punctures are made with the patient in a sitting position with the spine strongly flexed. Afterwards the patient is placed in whatever position is most convenient for operation, and Jonnesco claims that the analgesia secured by his method lasts from one and a half to two hours, long enough for the great majority of operations.

These striking results of the distinguished professor of Bucharest were first brought distinctly before the surgical world at the Congress of the International Society of Surgery, at Brussels in September, 1908, and at once evoked keen criticism. At the German Society of Surgery, in Berlin, last April, Professor Bier declared emphatically against the method, and other prominent surgeons who employ spinal anæsthesia condemn the high puncture as a dangerous proceeding.

It is interesting, therefore, to note the reception which Dr. Jonnesco's method, as demonstrated by himself, has had in New York. In the New *York Medical Journal* of December 25th, 1909, we have a report by Dr. Virgil P. Gibney of cases operated on at the Hospital for Ruptured and Crippled, under spinal anæsthesia induced by Dr. Jonnesco himself. In all the cases, four in number, the anæsthesia was satisfactory, and there were no symptoms, beyond nausea, vomiting and headache, such as may follow ordinary anæsthesia, and in one case, a hernia operation, the temperature rose to 102°, while 100° is the highest temperature known in the hospital after hernia operations. Dr. Gibney, while giving full credit to Dr. Jonnesco for the thoroughness of his method, and his dexterity in using it, gives us plainly to understand that he is not impressed by the claims made for it. He tells us that he has "long since abandoned spinal anæsthesia." For one thing his patients, as is natural in an orthopædic practice, are rarely in the serious conditions of shock or of sepsis, in which general surgeons have frequently to operate, and he is also impressed with the danger of hæmorrhage into the spinal canal through accidental puncture of a vein by the needle. He says: "I should hesitate a long while before I allowed any high injection of any solution into my spinal canal."

Four cases are also reported, in the same journal, from the clinic of R. T. Morris, at the Post-Graduate Hospital, and the opinion expressed by the reporter is even less favourable than that of Dr. Gibney. The first case was one of left-sided inguinal hernia, operated upon by Dr. Jonnesco himself. It was a difficult case and took forty-five minutes, and the anæsthesia was satisfactory for only half the time. The temperature rose to 102.4°. The second case was one of interval operation for appendicitis. Dr. Morris operated and the operation was completed in nine minutes. There were symptoms of shock for twenty-four hours, with pain in abdomen, restlessness, headache and loss of appetite for three days. These symp-

toms rarely follow inhalation anæsthesia, lasting so short a time.

The third case was most unfortunate for Dr. Jonnesco's claims. It was a case where the high puncture was used, the operation being for a small osteoma of the forehead in an excitable Italian of nineteen years of age, also epileptic, and with a mitral murmur. The operation lasted twelve minutes. There were shock, respiratory failure and collapse, and the patient had a very narrow escape. Artificial respiration with traction on the tongue was kept up for twelve minutes, oxygen and other stimulants were given, the rectal sphincter was completely stretched without effect. The respiration was not normal for twenty-four hours, and there was shock for forty-eight hours, also delirium, so that a strait-jacket was required. In this case cerebration was as completely abolished as in chloroform, or ether anæsthesia. The conclusion of the reporter in these cases at the Post-Graduate Hospital is as follows: "While the use of stovaine "and strychnine anæsthesia in com- "petent hands and in selected cases "unquestionably has its advantages "over the general forms of anæsthe- "sia, still, at the present time we are "not convinced of its efficiency in "general use. Administered in the "upper portion of the spinal cord, if "we can draw conclusions from the "one case mentioned, its dangers far "exceed those of the older methods."

Dr. Jonnesco's experience in Philadelphia would seem to have been also rather unfortunate. In one case, amputation of the breast, presumably a case of high puncture, the patient nearly died, artificial respiration had to be employed, and the operation was completed under ether. As Profesor Jonnesco's method is on its trial and has so far not impressed surgeons very favourably, we shall let him have the last word. He claims that puncture of the arachnoid may be made at any level and that the addition of strychnine to the anæsthetic makes it safe, but that mid-cervical and mid-dorsal injections have no advantage over the two localities he advises for puncture. He claims that "there are no contra-indications for general spinal anæsthesia," he goes so far as to say (*British Medical Journal*, Nov. 13, 1909, p. 1401), that "general spinal anæsthesia is abso- "lutely safe; it has never caused "death, nor produced any important "complications, early or late." (We have heard of permanent loss of sphincteric control following spinal anæsthesia, but not after Jonnesco's method). He says: "I am firmly con- "vinced that general spinal analgesia "will be the analgesic method of the "future." In a letter in the *New York Medical Journal*, in reply to various criticisms he maintains his ground, and in regard to the case in Dr. Morris' clinic which gave so much trouble, he claims that the phenomena were due to an epileptic seizure which came on as the operation was begun. He points out that he has effected twentythree spinal analgesias in America, sixteen by the low and seven by the high puncture, and all were successful, five of the high punctures being "successful in every way." Beside the seven high punctures done during his visit to the United States, he has done 187 high punctures without serious accidents.

We shall wait the arbitrament of time.

OUR PORTRAIT GALLERY.

EDITOR'S NOTE.—During 1910 the NEWS will publish a series of sketches with portraits, of prominent medical men well known to its readers. The sketch this month is of Dr. Roddick, famous for his fight for Dominion Registration as well as other services to the Profession.]

DR. THOMAS G. RODDICK.

WE have much pleasure in presenting our readers with a portrait of our distinguished fellow-countryman, Dr. Roddick. There is no medical man in Canada to-day who is more in the mind of the profession, and to no man of our generation do we owe more thanks and gratitude, for, whether he is to be successful or not in his present enterprise of securing the passage of the Canada Medical Act, he has done more than any other to make Canada one country for our profession.

Dr. T. G. Roddick was born in Harbour Grace, Newfoundland, in 1846.

DR. THOMAS G. RODDICK
F. R. C. S. Ed. (Hon.) LL. D. Univ. Edin.

He received his early education in the Grammar School there, and at the Model and Normal Schools in Truro, N. S., and at the age of sixteen he began his medical career also in Truro in 1862, as a pupil of Dr. Samuel

Muir, one of the most notable practitioners of his time and father of the late Dr. D. H. Muir, and of the late Dr. W. S. Muir, to whom the Nova Scotia Medical Society owes so much. He afterwards proceeded to Montreal where he graduated as M. D. in 1868, winning the Holmes Gold Medal. For no less than six years after graduation, Dr. Roddick held the post of House Surgeon in the Montreal General Hospital, and here he made such good use of his experience that in 1875 he was appointed Professor of Clinical Surgery in McGill University, in succession to Fenwick, one of the ablest and most brilliant surgeons of this country. Shortly after his appointment Dr. Roddick journeyed to Europe to study hospital methods in Paris and at various centres in Germany, and also devoted some time to the study of Lister's methods in Edinburgh, and he was among the first to introduce antiseptic surgery into Canada. In 1890 he left the chair of Clinical Surgery for that of Surgery, from which he retired in 1908. In 1894. Dr. Roddick was prominent among other Canadian visitors to the meeting of the British Medical Association, held at Bristol in that year, in advocating a visit of the Association to Canada, and 1897 this took place, in the city of Montreal and under the presidency of Dr. Roddick. Many of our readers were present on that memorable occasion, and heard the brilliant address of the President, and heard the vote of thanks moved by Lord Lister, to whom Dr. Roddick had referred as representing "the rise and zenith of modern surgery." In 1902, Dr. Roddick became Dean of the Faculty of Medicine in the University of McGill, and in 1908, he resigned this arduous and honourable position, being succeeded by Dr. F. J. Shepherd. Dr. Roddick is LL.D. of Edinburgh, and in 1899 was made an Honorary Fellow of the College of Surgeons there.

Dr. Roddick has also a military record. In 1885, on the outbreak of the Riel rebellion he was appointed Deputy Surgeon General of the entire Northwest Field Force; he organized the hospital and medical service and was placed in supreme control in the field. He was mentioned in despatches and recommended for C.M.G.

Finally, we must refer to Dr. Roddick's political life. He was in 1896 elected M. P. for the St. Antoine division of Montreal, and re-elected in 1900, spending about eight years in the House of Commons. We believe Dr. Roddick had no other object in entering political life than the improvement of the status of the profession, the removal of the serious disabilities which separate the medical men of the various provinces. In his Presidential address at the British Medical Association meeting in Montreal in 1897, he referred to these disabilities, drawing the attention of his hearers to the "curious complexity of medical legislation," and describing the condition of affairs as "hardly credible." With splendid energy and at an expenditure of time and money of which few have any idea, Dr. Roddick gave himself to the work of unifying the medical profession in Canada. It must have been therefore a most poignant regret to him that when his Act did at last pass into law, it had been amended in such a way as to make it unworkable. And now, once more at the earnest entreaty of his colleagues of the Canadian Medical Association, he is at work, trying to secure the passage of the Act in such a form that we shall have a real "Medical Profession of Canada," a united body untrammelled by the irksome and unpractical barriers of political geography.

THE OCCURRENCE OF DEFORMITY IN JOINT DISEASE:

ITS IMPORTANCE IN PERPETUATING LATENT LESIONS AND THE NECESSITIES FOR ITS CORRECTION.

By CHARLES F. PAINTER, M. D.,

Professor of Orthopedic Surgery, Tufts Medical College, Boston.

AS the knowledge of the diseases of joints becomes more exact, it is more and more possible to see in their proper relation certain factors of etiologic importance. The popular notion that trauma plays an important role in the causation of tuberculous lesions in bones and joints is receiving confirmation of a scientific character, the more thoroughly these conditions are understood, and the belief which had its foundation in the desire to explain or extenuate the development of joint disease on the part of parents or attendants is coming to have an accepted position among the factors which are at the root of such cases. When one passes from a consideration of tuberculous joint lesions to those which are of non-tuberculous character we get into a field where the relations of internal traumatism to joints, the result of deformity—the sequel of disease—attains a position of importance. And to go a step further, we are coming to recognize that in conditions where no question of disease enters at all there may be disturbances of the functions of joints, the cause of which is very remote from the articulations themselves, that are the direct result of t he imperfections of mechanism. Apart from a direct influence upon the excitation of acute symptoms, which may be exerted by deformity upon latent disease, there would seem to be every reason for regarding the normal functional activity of a joint or a series of joints as an essential factor in the general well-being of an individual, quite as essential to the normal healthy metabolism of that individual as the customary, natural action of the heart, the lungs or the stomach is essential to his or her well-being.

Our physiology used to teach us (and I do not know that such teaching has ever been controverted) that muscular actions of a normal, healthy part represented a calculable factor in the performance of the functions of the circulatory apparatus of the body. If that is true, it is certainly not difficult to understand how limitations in the mobility of a given joint may represent an appreciable interference with, not only the normal metabolism as well. It is to a consideration of the problems growing out of such a conception of the normal and pathological physiology of diseased and mechanically imperfect joints that I would invite your attention.

The normal activities of an articulation constitute one of the chief factors in maintaining it in its integrity even when there is no pathological condition present to diminish its functional use. The action of any of the important viscera such as the heart, the lungs, etc., is associated with the maintenance of the highest efficiency of that organ. The average healthy individual who takes a reasonable amount of exercise keeps his lungs and heart sufficiently occupied to permit of the employment

of their full force and expansion for such short periods as the occasional exigencies of life may demand. We all know how "soft" we are, how short of breath and physically incompetent we become when these organs are not made to perform enough work to keep them physiologically competent. We all realize the importance of this to a certain extent. In some parts of the world and at certain periods of its history mankind has recognized it better ter than at others. The human mechanism cannot get along without a certain minimal amount of functional activity and be maintained at its best, merely as a machine. The same is true of inanimate mechanisms. Your loom, your forge, your hoisting machinery, even your automobile does not work as well when not regularly made to perform its duty. The two parts of our anatomy which we think of as being deranged when we discover that we are "soft" and have not taken sufficient exercise, are our hearts and lungs, but these are not the only portions of the human machine that suffer from inanition. The muscular soreness and articular stiffness which follows unwonted exercise reminds us of the fact that disuse of them has a penalty attached. A racing yatch needs "tuning up" if it is to give the best account of itself in a contest, and for the same reason the more perfectly the human machine is kept in trim the more readily it meets extraordinary demands and the more smoothly it turns off its daily routine. All these statements seem trite when we speak of them in connection with the conduct of the daily life of a healthy individual. When one comes to consider the effects of disease upon the joints it may seem that the foregoing statements carry no weight, and if we are to regard only the acute stages of the diseases which manifest joint symptoms, this is certainly a correct view. The more one sees of joint lesions, however, the more one is convinced that after the ravages of an acute arthritic process are over there is often left a condition of disability which is not dependent upon residual or even latent disease but that is caused by the disturbance of anatomical relations within the affected joint or joints and the conditions thus brought about are amenable of considerable amelioration under proper management. When we consider how much limitation of activity is imposed upon one who has suffered a serious injury to a large joint, particularly of the locomotive apparatus, it is not difficult to understand that if such limitation entails less active circulation of blood through the joint involved and therefore less local cellular activity or metabolism that the individual is by just so much handicapped in his norcal cellular life. There is no longer possible the customary metabolic exchanges upon which are dependent that individual's vital processes. He has, therefore, less resistance to anything that may menace his health. He tires more easily than normal and is subject to more or less frequent strains of the affected joints. If there is only one joint concerned there is less interference than when many are involved and the extent of joint injury and consequent metabolic impairment is a factor in governing the extent to which such injury is of permanent detriment to the individual. No one has ever devised a means of estimating the influence of the joint activity upon the general metabolism of the body, but when it becomes measurable I am sure it will be possible to demonstrate the importance of attention to the preservation of joint mobility for

the sake of the general metabolism of the patient when experimentally undertaken as well as after injury and in cases of chronic arthritis.

For a moment let us consider what occurs in the interior of a joint which has been the seat of an arthritic process of a *non-tuberculous* character. There are three main types of process which attack joints. One involves primarily the synovial structures and is generally described as an infectious arthritis irrespective of the bacteria that may be the cause of the lesions and irrespective also of whether the bacteria are present in the affected joints or whether the changes are produced by toxines manufactured by bacteria located in some remote part of the body, from which place they gain access to the affected part through the circulation. When joints are involved in such processes there are different grades of response to the toxic influence being exerted, which presumably are dependent upon two factors for the most part, viz.: the resistance of the individual to the specific poison, both through constitutional immunity and local tissue vitality or resistance, and the virulence of the bacterial toxines. In any case the pathological alterations which are brought about are always primarily proliferative changes accompanied by varying degrees of cellular infiltration. The synovial membrane becomes thickened either through a porky infiltration which is more characteristic of the acute types of bacterial invasion or through a villous proliferation of the synovial structures which is the type most often seen in the subacute and chronic forms. The effects of these tissues changes are quite different upon the functions of the joint. Where the infiltration is rapid the synovial membrane is often denuded and adhesions form between its opposite layers. If the membrane is simply infiltrated and no erosions of the serous surfaces take place then in the course of time the infiltration becomes largely absorbed and the joint is not seriously damaged. In such cases the general health of the patient is only temporarily impaired by the joint lesions. Such tissue changes are the result of the milder types of infection. When in addition to the capsular infiltration there is also erosion of serous surfaces, firm adhesions develop, and although the infiltration is as completely absorbed as in the other cases, the adhesions become permanent and ankylosis ensues. The effects upon the general health in such cases are, of course, permanent also, and are proportioned to the number of the joints involved and their functional importance. In the types of chronic polyarthritis where the involvement of the various joints extends over long periods of time and the histological evidences of inflammation are of the subacute variety, the tissue changes in the synovial membrane are of the villous type and are not generally accompanied by erosions of the serous surfaces. The total area of serous surface within the joints is greatly increased but there is much less tendency to adhesion formation and ankylosis dependent upon such adhesions. Another effect is, however, liable to occur, and that is erosion of cartilage from the proximity of the villi to the surface of the joint. If this continues for any considerable length of time a "pannus" forms which sends minute capillary vessels down into the substance of the cartilage destroying the smooth, articular surface and if the erosion extends deep enough there is no repair possible except through the formation of a connective tissue

"patch," the effect of which upon the joint is practically the same as that of an adhesion. If this "pannus" affects only the margins of the trochlear surfaces then it is possible that only slight interference with joint function will result, but if this "pannus" grows well in, over the center of the articular cartilage, then the functions of the joint will be permanently impaired even should bony ankylosis not ensue. In the more virulent infections such as those that arise from direct septic contamination of joints or through pyæmic involvment, cartilage and bone are invaded simultaneously with the synovial membrane. The result of such processes is almost invariably a firm, bony ankylosis. Such in brief is the character of the gross changes occurring in the joints as a result of acute, subacute and chronic inflammation. A secondary result of the foregoing changes in almost every case is deformity and this ensues whether the joint becomes only partially or completely ankylosed. The effect of deformity is to add further disability to that already existent as a result of the capsular infiltration and adhesion. The cause of joint deformity in this class of cases is primarily joint irritation. In the earlier stages and in the more severe infections muscular spasm is early manifested. The distribution of the capsular infiltration is undoubtedly influenced to a considerable extent by the deformity attendant upon muscle spasm and therefore in those cases where spasm ceases and infiltration manifests a tendency to absorption and no serious erosions have occurred, it is always the extension of those joints that is slowest in returning.

Another type of joint disease characterised by impaired function in the affected articulations and deformity is that spoken of as hypertrophic arthritis, or, according to the older nomenclature, osteo arthritis. This seems to be a condition disassociated from infections, direct or remote, and the essential changes within the joints are concerned with the cartilage about the margins of the articular surfaces. There is very little capsular involvement. Deformity characterizes these lesions, but is due to mechanical causes and not to any siderable extent to muscle spasm. It is only in the large joints of the locomotive apparatus and the spine that any serious disabling or debilitating effects are produced by this disease. The manner in which these effects are brought about will be discussed later on in this paper. At some length then we have considered the changes that are manifest within a joint concerned in an arthritic process and we have seen that whatever the fundamental cause may be there is a marked similarity in the results. For a moment let us now consider what effect deformity, which we have shown to be a direct outcome of all joint diseases, has upon the patient who harbors it and upon the disease which fosters it.

In the first place as to the patient who is handicapped by deformity. In the lower extremity the most serious deformities are at the hip and the knee though certain distortions of the foot more or less effectually interfere with the functions of the body as a whole. Another factor of vital importance in these cases concerns the question whether the deformity is accompanied by mobility or ankylosis. Where deformity and motion co-exist provided the arc of motion represents a reasonable proportion of the normal arc and the deformity is not too great, functional activity may not be materially interfered with under

careful usage, but the tendency to sprain in such articulations is very great and patients are frequently being subjected to injuries which they would not have sustained had the joint been more nearly normal. The effect of these frequent sprains is two-fold, it serves to keep the joint in a sensitive condition a great part of the time, necessitating a greater caution in its use, thus keeping the patient out of many activities he would otherwise enjoy and that would tend to keep his general condition on a higher plane. In the second place, it makes necessary frequent, partial complete "lay offs" from his customary duties and activities. Deformity accompanied by ankylosis is a less serious matter than the condition just described. When deformity is marked, of course, function is seriously interfered with, the effort required to meet even ordinary demands being so great that the patient tires easily and therefore his efficiency is materially lessened and there is less reserve force to call upon in any physical or vital emergency. When there is no deformity, but the arc of motion is very small, much the same conditions obtain as are found where this state of affairs coincides with deformity of a moderate degree. Joint strain is of frequent occurrence. Where ankylosis has taken place and deformity has been prevented, then the best conditions exist, but even then no one would have the temerity to claim that efficiency is not impaired or that one so handicapped has as strong a claim on being physically "fit" as one who had enjoyed the untramelled use of of his large joints. In the upper extremity and the trunk these conditions are productive of the same effects as in the lower extremity though, of course, the importance of these joints in the metabolism of the body is not as great as is the case with the joints of the locomotive apparatus. The conditions we have been discussing are the result of joint diseases and it becomes necessary now to consider the influence of deformity upon latent and quiescent disease. In tuberculosis, clinicians are all familiar with the effects of trauma, in its larger sense, upon slumbering disease. It is pretty certain that though tuberculous joint diseases may be more susceptible to the baneful effects of trauma than other types of arthritis, these may be similarly affected by it. There is no type of arthritis in other words that is not better for being protected from injury, direct or indirect, at some period of its course. The problem that confronts one is that it is oftentimes hard to determine when to permit use and how long to guard the joint from internal as well as external traumatism. It is not difficult to see that a joint in which there is 20 degrees or 30 degrees of flexion deformity and in which the synovial membrane is thrown into numerous folds, which are greatly hypertrophied, is not likely to be restored to a normal condition as soon, when this amount of flexion exists, as it might were there no deformity. The direct effects of deformity would militate against this as well as those more occult effects, viz.: disturbances in circulation and interference with function—factors which are ordinarily arrayed on the side of healthful metabolism.

In cases where there are the same conditions of deformity but no villous enlargement of the synovial membrane, complete recovery of the joint will not be brought about until the customary functional activity can take place within the joint, for all the

structures which are concerned in the make-up of a joint are dependent upon the normal, healthful interrelations of all the physiological processes of which that articulation is capable. It would seem, therefore, possible to regard the total metabolism of the body as made up of components of different values, the same unit of value being employed in making estimations. Under normal conditions of health and activity the ankles will be represented by a certain number of units, the hips by still another number and so on throughout the entire skeleton. Such a computation would necessarily include the muscles whose activity results in the carrying out of the functions of the joints in question. It should be a simple matter to judge of the relative metabolic incapacity of an individual who had numerous joints more or less completely thrown out of commission by a polyarthritis. That nature makes provision for the diminution of metabolic processes in consequence of impairment of function is evidenced abundantly by the narrowing of the lumen of vessels supplying blood to a part whose functional activities have been restricted by interference with the use of the joints.

The baneful influence of deformity is not exerted wholly upon the joint in which the limitation in motion or the deformity is situated. The human body is an intricate mechanism and disability of one of its members cannot take place without more or less interference with the smooth working of other parts. A person with a flexed hip or knee cannot walk without a great deal more muscular fatigue than one whose joint machinery has suffered no impairment. It is for this reason also that deformity needs correction. In this generation every ounce of efficiency must be gotten out of the human machine if it is to serve the spirit of the times and keep its possessor in the fore front of competition. In what has just been said we have been dealing with joints in which there was no longer any disease present, only deformity and limitation in motion growing out of it. How is a joint affected by some lesion which is only in more or less complete abeyance, influenced by deformity and limitation in motion within its limits? In regard to tuberculosis there is plenty of proof at hand to show that quiescent disease may remain for indefinite periods without causing any trouble. At last some comparatively insignificant injury will lower the local tissue resistance or break protective barriers and disseminate infective material to hitherto unaffected localities. In the case of other joint infections the possibility of the extension of infection is not so great. There are very few in which bacilli are present as they are in tuberculosis. In most cases it is only the toxines that are present and they are not such ready carriers of infection along channels of direct extension such as traumatisms would be likely to open up. It is unquestionably true that even to such lesions trauma does no good, and in all probability retards recovery. It does so more by interfering with reparative processes than it does by actually extending the disease. In other words, it protracts convalescence.

In this discussion we regard and deformity of a joint, in effect, a traumatism, for that joint cannot be used under such circumstances without traumatism. If, therefore, deformity is present and disease is aggravated by traumatism, and if furthermore there cannot be deformity at a joint

unless there be traumatism, it follows that injury to an articulation so far as it is being inflicted by deformity must be obviated in every way possible. We must cease thinking of deformity as one of the unfortunate sequels of joint disease to be prevented as much as possible because of disfigurements and discomfort, but otherwise of no particular importance. Deformity is *always* harmful, *primarily* because it stands in the way of the complete restoration of a joint to functional activity even after diseases in which pathological cure has been secured. Its persistence renders relapses more liable in those diseases where pathological recovery is slow of attainment and it keeps at a lower ebb the total vital efficiency of an individual, both for work and probably for resistance to those influences in our environment which are attended with danger. Such reasons as these for the prevention and correction of deformity are infinitely more consequential than the mere desire to avoid a limp or do away with the unsightliness of a contracted limb.

Such being the grounds upon which I base my contention that deformity as a consequence of joint disease should receive more consideration than it commonly does, I would call your attention for a moment to certain of the deformities most needing attention. In some cases polyarthritis attacks the joints of the vertebral column stiffening all the articulations and associated with the ankylosis, one often notes a marked flexion deformity of the trunk. The deformity as well as the ankylosis contributes to the tendency toward the production of phthisical complications in these patients. The ankylosis can not be prevented by any measures known to us now but the deformity can be prevented by appropriate prophylactic treatment. Even after it has been developed manipulation under an anæsthetic when judiciously carried out may accomplish much toward the improvement of posture and this will mean a great deal to the patient. At the hip joint deformities in flexion and adduction not infrequently follow infectious joint lesions more often than not associated with complete ankylosis. Such conditions are a great handicap to their possessor in practically all of the ways that I have described. In many cases there is no actual shortening of the limb. Osteotomy, preferably by the exsection of a wedge-shaped piece of bone from the trochanter and neck of the femur secures for the patient an amelioration of his handicap amounting to fully fifty per cent. of his total normal efficiency at that joint. In the same way at the knee joint flexion deformities should not be allowed to persist whether there be mobility associated with it or not, if the deformity amounts to as much as 30 to 45 degrees. Macewen's osteotomy secures so great a betterment in the functional possibilities of the limb that it should always be urged upon the patient. At the ankle permanent plantar flexions are serious handicaps when they entail walking on the ball of the foot alone and should be subjected to a supra-malleolar osteotomy. It goes without saying that the deformities of the locomotive apparatus are the more serious, but considerable harm may come from distortions of the joints of the upper extremity, particularly about the elbow. Ankylosis of the elbow with the arm in the position of more than a right-angled flexion is a serious handicap and should be overcome if nothing more is attempted than to make the deformity at least a right-

angled one. When, as sometimes happens, after the so-called "gun stock" deformities, the carrying angle of the arm is badly thrown out of true, it becomes necessary to correct such deformity by an osteotomy above the humeral condyles. Such deformity allowed to persist is likely, in the young, to lead to scoliosis besides rendering the entire arm more or less incompetent.

The deformities so characteristic of polyarthritis in the smaller joints should be preventable. They are largely due to the assumption of bad positions when the arthritis is acute and during the stage of capsular infiltration the bones easily assume faulty mechanical relations with one another and these relations persist after the arthritis has subsided, leaving the carpal and phalangeal joints much distorted and therefore functionally incompetent. And yet in cases, not all by any means, the articular surfaces will not show destructive changes.

Here we have in this class of cases a fruitful field for preventive medicine and the results in those individuals whose infection was comparatively mild would be well worth the trouble and annoyance of planning and carrying out the treatment.

If I have succeeded in indicating any valid reasons for the devotion of attention to the treatment of deformities *after* they have become established I am sure that you will all agree with me that their *prevention* is of *more* importance. We all know that that every case of arthritis has for its most constant and dependable symptom a tendency to the development of deformity. We are all aware that there are conditions which will tend to *permanently* establish a deformity once formed. We recognize its undesirableness from a cosmetic point of view and we are beginning to discern its significance as bearing upon general metabolism as well as upon local tissue changes. There is scarcely any way that I know of in which we all, general practitioners, surgeons and specialists, can contribute more to the general well-being of the sufferers from acute and chronic arthritis and to their ultimate efficiency as individuls and members of society than by striving to cut down the frequency of crippling deformities. The best time to do it is before they have commenced, but this is by no means the only time that such results can be brought about.

THE DIAGNOSTIC VALUE OF TUBERCULIN IN PULMONARY TUBERCULOSIS.

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MR. CHAIRMAN AND GENTLEMEN,—

YOU will remember that in August, 1890, Koch[1] at the Tenth International Medical Congress in Berlin, delivered an address on "Bacteriological Research," in which he stated that he had found a substance derived from the tubercle bacillus which rendered guinea pigs immune to tuberculosis. He had observed in his researches that doses of dead tubercle bacilli, suspended in water, could be injected under the skin of sound guinea pigs without producing anything but a local suppuration, while, on the other hand, very small doses of the same cultures could cause death to tuberculous guinea pigs within six to forty-eight hours, according to the dose given. This was shortly followed by his discovery of a glycerine extract of the tubercle bacillus, which, when injected into tuberculous animals, in sufficiently high doses, caused death and congestion about the areas of disease. The same dose in sound animals showed no effect. In November of the same year he published[2] "A further communication on a remedy for tuberculosis," in which he claimed that incipient pulmonary tuberculosis could be diagnosed and cured by means of this new substance tuberculin, the nature and preparation of which was not disclosed until January, 1891. Upon this announcement thousands flocked to Berlin to receive instruction in the method of its employment and before many months tuberculin was being used in the treatment of tuberculosis throughout Europe. Its popularity, however, was of short duration. Many articles were published condemning the remedy, and when Virchow[3] reported on 30 autopsies on patients who had died after receiving Koch's treatment, general distrust followed and its employment, even for diagnosis, was discouraged.

As we look back over this period it becomes plain why tuberculin fell into disrepute. No selection was made of the cases; severe local and general reactions were courted: the doses were too large and the advances too quick in its administration. This was probably due to Koch's conception of the action of tuberculin upon tuberculous tissue. Few had the courage to continue its administration. Trudeau, however, in America, never lost sight of its possible value, and to him we are indebted for placing tuberculin upon a sound basis as a diagnostic and therapeutic measure in tuberculosis.

The principal tests employed to-day in the diagnosis of tuberculosis are as follows:

The subcutaneous: the cutaneous; the ophthalmo or conjunctival and the percutaneous. Lignieres et Berger's Method as well as that of Lautier, Lafête and Schuk, are so little used that an extended description is unnecessary.

THE SUBCUTANEOUS TEST.

Contra-indications: Patients with temperature over 99.5 F. (37.5 C.) Those with epilepsy, hysteria, extensive disease, marked nephritis, night-

sweats, meningitis, great dyspnœa and and general glandular involvement. Where a recent hemoptysis has occurred it is well to wait three or four weeks before giving the test.

SAFETY.—The subcutaneous test is devoid of danger when given with proper precautions. At the Adirondack Cottage Sanatorium, this test has been given for many years to all patients whose sputum contains no tubercle bacilli after repeated examination. The statement from those who have had little or no experience in its use that it may cause an extension of the disease in other organs, or light into activity a quiescent focus, or, even cause a tuberculosis, is wholly without foundation. Koch's old tuberculin (O. T.) does not contain live tubercle bacilli. In over 5,000 injections for therapeutic and diagnostic purposes, I have never seen ill result follow its use. I have followed the test cases through the period of reaction and have rarely found an extension of the physical signs in the lungs either during the height of the reaction or at subsequent examinations which occurred from month to month. Moeller and Kayserling's[4] results are in accord with those of the Adirondack Cottage Sanatorium. Freymouth, 10,000 injections; Lowenstein,[5] 20,000 injections: Kinghorn,[6] 3,000 injections, speak of its value as a diagnostic and therapeutic agent and are convinced of its harmlessness when administered understandingly. Nocard,[7] Bang,[8] Thorner,[9] who have had considerable experience with its administration in cattle, state that the subcutaneous innoculation of tuberculin causes neither an extension of an already existing tuberculosis in animals nor activity in a latent focus.

I might multiply such instances from the literature. Accidents that have occurred have been due either to improper doses or the selection of unsuitable cases. Of course the physician who gives the subcutaneous test should have experience in the method of its administration and have a clear idea of the interpretation of a reaction.

Before giving the subcutaneous test the patient should record, in a book provided for that purpose, his temperature every two hours during the day, and so on during the entire period of the test. In private practise it is well for the patient to restrict his exercise during this period, but it is not necessary that he should be absolutely quiet. When the temperature has reached 99.5° F., following an injection, he should go to bed and report the fact to his physician. In a sanatorium where the patient is under constant supervision it is not necessary to change the regime of his daily life.

Koch's old tuberculin (O. T.) is used and the dilutions made with equal parts of 0.85% salt solution and 0.25% phenol. Fresh solutions should be made up at least within two weeks. With the syringe (syringe shown), which is graduated into tenths and hundreths of a cubic centimetre, the dilutions can be quickly and accurately measured. It is needless to tell you that syringe should be boiled before making up the solutions, and if the same syringe is to be used for injection, it should be rinsed out carefully three to four times in sterile water.

The accompanying scheme is convenient in making up these solutions:

VARIETY OF TUBERCULIN O. T.

Strength of original 1 g. to 1 c.c.

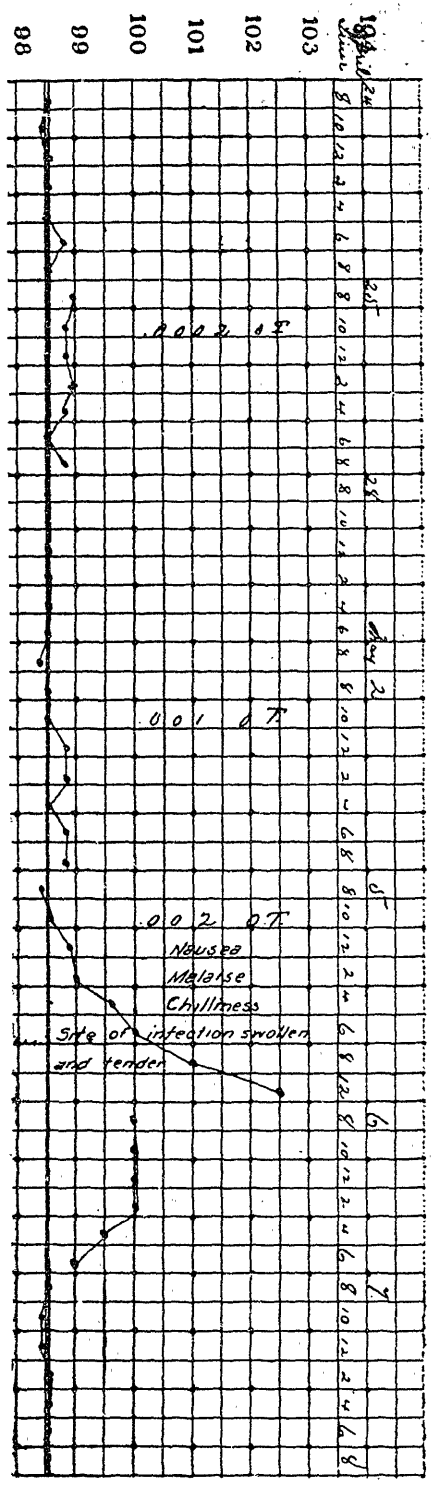
Solution No. (To make 10 c.c.)

O.	I.	II.	III.
1 g. to 1 c.c.	.1 g. to 1 c.c.	.01 g. to 1 c.c.	.001 to 1 c.c.
10 c.c. tuberculin	1 c.c. tuberculin 9 c.c. diluent	0.1 c.c. tuberculin 9.9 c.c. diluent or 1 c.c. solution I. 9 c.c. diluent	0.1 c.c. solution I. 9.9 c.c. diluent or 1 c.c. solution II. 9 c.c. diluent

The injection should be given in the back five to eight cubic centimetres from the spinal column and preferably slightly below or to the inner side of the angle of the scapula. It should be given deep into the subcutaneous tissues and not into the skin. The first dose in adults is 0.2 mgm. Sometimes it is well to precede this with a dose of sterile salt solution in order to avoid a "nervous reaction." Provided no reaction has occurred a second dose is given three days later of one mgm., on the side opposite to the first injection. Then follow at the same interval, 3, 5 and 10 mgms. Should the patient fail to react to 10 mgm. it may be repeated.

Lowenstem[10] suggests 0.2 mgm. and repeating the same dose three or four times. I have not observed any advantage from the employment of this method. Most patients do not react till three or five mgm. have been reached. Moreover, the length of time, which is always a period of anxiety to the patient, is unnecessarily prolonged.

Reaction occurs, in the majority of cases, four to twelve hours following the last injection, although it may be prolonged till the 30th or 48th hour. When the dose is given in the morning (8—9 a. m.), manifest symptoms are generally observed between 9 p. m. and midnight. If the dose is given at night, 8—9 p. m., symptoms may be looked for on the following morning. The first noticeable symptom is a slight rise in temperature .5° to 1° F. Often the temperature is absent and the patient complains only of slight headache or malaise. In a typical reaction, other symptoms soon manifest themselves. The patient goes to bed and feels as if he had an attack of grippe. The site of injection is red, swollen and painful to the touch. There is severe headache, nausea, pain



in the limbs and joints, feeling of oppression in the chest and increased desire to cough and expectorate. The temperature reaches its maximum generally by the 24th hour and then stands two or three degrees above its normal. By the 48th hour the symptoms commence to subside and the patient begins to feel better.

Reactions vary in their intensity and duration. In some they are so mild as hardly to be appreciable and last but a day or two; while in others the symptoms are quite severe and unpleasantly prolonged. The patient should not be allowed out of bed till the temperature has been normal, for at least one or two days. During the stage of reaction the patient should be given fluids or semi-fluid foods. The headache and pain at the site of injection may be greatly relieved by the application of an ice-bag. For the cough and oppression in the chest codeia sulphas., grs ¼—½ every four hours.

The Cutaneous Test.

Contra indications. There are none.

Technique. — The antero-median surface of the fore-arm is generally selected as the site of application on account of its freedom from hairs and its ease of access. The skin is well rubbed with ether or alcohol and a drop (first) of sterile bouillon or sterile salt solution is placed on the arm to act as a control. Three to four cubic centimetres from this is placed a drop of tuberculin, 25% or 100% O. T. The same syringe may be used for both drops provided the control is used first. With Pirquet's "Schaber" or any other sharp chisel-shaped instrument, slight erosion of the superficial skin is made through the two drops, care being taken to begin at the control. It is unnecessary to draw blood, merely deep enough to open the lymph channels being sufficient. The tuberculin is left on the skin three to five minutes and then wiped dry with a clean swab.

The Reaction.—Immediately following the innoculation, a transient erythema, some two or three cubic centimetres in circumference, is observed in the centre of which is a small elevated white area resembling an urticarial wheal. Both generally disappear at the end of one or two hours. In a positive reaction, between the 6th and 12th hour, definite changes have occurred at the site of the tuberculin application. About the innoculated area appears a delicate zone of redness which later becomes more reddened, slightly raised and infiltrated. The control is negative. In the lighter forms of reaction, the erythematous zone is 6 to 20 millimetres in circumference. In the more marked form the areola may be greater or less with small tapering streamers running out to the nearest lymphatics. Often numerous vessicles appear which coalesce and give the reacting area the appearance of a scab. This is not accompanied with any constitutional disturbance. The reaction reaches its height in 24 to 48 hours. By the 72nd hour it begins to subside. The surrounding areola changes to a more dusky color (ham color). Desquammation follows and a slight pigmentation is left which may persist for 28 days or more.

The Conjunctival or Ophthalmo-Tuberculin Test.

Contra-indications: Actual or suspected ocular tuberculosis, tuberculous keratitis or phlyctenular conjuctivitis. Caution must be used with this test in children with scrofula. On account of the accidents that have been reported following this test such as severe purulent unilateral conjunctivitis,

phlyctenular conjunctivitis with subsequent corneal ulcer, kerato-iritis, great care must be taken in the selection of cases and a thorough eye examination given, preferably, by a physician trained in diseases of the eye, before instilling tuberculin into the conjunctival sac.

Technique.—The method is simple. A drop of 0.5% to 1% solution of old tuberculin is allowed to flow from a glass pipette into the lower inner portion of the conjunctiva and then well diffused through the conjunctival sac.

Calmetto[11] prefers a 1% solution of purified tuberculin. This Wolf-Eisner[12] thinks too strong and recommends a 1% solution of Koch's old tuberculin (O. T.) in 0.8% salt solution and one drop to be placed in the eye from a glass dropper.

Reaction.—In 6 to 24 hours, there is noticed a slight injection of the palpebral and ocular conjunctiva and caruncle which varies in its intensity. (In severe reactions the redness is more marked and is accompanied with a moderate muco-fibrinous or muco-purulent exudate. The reaction reaches its maximum in 24 hours and then subsides gradually, although it may be prolonged for weeks. Calmette and Wolf-Eisner claim that a positive conjunctival reaction reveals always an active or developing tuberculosis, a negative reaction indicating a healed lesion. Baldwin[13] from 1,087 cases states that its value in distinguishing active latent from healed tuberculosis in apparently healthy persons has not been determined and that moreover it is unreliable for prognosis. On account of the accidents that have been reported it should only be used when other means fail to establish a diagnosis.

THE PERCUTANEOUS TEST. "MORO."[14]

Technique.—The abdominal surface is carefully inspected and to the epigastric or submammary region is gently applied, by means of a finger-cot over the index finger, about 15 grains of ointment (50% O. T. in lanolin). This is to be rubbed into a circular area 5 c.m. in diameter. Lanolin is applied over another area in the same manner. It serves as a control. The ointment need not be removed or a protective dressing applied.

Reaction.—In a few hours to forty-eight hours there develops a papulo-vesicular eruption at the site of application varying in number from one to one hundred. The papules have a vesicular appearance and are surrounded by an erythematous arola. The papules vary in size from 0.5 to 3 mm. The eruption persists for one or two weeks and then disappears by a process of desquammation.

THE SPECIFICITY OF THE TUBERCULIN TESTS.

The specificity of the tuberculin reaction in tuberculosis has been questioned since albumoses, peptones, the bacterial proteins, such as streptothrix farcinia and bacillus pyocyaneous cause fever reactions and other constitutional disturbances when injected subcutaneously into tuberculous and non-tuberculous persons. The dose, however, of such substances is always greater than that in which tuberculin is active.

Entz[15] has obtained in 50% of his cases positive cutaneous reactions to the toxins of diphtheria, pyocyaneous and pora-typhoid. This von Pirquet combats by stating that for some toxins such as tuberculin, leprolin, vaccin, mallein, previous infection with the specific micro-organism is necessary before a reaction takes place, while, on the other hand, the toxins of tetanus and diphtheria,

cause reaction without previous infection.

The percentage of positive results is in harmony with clinical and autopsy findings. Von Ruck[16] has compiled the following series of cases from the literature:

	Clinical sure Tuberculosis.	Suspected Tuberculosis.	Non-Tuberculosis.
Subcutaneous test in 7088 cases . . .	89.88% reacted	63.34% reacted	51.30% reacted
Cutaneous test in 6504 cases	85.29% "	67.48% "	31.62% "
Ophthalmic test in 6449 cases	79.20% "	57.80% "	13.74% "

C. Pirquet[17] reports that 1,600 children who underwent the cutaneous proof, 200 died and were carefully dissected; 68 cases had given a positive reaction, and 66 showed in the post-mortem microscopic tubercles. From autopsy records the percentage of reactions in the cutaneous test follows very closely the incidence of tuberculosis in children. Rarely found at first, it increases up to nearly 70% between the 10th and 14th year, and in as much as Hamburgher's[18] autopsy records show latent and active tuberculosis to be present in about 72% of patients at this age, it seems that the cutaneous test reveals very accurately the presence of both active and latent tuberculosis.

Biswanger[19] has given the subcutaneous test to 261 children under one year and with 13% positive reactions. Forty-five of these cases came to autopsy, 16 of whom had reacted to tuberculin were found to have tuberculosis and 25 who had not reacted were found to be free.

Clinical importance.—How shall we interpret these tests and of what value are they in the diagnosis of tuberculosis? A positive reaction to the subcutaneous, cutaneous or opthalamic tests, indicates that tubercle is present in the body. This seems to be absolutely specific. We must acknowledge, however, its limitations. No information is given regarding the state of activity of the disease, as old healed tubercles are known to react to the test. Miliary and far advanced tuberculosis may or may not react to these tests. That reactions have occurred and not tubercles have been found at autopsy is no proof against the specificity of the test as tuberculosis may occur without the presence of tubercles (Arloing). Wolf-Eisner has endeavoured to formulate diagnostic and prognostic data from the ophthalmic and cutaneous tests. Failure to react when there is manifest active tuberculosis with tubercle bacilli he considers an unfavorable prognostic sign. A promptly appearing severe reaction indicates favourable prognosis. A delayed, mild reaction indicates a healed or latent lesion. These results, however, have not been verified. The tests are only of value when there are suspicious "symptoms" pointing to tuberculosis. They must not be considered absolute but rather confirmatory.

In regard to a choice of methods the cutaneous skin test of Pirquet is to be recommended. Baldwin[20] has to say of it:

"From our present knowledge of this subject, it is safe to say that a positive skin reaction, when properly interpreted, will be found to give us much information of the actual existence of the infection as any other test, though it does not reveal its situation in the body."

The test is absolutely harmless and free from danger. It is easy of application and free from the annoyance of the other tests. The subcutaneous

test is devoid of danger when given understandingly by physicians trained to interpret its findings. The length of time required to give the test and the annoyance the patient is subjected to during the reaction, is against its usefulness. It should only be used when other means fail to give the information sought for.

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20. BALDWIN, E. R.—**Hypersuceptibility to Tuberculin in tuberculosis, etc.,** Yale Medical Journal Feb., 1909.

BOOK REVIEWS.

WE have received from the publishers, the J. B. Lippincott Company, of Philadelphia, a copy of the *Annals of Surgery*, for December. This is a special number, the Jubilee number in fact, of the *Annals*, and it is in many respects, a record number. It contains nearly 400 pages, being more than double the usual amount of letter-press, and in addition many beautiful illustrations.

The *Annals of Surgery* is edited by Dr. L. S. Pilcher, of New York, with the collaboration of Dr. J. William White, of Philadelphia; Sir William Macewen, of Glasgow, and Sir W. Watson Cheyne, of London, and it is published in Philadelphia, London, and Sydney, N. S. W. It aims at being the chief surgical journal of the English-speaking world, and indeed was the first purely surgical journal published in English. But by far the greater number of the articles are by American writers.

In the number before us the names and nationalities of the contributors give it an almost international look. The first article is from the pen of Sir William Macewen himself, a very interesting paper on bone grafting in the human subject. The last is perhaps the last article written by Mr. C. B. Keetley, of London, who died only a few weeks ago and whose name figured at one time on the title page of the *Annals*. In this short paper he criticizes some statements of Dr. W. J. Mayo, made in commenting on the work of Sir William Macewen and Mr. Keetley.

We have a short paper by Hartmann, of Paris, on the excision of the rectum, in which he draws attention to recent researches into the vascular supply of the rectum and pointing out that in high amputations of the rectum it is expedient, if not imperative, to begin the operation by opening the abdomen in order to ligature the inferior mesenteric artery above its last collateral branch. There is a paper by Prof. Bastianelli, of Rome, on the radical treatment of procto-sigmoiditis. From Denmark comes a paper by Prof. Rovsing on the treatment of dry arthritis by injections of sterilized vaselin.

There is an exceedingly interesting contribution by Dr. Hugh H. Young, of Baltimore, on "Cancer of the Prostate," a clinical, pathological and post-operative analysis of 111 cases. We feel that Young's brilliant work holds out reasonable hope to many men, otherwise doomed to certain painful death. Another exceedingly interesting paper also comes from the Johns Hopkins School, it is one by Harvey Cushing, on the partial removal of the pituitary gland for acromegaly. The operation was most successful and the whole article reflects the unique character of the work being done by the Johns Hopkins School. Incidentally we note that there are good grounds for administering urotropin in cases of basal fractures, or in any case where meningeal infection is feared.

Moynithan, of Leeds, contributes an article on a peculiar, and, so far as we know, hitherto undescribed condition of the gall bladder, necessitating removal. Robert Jones, of Liverpool, the eminent orthopædist, writes on derangements of the knee joint; Arbuthnot Lane, of London, on his operative treatment of simple fractures, and Rutherford Morrison, of Newcastle, brings to our notice a special forceps which he has devised for

holding the fragments of a bone in apposition during healing after operation for ununited fracture, thus dispensing with the screws or wire suturing.

There are two contributions from Canadian surgeons, one on partial resection of the bladder for malignant tumour by the transperitoneal route, a record of a successful case by Prof. Primrose, of Toronto, and one on transduodenal choledocnotomy, by N. J. MacLean, of Winnipeg. Of the twenty-three articles, all exceedingly interesting and some of marked originality and permanent value, eleven are by British and Canadian operators, and in Prof. Bastianellis' paper reference is made to the work of Archibald, of Montreal. And this fifty cent number of the *Annals* contains more valuable, instructive, and epoch making work than most volumes of the day at five dollars.

We congratulate the publishers on their enterprise, and on the response they have elicited from their contributors.

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BELCHER'S FOR 1910.

The MARITIME MEDICAL NEWS is pleased to again welcome Belcher's Farmers' Almanac to its desk. For over eighty years this little annual has been performing its indispensable service to the people of the Maritime Provinces, and is entitled to the veneration that years inspire. But it never outgrows its usefulness. Indeed, it is hard to imagine getting on without Belcher's, so many and varied are the points on which it affords us information. Its usefulness is freshly and forcibly drawn to our attention now, as, referring to its pages for some information we desire, we recall the number of times we have consulted its pages in past years.

A CORRECTION.

Rose Bay, N. S., Jan. 10, 1910.

Editor MARITIME MEDICAL NEWS,
Halifax, N. S.:

DEAR SIR,—Please make the following correction in the report of the organization of the Overseas Medical Post-Graduate Society of London, which appeared in the November number of the NEWS:

For "Clinics St. W. C.", read "Chenies St. W. C."

For "in its membership all *English* overseas post-graduate students," read "in its membership all *English-speaking* overseas post-graduate students."

The idea as to membership was for the Society to include men from the English-speaking world, outside of the United Kingdom, and would thus include students from the British Colonies, from the United States, from Canada, Australia, New Zealand, from India, &c.

Yours truly,
W. H. MACDONALD.

FOR IDLE MOMENTS.

ON THE HIGH SEAS.

The despair of the family had shipped as a sailor, but he knew little of the sea. The first night he was on the look-out he saw three lights, red, green and white (the port, starboard and masthead), of a vessel approaching "full-on." "Ahoy there," yelled the officer on deck, "What's that coming ahead of us?" "I am not quite sure," replied the landlubber, "but I think it's a chemist shop."—Chemist and Druggist.

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"The doctor administered an anecdote," said a policeman in giving evidence at Richmond Police Court.

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"Why, the last time I had this prescription filled here, in this very same bottle, it was only sixty-five cents, and now you want a dollar!" "Yes; but this is coloured pink, and you can't get cochineal for nothing."—Puck.

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"After taking off my winter clothing," says Dr. Hammond, of New York, "I wouldn't appear on the street for a while." Not immediately, we hope—certainly not. — Western Druggist.

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AN EXPENSIVE CURE.

Mr. Smith was waiting for Bobby's papa, and Bobby had been deputed to entertain him. "Do you know," he began pleasantly, "my gran'pa had lumbago a little while ago." "Is that so?" said the visitor. "And what was done for him?" "Oh," said Bobby, "pa and ma used the old-fashioned remedies for him. They soaked his feet in a tub, and put ten home-made plasters and poultices on him. Then they dosed him with herb-tea until his face was as red as a beet-root." "And did that cure him?" asked the visitor. "Well," answered Bobby, "his lumbago went off all right; but he had to go to bed and send for a doctor." "Good gracious!" ejactulated Mr. Smith. "Yes," the child went on, "it was to cure him of the effects of the old-fashioned remedies."

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THE USEFUL CHEMIST.

A man walked into a chemist's shop and handed the assistant a paper containing a white powder. "What do you think it is?" said the "customer." The assistant tasted it and said, "It is soda." "That's just what I said," was the reply, "but they said at home that it was rat-poison. Try it again, to make sure!"—Chemist and Druggist.

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CAUSE FOR GRIEF.

Visitor (running into chemist's shop): "You know that poor joiner who swallowed a foot rule, he's dying by inches." Chemist: "Oh, that's nothing. I know a man who swallowed a thermometer, he's dying by degrees this long-time past."

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"Halloa, Rivers! You seem to have a bad cold." "Worst I ever had, Banks." "I'm sorry for you, old fellow. Wish I knew of something that would cure you, but I don't." "Give me your hand, Banks"—with tears in his eyes. "You're the only man I've seen for three days that hadn't a certain cure."—Leeds Hosp. Gazette.

NOTES ON SPECIALTIES.

THE REMEDIAL VALUE OF IRON.

Amid all the doubt that modern skepticism and therapeutic nihilism have aroused in the professional mind, in regard to the medicinal or drug treatment of disease, we have yet to hear any question as to the distinct value of iron in anemic, chlorotic and generally devitalized conditions. This metal is, indeed, the physician's mainstay in such cases, and cannot successfully be omitted or replaced. There does exist, however, considerable difference of opinion as to the method of administering iron and as to the most generally eligible preparation of same. The tincture of the olden times, prepared from iron filings, has in these later days, been superseded by the less irritant and more tolerable preparations introduced into modern pharmacy. Among such products none has seemed to be so generally acceptable and promptly assimilable as the organo-plastic form represented by Pepto-Mangan (Gude). The ferruginous element in this preparation exists as a true peptonate, in combination with organic manganese, iron's side-partner in reconstructive blood therapy. It is palatable, readily tolerable, quickly absorbable and assimilable and entirely free from irritant or constipating effect. Pepto-Mangan (Gude) rapidly restores vigor to the circulating fluid and because of its blandness and ready tolerability is especially valuable in pediatric practice.

VALUABLE CONCLUSIONS.

The case of G. H. is reported by J. S. Norwell, M. B., C. M., B. Sc., of Edinburgh, Scotland, as follows:—"Suffered from headaches which proceeded from errors in diet. I arranged a table of diet for him which proved beneficial. I prescribed antikamnia tablets and with the very best results. His headaches were kept under until his changed dietary had time to effect more permanent relief. This year he went to Bisley. In case he should be troubled there with his *bete noir*, I gave him some antikamnia tablets as a stand-by. On his return he told me he had had no headache, but that he had used all the tablets. Headaches, it seems, are no uncommon accompaniments of camp life. He had dispensed the antikamnia tablets to some of his suffering companions, and they (the tablets) 'hit the bull's eye every time.' Who knows but that they had something to do with the phenomenal scoring at the last meeting."

One could multiply similar cases, but this may suffice to illustrate the effects of antikamnia tablets in the treatment of headaches, and to warrant the following conclusions I have come to with regard to their use:

(a) They are a specific for almost any kind of headache.

(b) They act with startling rapidity.

(c) The dosage is small.

(d) The unpleasant after-effects so commonly attendant on the use of many of the other analgesics are entirely absent.

(e) They can therefore be safely put into the hands of patients for use without personal supervision.

Another point worth noting is that they can be very easily taken, being practically tasteless.

ACUTE PROSTATITIS.

In the treatment of acute prostatitis salicylic acid internally in five-grain doses and sanmetto in teaspoonful doses tends to diminish the source of infection, reduce the existing inflammation and encourage resolution. The sanmetto being a mild, soothing resolvent diuretic also tends to allay the suffering of patient. If the urine is acid, citrate of potassium in ten-grain doses will aid in relieving irritation and tenesmus. As further measures for reducing inflammation, light diet, absolute rest in bed, free movement of the bowels and local application of heat by means of sitz baths, or hot-water bag, should be enjoined. If the sanmetto is kept up urinary retention is not likely to supervene, unless there is a previously hypertrophied prostate; in that case the bladder should be emptied by a soft catheter at intervals, still keeping up the use of sanmetto. The prostate should not be massaged during the inflammatory state, but during the period of resolution massage will aid the process.

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ADRENALIN IN A NEW PACKAGE.

In addition to the one ounce vials in which it has hitherto been supplied, Adrenalin Chloride Solution is now being marketed in hermetically sealed glass containers of 1 cubic centimeter capacity. "Adrenalin Ampoule" is the name used to designate the new package, and the solution is of the strength of 1 to 10,000 (one part Adrenalin Chloride to 10,000 parts physiologic salt solution). In their announcement of the Ampoule, Parke, Davis & Co have this to say:

"Adrenalin Chloride Solution has become a necessity in medical and surgical practice. The most powerful of astringents and hemostatics, it

lends itself to many practical uses and at little risk of injury in reasonably careful hands. Since the time of its introduction it has been marketed in ounce vials, and of the strength of 1:1000. Experience has shown, however, that a weaker solution is much more frequently required than the "full strength"; and while it is generally an easy matter to dilute with water or normal saline solution, in certain emergencies an already fully diluted preparation is to be preferred. While the danger of deterioration from occasionally opening a vial containing a solution of Adrenalin Chloride is not great, still, in consideration of the fact that a dose is needed now and then for hypodermatic injection, it is believed that the small hermetically sealed package will be welcomed because of its greater convenience and security."

As will be apparent from the foregoing, the Adrenalin Ampoule is intended for hypodermatic use. It should be of great value in such emergencies as shock, collapse, hæmorrhage, asthmas, etc., or where prompt heart-stimulation is desired.

HYGIENE IN THE COUNTRY.

The Professor, having boarded with his family last year at a farm on the East Coast, wrote: "There are several little matters that I desire changed should I decide to pass my holidays at your house. We don't like the maid Mary; moreover, we do not think a sty so near the house is sanitary." The farmer replied: "Mary is went, and we 'aven't 'ad no hogs since you went away last August."—Chemist and Druggist.

ITEMS OF GENERAL INTEREST.

Amsterdam now boasts of automatic doctors. The machine represents a man and in the region of each arm is a slot designed to receive a 15 cent time piece—3 cents. The patient suffering, say from heart trouble or liver complaint, goes to the machine and drops his coin into the slot connected with the organ in trouble, and without delay a prescription is shot out bearing the address of an apothecary, whither he takes the card and receives his medicine.

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The first pair of spectacles was made by Spina, an Italian, in 1299.

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It is stated on German authority that the astounding number of two million glass eyes are made every year in Germany and Switzerland, while one French house manufactures 300,000 of them annually.

The largest library in the world is the National Library of France, founded by Louis XIV. It contains 1,400,000 books, 300,000 pamphlets, 175,000 manuscripts, 300,000 maps and charts, 150,000 coins and gold medals, 1,300,000 engravings, and 100,000 portraits.

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Bank-notes for about half a cent each circulate freely in Paraguay.

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King Edward III inaugurated the use of the "woolsack" on which the Lord High Chancellor sits, to help in the friendly relations with Flanders, whose wool trade at that time England was cultivating.

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In the reign of Charles I, the rates of postage were: Under eighty miles, 2d.; 80 to 140 miles, 4d.; over 140 miles, 6d.; London to Scotland, 8d.

'BARLEX'

'BARLEX' a concentrated Extract of Malt, possessing marked hydrolysing properties. It contains in their most potent form the organic salts, proteids and carbohydrates of the best Barley.

'BARLEX' stimulates functional activity of the whole digestive system, promotes metabolism, and plays the part of a reconstructive nutrient.

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'BARLEX' WITH COD LIVER OIL

The addition of Cod Liver Oil to 'BARLEX' produces a perfect food, supplying the fat and carbohydrates so essential for maintaining the heat of the body. The ferments of the 'BARLEX' render the oil more readily available for assimilation.

This preparation is particularly efficacious when administered for Bronchial and other Catarrhal conditions of the respiratory organs.

For children suffering from mal-nutrition no preparation can rival 'BARLEX' with Cod Liver Oil. During the cold season it will be found most serviceable for growing and anæmic children.

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An ideal reconstructive nutrient, especially beneficial in convalescence and old age.

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500, 1000, 2000, 3000, 4000 and 5000 units.

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