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ADDRESS IN SURGERY.*

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GENTLEMEN,—I come before you to-day with mingled feelings of pleasure and anxiety, due on the one hand to a deep appreciation of the high honor conferred upon me by your invitation to deliver the "Address in Surgery" before such a distinguished gathering, and on the other, to a fear that I shall fall far short of your expectations.

I am aware that time-honored custom and tradition call for a very general subject, such as the "Art of Surgery," "Advance in Surgery," and the like, but a somewhat careful study of recent addresses has convinced me that this ground has already been gone over so frequently and so well that I trust you will pardon me for choosing a subject which, though somewhat special in character, is still one of universal interest, and of rapidly increasing importance to the medical profession, viz., "The Radical Cure of Hernia."

It is impossible to view the present methods and results of the operative treatment of hernia in the true perspective without a brief survey of the past, stopping here and there for a moment to note the more important landmarks.

The historical picture presented shows that this evolution has not been a gradual and harmonious development, but rather a series of brilliant conceptions based on more or less sound anatomical principles, at one time commanding the respect and confidence

*Read before the Canadian Medical Association, Toronto, August, 1899.

of the leading masters of surgery of the day, and at another relegated to quacks and travelling rupture curers, who alone kept them from falling into utter oblivion, until under the new stimulus caused by the great discoveries of anesthesia and antisepsis, they were again revived and elaborated.

While we find occasional reference to hernia and its treatment in the writings of the early Greeks, the first recorded description of an attempt to cure the condition by operation was made by Celsus, a Roman who lived during the first half of the first century, A.D., and to him must be given the honor of being the founder of the radical cure of non-strangulated hernia. Although we do not possess a careful description of his method, we know that he possessed a very good conception of the anatomical and pathological conditions present, and that he actually proposed and successfully executed many of the steps which even to-day form the most important features of modern methods.

His operation consisted in a free open incision over the hernial tumor, exposure of the sac, and probably the removal of the whole or a part of the sac. If the omentum was present it was pushed back if possible; if not, a needle was passed through the middle and it was then tied off in two portions. The wound was then, closed by sutures. The testis was not removed, and care was taken not to injure the cord in the dissection of the sac. At that time this procedure must have been regarded as radical to the degree of rashness, and we are surprised to find in his rules for the selection of cases for operation evidence of such sound judgment and rational conservatism.

He operated only upon children between the ages of six and fourteen years, and, moreover, only in subjects in good health with comparatively small herniæ, as he recognized the fact that these cases are the most likely to withstand the risks of operation, and, furthermore, that in them the chances of ultimate cure are greater than in any other class of cases. He advised against operating upon umbilical hernia in children, knowing what many surgeons to-day have failed to learn, viz., that umbilical hernia in children is almost without exception cured by nature, without operation. Heliodorus, who flourished under Trajan, at the beginning of the second century, has given us a description of a method of operation for hernia which actually surpasses many that are now offered to the profession as new and ideal. He says,* "We must cut off the hernial sac with great care, for if you take away less than is protruded the result will be the production of a new hernia. In order, therefore, that we may not miss excising an amount that is precisely correct it is necessary to draw the sac outward by catching the tip. So soon as the edges of the abdominal wound begin to be averted, enough of the peritoneum has been drawn out, and so much is to be excised. When just enough peritoneum has been

*Albert Lehrbuch der Chirurg, B. III., and Halsted, *Bulletin Johns Hopkins Hospital*, No. 29, 1893.

drawn out the sac is to be twisted. Having been cut off along a straight line the peritoneum becomes folded upon itself, and screwed up and closed so tight that not even the point of a probe can be introduced."

As Halsted, writing in 1893, has well said, "With the exception of torsion of the sac, which we replace with suture, the operation for the radical cure of hernia in the time of the Roman emperors was quite on a par with the operation as usually performed in our day."

A few centuries later this operation had been abandoned.

Paul of Ægina in the seventh century, following in many points the methods of Celsus, introduced a new and radical step, viz., castration. Without attempting to separate the cord from the sac he transfixed the sac with a "large-sized needle containing a double thread." This thread was then cut, and the ends crossed like the great letter X, and tied. The portion below the ligature with the testis and cord were then cut away.

It seems difficult to understand how this method so inferior to the methods of Celsus and Heliodorus should have survived to modern times, while the former were so soon forgotten.

During the Middle Ages many methods were introduced. Castration was still performed, though according to William of Salicetus, only by travelling rupture curers and foolish physicians. Of the other methods the principal ones were:

1. Exposure of the sac and closure by various forms of ligature.
2. Inclusion of the sac and scrotum either by needles or by sutures.
3. Cauterization applied in various ways.

The cure by cautery was known by Paulus and was much employed by the Arabians. It continued in vogue almost to modern times. Full details of the method are found in the writings of Pott,* who thus describes it:

"After a proper time spent in fasting and purging, the patient must be put into an erect posture and by coughing or sneezing is to make the intestine project into the groin as much as possible, when the place and circumference of such projections are to be marked out in ink. Then the patient is placed on his back, the intestine is to be returned fairly into the belly and a red-hot cautery is applied according to the extent of the marked line. For this purpose cauteries of various sizes and shapes and figures have been devised."

Different writers differ widely as to the extent and depth of the cauterization, but as Pott adds: "In all of these the exfoliation of the bone is made a necessary part of the process. Eschars and sloughs being separated and the exfoliation cast off, the patient is ordered to observe an extremely careful regimen, to lie on his back during the cure and to wear a bandage for some time after-

* Vol. II., p. 177.

ward in order to prevent a new descent of the parts, which notwithstanding all the pains and all the hazard the patient had undergone he was still liable to."

Cauterization by means of strong acids, such as sulphuric and nitric, were also employed.

It is not difficult to understand the dire results that not infrequently followed these methods and which finally led to their abandonment.

Bordenhave (quoted by Lawrence) states that of three patients treated at one of the hospitals in Paris, one died, one relapsed and the third had a swelling of the spermatic cord. Peritonitis, gangrene of the scrotum and testis, and even perforation of the bowel often formed part of the after history of these operations. During the eighteenth century castration became so common, especially in France, that finally stringent laws were passed condemning it. As an example, it is stated that the Bishop of St. Papoul found more than five hundred children had been castrated for hernia in his own diocese alone.

The celebrated "punctum aurem" was introduced by Geraldus of Metz. It consisted in exposing the sac and encircling it with a thread of gold in such a manner as not to include the cord.

Such then was the state of the radical cure of hernia at the beginning of the nineteenth century. We find an occasional return to ancient methods in the early part of the present century, notably by the Prussian surgeon, Schumaker, and the elder Langenbeck. They made an open incision and dissected the sac from the cord, then ligated it as high up as possible. Langenbeck stated that he had performed the operation twelve times with the most successful results. The method, however, did not meet with general approval and does not seem to have been much employed.

With the introduction of subcutaneous surgery by Stromeyer, in 1835, there followed attempts to apply its principles to the cure of hernia. The most notable example of these operations were the methods of Wützer and Gerdy, and a little later the method of John Wood, of London, which was a combination of the open and subcutaneous methods. Woods' method was introduced in England in 1857, and even up to recent times it was more generally employed that any other method both in Europe and in America.

The best results were obtained by Wood himself, who claimed a large percentage of cures. The mortality of the method was about 7 per cent., though in his later series of cases this was reduced very considerably.

By modern methods we mean those that have been introduced or rather re-introduced after the great discoveries of Lister and Pasteur. It took some years for the principle of antisepsis to become sufficiently accepted and put into practice by the leading surgeons, before serious attempts were made to apply them to the radical cure of hernia.

In the first place a distinction should be made between opera-

tions for strangulated hernia and those deliberately undertaken for the purpose of effecting a radical cure. Strange as it may seem the operation for strangulated hernia is of much more recent origin than that for non-strangulated hernia. Up to the seventh century taxis alone had been used for strangulation, and to Pierre Franco, in 652, must be given the honor of introducing herniotomy. His minute description of the operation forms one of the bright spots in the surgery. Later, Franco's method was taken up by Ambroise Paré and most strongly endorsed. Paré was the first surgeon, so far as we know, who advocated operation for all cases of strangulated hernia. His teaching, however, fell on barren ground and it was not until several centuries later that herniotomy became generally adopted.

Up to the beginning of the nineteenth century it was practically unknown in America. In the life of J. C. Warren* we find it stated that when he began to operate in Boston (about 1804), the operation for strangulated hernia was almost unknown. He had just returned from England and attempted to put into practice what he had learned from his illustrious teacher, Sir Astley Cooper, but when he proposed to operate on a case of strangulated hernia, he was met with the greatest opposition both from the other physicians and from the friends of the patient. He finally gained consent to operate, but the long delay caused the death of the first two or three patients. Convinced that he was right, his genius and courage enabled him to go on, and the brilliant results of his later cases did much towards establishing the operation for strangulated hernia in America, upon the solid foundation that it has ever since enjoyed. It does not appear, however, that any serious attempts were made to effect a radical cure until after the introduction of Lister's methods of antisepsis.

Henry O. Marcy, of Boston, who had enjoyed the privilege of personal instruction under Lister in 1870, appears to have been the first to operate upon strangulated hernia under antiseptic methods, and to close the canal by means of absorbable buried sutures of catgut. On the 19th of February, 1871, he operated upon a woman, aged fifty years, for strangulated inguinal hernia, and closed the canal by "two stitches of medium-sized catgut directly through the pillars of the ring."

On March 10th, 1871, he operated upon a second case of strangulated hernia, also in a woman, and closed the canal "by three large-sized catgut sutures passed deeply through the pillars of the ring and the wound carefully dressed antiseptically with Lister's carbolic plaster."†

The sac was not opened in either of these cases.

Dr. Marcy's first attempt to cure non-strangulated hernia by operation was February 4th, 1878, or several years subsequent to

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*Vol. 1, p. 37.

†*Boston Med. and Surg. Jour.*, November 16th, 1871.

the operations of Steele, Annandale and Czerny. Richard Steele, of London, deserves the honor of first attempting to cure non-strangulated inguinal hernia after the introduction of antiseptic methods, though he very modestly states that it seems such a natural proceeding he does not doubt that others did it before him.

In the *British Medical Journal*, November 17th, 1874, p. 584, Steele reports his most interesting case. The patient was a boy eight years of age. He cut down upon the canal, exposed the pillars of the ring, pared their edges and united them with catgut sutures. The hernia recurred in six months, became strangulated but was reduced by taxis. Steele then did a second operation and the patient was well one year later. This case does not seem to have received the attention it deserved, and to Czerny is usually given the credit of being the author of modern operations. His first report of five cases was published in *Wien. med. Woch.*, No. 22, 1877, p. 527. His first patient was operated upon January 1st, 1877, more than three years later than Steele's. The neck of the sac was ligated with catgut, and the pillars of the ring were sutured with catgut. The skin was closed with catgut, two drainage tubes were used, the wound healing over in forty-seven days. In the second and third cases the pillars were closed with catgut, and in the fourth and fifth cases with silk sutures.

It will be seen that Czerny's operation shows a distinct advance over the operations of Marcy and Steele, viz., he dissected out the sac and ligated it before suturing the canal. From the limited experience derived from his early cases, Czerny concluded the "thousand-year-old problem of surgery" was nearing solution. Of his first five cases four suppurated and one died. Time will permit but the briefest reference to the more important of the numerous methods devised since Czerny's first report. As early as 1879, Tilanus, of Amsterdam, had collected and reported before the International Medical Congress 122 cases in which operation was performed by supposedly antiseptic methods. Seventy-nine of these cases were non-strangulated, and forty-three were strangulated. Too few cases had been traced sufficiently long to justify conclusions as to the permanence of the cure, and the immediate mortality of 6 per cent. made many physicians hesitate to advise, and surgeons to perform the operation. The subject, however, was so fascinating and the goal was of such inestimable importance, that the minds of the leading surgeons of the world were engaged in attempting to modify the old methods, or to devise new, with a view of diminishing the dangers and improving the final results. The methods at present in vogue are the result of somewhat rapid evolution in accordance with the law of survival of the fittest. Not one, but many workers in the field deserve lasting honor for the part they have played in conferring a priceless boon upon humanity. Among these names should be mentioned, Steele, Annandale, Czerny, Marcy, Banks, Championniére, MacEwen, Barker, Ball, Socin, Bassini, Bull, Weir, Halsted and Kocher.

While many of the earlier methods have been superseded by newer and better, we must not forget that the experience derived from the older methods has made it possible to discover their shortcomings and to devise appropriate remedies; therefore, let us not refuse them a place of honor. It would be tedious to enter into anything like a full description of the various methods mentioned, nor is it necessary. Many of them are no longer in use, having fulfilled their part and given place to better. There are still a number of methods in vogue, each of which is represented by its advocate as the ideal operation, and it is clearly our duty to study these carefully and attempt to discover, if possible, the best.

MacEwen's method, first performed by its author in 1879, and introduced to the public by a most able paper (*Annals of Surgery*, August, 1886), was largely employed by English and American surgeons, and even to-day has its warm supporters. The results in the hands of MacEwen were almost ideal, but, whether due to difficulty in learning the details of its technique or to other causes, the same brilliant results were not attained by other surgeons. The step of the operation upon which the most stress was laid, viz., the infolding of the sac so as to form a barrier at the internal ring, was in itself a source of danger and difficulty in certain cases. Sloughing of the poorly-nourished sac and prolonged suppuration, ending in speedy relapse, were some of the results in less skilled hands than those of the author. And with the introduction of other methods, notably those of Bassini, it has gradually been given up. Whether the infolded sac remains for any length of time and plays a really important part in preventing relapse may well be doubted. In one case in which the patient died several years after operation by MacEwen's method, Lauenstein found the sac still folded up into a firm pad which apparently closed the canal and aided in preventing a return of the hernia. In another similar case, observed by Bassini, in which the autopsy was made 95 days after operation, no trace of the folded sac could be found. We prefer to believe the excellent results obtained by MacEwen were due not so much to the peculiar treatment of the sac but to the very careful closure of the canal by chromicized catgut.

The same would hold true of the Kocher method, in which the sac is brought out through a cleft in the aponeurosis of the external oblique. He has already so modified his method that only a small portion of the sac is now left instead of the whole, or the larger portion.

There has been considerable dispute among those of the profession inclined to lay stress upon matters of priority, as to whether the idea of transplanting the cord originated with Bassini, with Halsted or with Marcy. A careful and an entirely unprejudiced study of the reported writings of all would seem to show that the honor should rest with Bassini. Halsted, in March 1893, in his most valuable paper describing his own method, and

giving a report of 58 cases operated upon by this method,* states that he had described his operation more than three years before,† six or eight months before the publication of Bassini's paper in 1890, containing his report of 251 cases. Halsted was evidently not familiar with Bassini's first report of 102 cases made before the Congress of Italian Surgeons, in March, 1888, or two years before the date of his later and more complete report. An abstract of this early report and a description of Bassini's cure was also published by Marcy in his book on "The Radical Cure of Hernia," in 1889, which also contained a description of Marcy's own operation.

The method of Marcy, which differs materially from that of Bassini in most of the details of technique, has one important point in common with it, viz., the restoration of the obliquity of the inguinal canal. All of these surgeons have apparently worked out their ideas independently, and each deserves credit proportionate to the value of his own method of operation.

I wish the time permitted a fuller description of these methods, because their technique is not always understood by surgeons who attempt to perform them.

I have frequently seen cases come to the Hospital for Ruptured and Crippled, less than eight weeks after operation by a so-called Bassini method, with well-marked relapse. A glance at the scar alone was sufficient to prove that Bassini's operation could not have been performed. One cannot properly perform the operation with an inch and a half to a two-inch incision, the upper extremity of which extends scarcely above the external ring. Were I called upon to give what I believe to be the most frequent errors of technique and those most responsible for failure to obtain good results, I would place first an incision of insufficient length, both in skin and aponeurosis (it should be at least three inches long), and placed too low down. Second, failure to dissect back the aponeurosis of the external oblique well over to the edge of the rectus muscle. Third, careless or unskilful dissection of the sac from the cord and the surrounding tissues, thus prolonging the operation and bruising the tissues, thereby lessening the chance of primary union. Fourth, too great tension upon the buried sutures, or the use of non-absorbable sutures.

The question of sutures I will discuss later.

I do not need to tell you that the essential feature wherein Halsted's method differs from Bassini's, lies in the treatment of the cord and the closure of the canal. In Bassini's method the canal is closed by suturing the internal oblique and transversalis to the shelving portion of Poupart's ligament (which must always be very clearly exposed), the aponeurosis being carefully retracted on either side during this suturing. The rent in the aponeurosis is then closed from above downward as before, by means of a continuous

* *Bulletin Johns Hopkins Hospital*, Vol. I., No. IV., No. 22, p. 20.

† *Bulletin Johns Hopkins Hospital*, Vol. I., No. I.

suture, until, at the lower angle, just enough space is left to permit the cord to pass without undue compression.

In Halsted's method, on the other hand, the cord is transplaced more externally, so that it lies just beneath the skin and superficial fascia, the aponeurosis with the underlying muscles and transversalis fascia, on the one side, being united to the transversalis fascia, Poupart's ligament and the aponeurosis, on the other, by means of a single row of five or six mattress sutures. One sees at once that if the cord were left in its normal proportions there would be great danger of relapse at the point where it emerges. To lessen this danger it was ingeniously proposed to remove "all but one or two of the veins of the cord." Whether or not such a procedure might not cause atrophy of the testis was a matter that experience alone could determine. The subsequent histories of Halsted's own cases, as well as those of other observers, have proven that this result not infrequently occurs.

From a recent, and as yet unpublished, report of the results at the Johns Hopkins Hospital, Dr. Bloodgood has very kindly given me some very interesting and valuable statistics.

Of 109 cases operated upon by Halsted's typical method, with excision of the veins, there was no relapse, while in 86 cases operated upon by the same method, with the single exception that the veins were not excised, there were eight relapses or 9 per cent. Fifty-six of these cases were observed from one to nine years. Bloodgood concludes that Halsted's operation with excision of the veins will give perfect results if primary union be secured, though he admits that excision of the veins is liable to be followed by atrophy of the testis, and is, therefore, not always to be recommended. He would not excise the veins in children or in cases in which the cord had been subjected to traumatism during the dissection of the sac. The number of cases in which atrophy of the testis followed excision of the veins is not noted, but it is stated that it was only observed in those cases complicated by epididymitis. Bloodgood, therefore, reasons that as the probabilities of epididymitis would be much less after excision of the veins, if the vas and its immediate vessels are not displaced, it would be as well to leave the remainder of the cord undisturbed, and he goes on to say that "the cord reduced to such diminutive size will be as little likely to be the cause of a recurrence in the lower angle of the wound as in the upper angle when it is transplanted."

This is practically an admission that one of the leading features of the method, viz., the excision of the veins, is not always free from risk, and that another and perhaps the most important, the transplanting of the cord, is unnecessary if the veins are excised.

After all that may be said on either side in the way of theoretical considerations, the question of preference must be finally settled by practical results. If the results of the several methods are the same, that method which is the simpler in technique should have the preference.

While Halsted's method in his own hands and in the hands of his skilful colleagues at the Johns Hopkins Hospital has yielded most brilliant results, they are not equal to Bassini's personal results.

Looking at the results of other surgeons we find a much greater difference in favor of Bassini's method. The technique is far simpler, and we believe the rapidly increasing favor with which it is regarded both in Europe and America, shows that it is destined in the near future to supplant all other methods.

It is hard for us to realize that the radical cure of hernia has made such tremendous advances in a single decade. In 1890, Bull, who had faithfully tried the best of the methods then in vogue, and on a larger scale than any surgeon in America (in 134 cases) was obliged to confess that his "observations go to strengthen the conviction that all methods of radical cure will be found unsatisfactory." He did not, however, discourage further efforts to improve upon these methods of operation, but merely wished to depict the situation as it actually was. He was one of the first to subject operations for radical cure to critical tests, and to point out that the term "cure" could not rightly be applied to patients who had merely recovered from operations and had not been observed for a considerable period afterwards. To show how rapidly advances have come in this field of surgery, the ink was scarcely dr· upon the valuable but gloomy paper of Bull, when Bassini's br..liant report of 251 cases, operated upon with but a single death, and all but four cases traced from a few months to four and a half years with but seven relapses, appeared. Whether or not these same good results were possible in the hands of other surgeons remained for the succeeding years to tell. Nearly a decade has now passed and few surgeons and still fewer physicians realize the tremendous revolution that has occurred in the operative treatment of hernia. Instead of an operation with a mortality of 6 per cent., alone sufficient to make the conservative surgeon hesitate to recommend it, except in cases of urgent need, and with at least a third or more nearly a half of the cases relapsing within a comparatively short time, what is the situation to-day? We find the mortality of leading operations reduced to less than 1 per cent., and the final results in large series of cases carefully traced show almost entire freedom from relapse. Instead of 30 to 50 per cent. followed by suppuration, we find 5 to 10 per cent.

You will pardon, I trust, a brief reference to personal work, which is given merely to show what anyone may accomplish, provided he gives the proper attention to the technique of the operation. Since August, 1891, I have operated upon 639 cases of hernia, divided as follows: 585 inguinal, 40 femoral, 14 umbilical and ventral. Of this number all except 60 cases have been traced. Five hundred and forty-nine cases of inguinal hernia were operated upon by Bassini's method (with 5 relapses)

with kangaroo tendon for the buried sutures. Of this number 493 cases have been traced as follows: 4 cases were sound upwards of 7 years; 4 cases, 6 to 7 years; 9 cases, 5 to 6 years; 19 cases, 4 to 5 years; 69 cases, 3 to 4 years; 91 cases, 2 to 3 years; 132 cases, 1 to 2 years; 101 cases, 6 months to 1 year; and the remainder less than 6 months. In regard to wound healing 96 per cent. of the cases operated upon by Bassini's method healed by primary union.

The only points in which I have departed from the original technique laid down by Bassini have been: first, in the substitution of chromicized kangaroo tendon for silk in the buried sutures. I have recently been told by a former assistant of Bassini, that Bassini himself has used chromicized catgut instead of silk since 1892. Second, the introduction of a suture just above the cord, and passing through the same structures as those below the cord, with a view of preventing any further separation of the tissues above the new internal ring and keeping the cord restricted to narrower limits. That these slight changes, too trivial to be called modifications, have been of advantage, the results in my series of cases would seem to prove.

Among the many questions of importance in connection with the subject of radical cure of hernia that are still unsettled, is the question of the best suture material. Silk, silver wire, catgut, kangaroo tendon, silk-worm gut, each one has had its ardent supporters. Were the question of less importance I should not attempt to discuss it at this time. Like the choice of operative methods, this question also must be finally settled by the careful observations based upon large experience, and theoretical considerations must again be placed in the background. Silk was probably used by the ancients. Catgut, introduced by Lister, was probably also first used by Lister to close a hernial wound. In the address in surgery before the British Medical Association,* Lister reported two cases of irreducible ventral and umbilical hernia upon which he had operated by opening the sac, freeing the adhesion, reducing the contents, and finally closing the freshened edges by means of closely applied interrupted sutures of prepared catgut. The dates of the operations are not stated, hence it is possible that Marcy's cases of strangulated inguinal hernia operated upon in February and March, 1871, and reported, *Boston Medical Journal*, November 16th, 1871, were really the first cases of hernia in which the buried catgut suture was used.

Czerny used catgut in his earlier cases. but later, owing to the difficulty in rendering it completely sterile, substituted silk.

Banks, whose name must always be mentioned foremost among the pioneers in operations for the cure of hernia, states† that the only point of novelty he could claim in the operation which he

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* *British Medical Journal*, August 26th, 1871, Vol. II., page 231.

† *British Medical Journal*, November 18th, 1882.

successfully performed was in the substitution of silver wire for catgut. He closed the external ring with two or three buried sutures of stout silver wire. MacEwen modified the simple catgut suture by chromicizing the gut sufficiently to maintain it in the tissue three or four weeks before absorption took place. This was a most important modification, and the suture of chromicized catgut is still to-day, we believe, with the possible exception of kangaroo tendon, the best suture for hernia operations. Shortly after 1890 silk-worm gut was introduced as the ideal buried suture, and for a time it was largely used in operations for hernia, especially in the United States. Marcy, who used catgut in his early operations, later substituted kangaroo tendon, obtaining his first supply of tendon from Australia in 1882. The advantages of kangaroo tendon over catgut seems to have been first recognized by Dr. T. M. Girdlestone, a lecturer on Surgery at the University of Melbourne. As early as 1877 he brought it to the notice of the Medical Society of Victoria, and in November, 1881, through Sir Thomas Smith, of London, he addressed a communication to the Medico-Chirurgical Society of London. In this paper* he states that the tendon suture resisted the softening influence of the tissues much longer than catgut. He prepared it, according to Lister's method of preparing catgut, in carbolic oil, but also stated that if desired, it could be further hardened by putting it in chromic acid one-half per cent. solution for seven hours. It has been largely due to the writings of Marcy that it has come to be used so largely in operations for hernia. I have personally employed it in upwards of six hundred operations for hernia, and I regard it as practically an ideal suture. The only difficulty has been in securing tendons of the proper size. If too large they remain in the tissues too long before absorption, and thus are open to the same objections that hold true of non-absorbable sutures. Split tendons should never be used as they are lacking in strength, and are of uneven calibre. Girdlestone himself in 1881 pointed out this fact. Some judgment is needed in selecting the proper size. I prefer for the deeper sutures a tendon equal in size to a number two or number three catgut, while a tendon the size of a number one catgut, or even smaller, will suffice for the closure of the aponeurosis. The cost of the tendons and the difficulty of obtaining tendons of suitable size and strength are objections of some weight. I am not sure that a carefully prepared and properly chromicized catgut will not prove nearly, if not quite, as good a suture for hernia as kangaroo tendon, and this is fortunate inasmuch as the supply of tendons is likely to prove insufficient to meet a largely increased demand.

Halsted used silk in his earlier operations, but during the past three or four years has used only silver wire. We are somewhat surprised at this change, for in his first paper, 1893, describing his

* Transactions Medico-Chirurgical Society, 1882.

method of operation, he speaks of silver wire as follows: "The use of powerful sewing materials in surgery is, it seems to me, based upon a misapprehension of pathology. If, for example, the tension is so great that wire must be used to bring the parts together, one must not expect permanent assistance from the wire, *for the stitches will eventually be cut through to the extent necessary* to relieve the tension." This is a concise and admirable statement of the question, and we prefer to believe it still true. The real and important objection to silk, silver wire and the whole list of non-absorbable sutures remains to be noted, and this is their liability to cause sinuses long periods after operation. This objection is not theoretical but based upon personal observation of twenty-seven patients at the Hospital for Ruptured and Crippled, as well as upon numerous reports of other observers.

In every one of these cases a sinus developed at varying periods from a few months to three years and eight months after operation. This condition of sinus formation is a serious one, inasmuch as the healing of the sinuses often requires many months, and seldom becomes permanent until the last of the offending sutures has been removed. This is not the end, for the prolonged suppuration has in most cases so weakened the canal that relapse usually follows. Thus what might have been a successful operation for the radical cure of hernia has become a complete failure owing solely to the use of a non-absorbable suture. The reasons formerly advanced by surgeons for using non-absorbable sutures were that catgut and tendon could not be satisfactorily sterilized, but with our improved methods of sterilization such reasons no longer obtain. A comparison of the statistics, as regards wound healing, of the surgeons who use catgut and those who use non-absorbable sutures will disprove the validity of such claims.

Primary wound healing was obtained in about 80 per cent. of Halsted's series of cases in which silk was used for the buried sutures, and his later statistics of 261 cases in which silk, silver wire and silk-worm gut were used, 31 suppurated or 11 per cent. These patients, we must remember, were operated upon at a hospital which enjoys a reputation above all others for the perfection of its aseptic technique. Yet the statistics of other surgeons under much less favorable operative conditions, who have used absorbable buried sutures show better results as regards primary wound healing. I mention these facts simply to show that the claim, that non-absorbable sutures are necessary to obtain the best results in primary wound healing, is entirely unfounded; therefore, there is no logical reason why the final results of the operation should be jeopardized by their use.

With the vast improvement that has taken place during the past decade in methods and results of operations for radical cure, the indications for operation have markedly increased, though in some respects the present views as to selection of cases for operation differ materially from those held ten years ago. At that time

operations were almost entirely confined to adults. This was due to the fact that some regarded the operation as more dangerous in children, and others believed that all ruptures in children could be cured by mechanical means. We now know that both these suppositions are erroneous, the results of large series of operations in children proving that the operation is less dangerous in children than in adults, and a careful study of the after history of a very large number of cases of hernia in children having proved that at least one-third of all children starting with hernia in childhood, pass on into adult life with the hernia uncured by mechanical means.

This does not warrant us in advising operation in all cases of hernia in children. At the Hospital for Ruptured and Crippled in New York, we have adopted the following rules in the selection of cases, and it will be seen at once that these are fairly conservative:

Operation is advised (1) in children over four years of age in whom a truss has been given a fair trial without marked improvement. (2) In cases complicated with fluid in the hernial sac (reducible hydrocele); in all cases of femoral hernia, since this form of hernia offers little or no hope of cure through mechanical treatment.

The practice of operating upon infants under one year, or even two or three years. is, I believe, open to serious criticism.

Umbilical hernia in infants and children should, with some exceptions, never be operated upon, for the reason that these are almost invariably cured by other means. With regard to adults it is no longer considered advisable to operate upon the very large and long irreducible hernia in patients beyond middle life. The operation is attended with grave risks and a speedy return of the hernia will almost certainly occur. The same is true of the large irreducible umbilical herniæ especially common in very stout women. While we cannot hope to cure such patients by operation, we should bear in mind that there was once a time when every one of these cases could have been operated on with a fair prospect of success, hence the importance of operating early.

Inasmuch as there is slight prospect of a cure being effected by a truss after the age of twenty years we can now advise operation in such cases, especially since it is no longer attended with appreciable risk and the prospect of a permanent cure is very great.

Operation would seldom be advised in patients over sixty years of age.

Inguinal hernia in the female has thus far received but little attention, and yet this variety of hernia yields the best results of all under operative treatment. Championniére was, I believe, the first to urge operation in these cases, and he has recently reported 49 cases. His method was to excise the round ligament along with the sac, but I believe this to be not without objections and

moreover entirely unnecessary. The sac can in every case be dissected free from the ligament, with a little care and patience.

Kelly,* of Baltimore, transplants the round ligament exactly as Halsted transplants the cord in inguinal hernia in the male, and closes the wound by Halsted's method. During the past eight years I have operated upon 100 cases of inguinal hernia in the female, and although the cases have been most carefully traced not a single relapse has been observed. The method employed was precisely similar to Bassini's operation in the male, with the transplantation of the cord omitted. The sac having been carefully dissected from the round ligament well beyond the internal ring, is then tied off and excised. The round ligament is then allowed to drop down into the lower angle of the wound, and the wound is then closed in two layers of buried sutures, according to Bassini's technique. The operation is much simpler than the one performed by Kelly, and the results thus far obtained have been perfect.

Time will permit of but the briefest reference to the radical cure of femoral hernia It is not generally recognized by the profession that the results of operation for femoral hernia are even more successful than for inguinal. Although a great variety of methods, many of them complex in technique and difficult to perform, have been proposed, the simple methods have been found to give the most satisfactory results.

Bassini has reported fifty-five cases† operated upon by his own method, without mortality, and 41 of these were traced from one to nine years without a single relapse. Of my own cases, 40 in number, Bassini's method was employed in sixteen and the method of high ligation and incision of the sac, with closure of the femoral canal by means of a purse-string suture of kangaroo tendons, was used in the remainder.

The single relapse observed occurred in a patient operated upon by Bassini's method, and it is worthy of note that this was the only case in which there was failure to secure primary union.

It would not be right to close this brief and very important sketch without saying a few words upon the final results of operations for hernia, in other words upon the permanency of the cure. Do operations, even according to the best methods, and skilfully performed, really cure the patient, or is he only temporarily relieved? The answer to the question must as yet be more or less tentative. By a permanent cure we mean freedom from relapse, as long as the patient lives, then, of course, the time has as yet been too short for us to make dogmatic statements.

Fortunately, however, we already possess sufficient data to enable us to draw fairly accurate conclusions. The careful study of 361 cases of relapse, following various operations for inguinal and femoral hernia observed at the Hospital for Ruptured and

* "Operative Gynecology," Vol. II, p. 481.

† *Archiv. für Klin.*, 1894.

Crippled during the past ten years, shows the important fact that the great majority of relapses occur within the first few months after operation; 64.5 per cent. occurred during the first six months and 80 per cent. during the first year. Between one and two years after operation 8.89 per cent. relapsed.

From these facts we are justified in concluding that in cases well beyond one year the chances of recurrence are very slight though in some cases relapse has been noted twenty years after operation. Under the methods practised a decade ago the percentages of relapses even during the first two years ranged between 30 and 40 per cent. Under the improved method now in use, especially Bassini's, and even with a much more careful tracing of patients this percentage has been reduced to a minimum.

Such, then, at the dawn of the twentieth century, is the present status of "The Radical Cure of Hernia." The "thousand-year-old problem of surgery" has finally been solved in the last quarter of the nineteenth century by the happy combination of brilliant genius, rare skill, and unflagging perseverance on the part of many workers in many lands. We must not forget that this combination would have been of little avail without the brilliant discoveries of Morton and Lister. So that here again in the radical cure of hernia, we find new cause to do them honor and to add to their laurels.

THE RELATION OF INSANITY TO PELVIC AND OTHER LESIONS.*

BY DR. A. T. HOBBS,
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THE quarter of the century now closing has witnessed the passing of the madhouse and the evolution of the modern hospital for mental diseases. The closely tiled buildings and grounds, the mechanical contrivances for the physical restraint of the poor lunatic, and other crude methods of treatment have gradually been abandoned. The rapid progress in medical science and surgical art has given alienists new weapons wherewith to combat the dread scourge of insanity. This disease, in the light of modern research, is not now looked upon with the hopelessness of bygone days, and much has been, and will doubtless yet be, done towards rescuing many of the hitherto hopeless unfortunates.

The discovery of antiseptic surgery by Lister gave the cue from which evolved the present principles of aseptic surgery, reducing danger to life from operation to a minimum. From the field of general surgery developed the special branch of gynecology which marked a new era in the treatment of diseases to which women are prone. It is universally conceded that immense benefit

*Read before the Detroit Medical and Library Association, November 13th, 1899.

can be conferred by operative treatment upon women who suffer from the lesions entailed by the accidents of maternity. That this phase of treatment has been neglected by asylum authorities having in their care large numbers of female lunatics, has called forth strong protests from men eminent in the profession of medicine in the old world and the new. I will quote briefly the words of some of these. More-Madden says: "The general non-recognition of utero-ovarian disorders among the insane in lunatic asylums is easily understood. Most alienists pay little attention to the study of gynecology. . . . Under such circumstances no complaint of uterine disorders being made by the patients, these diseases may unsuspectedly run their course as long as existence endures. Playfair writes that "insane women are as liable to uterine disease as sane women are, and when they have marked disease of the reproductive organs of whatever type it should be appropriately treated, whatever the condition of the mental function." Robert Barnes says that "asylum authorities should employ gynecologists to make such gynecological examinations. There was no reason why a woman in an asylum, who was suffering from a uterine complaint, should not have it attended to whether or not it made any difference to her mental condition." Skene says: "The psychologist may have a number of insane patients who suffer from uterine and ovarian diseases which may escape his notice."

Among the first to put into practical operation gynecological treatment among the insane was Manton, who, about twelve years ago, commenced to investigate along these lines in the Eastern Michigan Asylum. After some years' experience in this work, he says: "I have never operated on an insane woman, no matter to what extent demented, without some relief to her mental condition and a decided improvement in the personal comfort of the patient."

About eight years ago the late Dr. Rohé, then Superintendent of the Maryland Hospital for Insane, commenced to examine the female insane under his charge with reference to the presence or absence of pelvic disease. He states that 40 of the first 100 examined had lesions of the sexual organs that would justify operative interference. Having the courage of his convictions and a knowledge of the art of gynecology he carried out the necessary treatment. His subsequent observations led him to the conclusion that earlier operation in appropriate cases would very largely increase the proportion of recoveries."

In the beginning of the year 1895, my superintendent, Dr. Bucke, appointed a consulting gynecologist, Dr. Meek, who, in conjunction with myself, laid plans for the systematic investigation and prosecution of the work in the London Asylum. We carefully examined the histories of a large number of our female inmates, but found very little information that would guide us in making a selection of cases. We questioned many patients as to the functions of their reproductive organs, but found such procedure barren

of results owing to their deranged mental condition. Finally we selected from among these some of the young and middle-aged females who had married and borne children, and proceeded, with the aid of an anesthetic, to make systematic examinations. The results of our labors elicited the surprising fact that gynecic disease was the rule and not the exception in these cases. We have been accused of imagining lesions in these examinations; but the list which I will give is anything but imaginary, easily diagnosed, and were undoubtedly present.

We have had, during the past five years, over 800 women under observation, and have actually examined 220. Of these we found distinct lesions of the pelvic organs in 188, or 85 per cent. of those examined. This would represent that over 23 per cent. of our insane female population had some complicating lesion of the reproductive system. Glancing briefly at the pathological lesions diagnosed in the 188 women, there were found subinvoluted uteri or endometritis or both in 132 cases; some 18 women gave evidence of dysmenorrhea or menorrhagia; 62 had diseased or lacerated cervices and 5 had cervical polypi; retroverted or prolapsed uteri were present in 66 patients and 18 had new growths—16 being myomatous and 2 malignant, 33 had marked disease of the ovaries and tubes and 37 had lesions of the vagina—ranging from fistula to complete tears of the perineum. In all there were diagnosed 371 lesions in the 188 patients.

This presents a somewhat formidable list, but when it is considered that those examined were selected as possible cases of pelvic disease and numbered only one-fourth of the female patients in residence during the past five years, it will appear less startling than at first sight.

Having thus demonstrated by actual examination that much physical disease of this nature existed among our female insane, and knowing that, if similar disease existed among their sane sisters, relief would be sought for by them for such ailments, we deemed it our duty to remove these sources of physical ill-health in our charges. To do this we adopted the best gynecological methods in vogue, and have to date operated upon 173 female patients. The surgical measures carried out consisted of curettage, 131 times; trachelorrhaphy or amputation of the cervix, 53, Alexander operations, 37; ventro suspension of the uterus, 13. perineorrhaphies, 27; ovariotomies, 22; hysterectomies, abdominal, 14; hysterectomies, vaginal, 9; myomectomies, 3; celiotomy for tubercular peritonitis, 2. This makes a total of 311 operations. some patients needing two or more operations to remedy two or more lesions found in their cases.

As a result of this work we considered that a distinct advance had been made towards restoring the physical health of these unfortunates. In this we were rarely disappointed. If this were the sole end attained we considered that much had been accomplished. But there occurred, however, mental phenomena that

even to us were remarkable in their manifestations. We witnessed, in some cases, that an immediate restoration of the mental functions followed the operation. We observed in others, a steady progression towards a normal mental condition.

That curious mental phases depended upon the presence of utero-ovarian disease had already been discussed by Regis in his "Manual of Mental Medicine," where he says, "the psychic disorders follow exactly the phases of utero-ovarian symptoms, increasing with them, or, on the other hand, improving or disappearing as the latter improved or disappeared."

Classifying the cases operated upon, under the head of the principal pelvic disease removed in each case, we get definite and valuable information as to the relative influence of the various lesions in maintaining or creating mental alienation.

1. After the removal of ovarian and tubal disease in 24 patients there occurred a return to sanity in 15, or 63 per cent., an improvement in 4, or 17 per cent.; no change in 3, or 12 per cent.; and 2, or 8 per cent., died from complicating pneumonia, one on the seventh and the other on the twelfth day succeeding operation.

2. Following 72 cases, in which disease of the lining, body or neck of the uterus was corrected: 33, or 46 per cent., recovered mentally; 14, or 19 per cent., improved; and 25, or 35 per cent., remained stationary.

3. Correcting retro-displaced and prolapsed uteri in 47 cases was followed by mental recovery in 17, or 36 per cent.. mental improvement in 12, or 26 per cent., no change took place in the mental condition of 17, or 36 per cent.; and 1, or 2 per cent., died, death being caused from exhaustion brought on by hemorrhage, induced by patient tearing away the ligatures.

4. The extirpation of tumors malignant and benign in 20 cases was succeeded by 6 recoveries, or 30 per cent.; 8 improved, or 40 per cent,; 5 remained unimproved, or 20 per cent.; and 1, or 5 per cent., died.

5. Repairing of injuries to vagina in 10 cases brought about mental recovery in 2, or 20 per cent., mental improvement in 3, or 30 per cent., and 5, or 50 per cent., failed to show any change.

Summing up the 173 gynecological cases I find that, subsequent to operation, 73, or 42 per cent., recovered mentally; 41, or 24 per cent., improved mentally; 55, or 32 per cent., the mental condition remained stationary; and 4, or 2 per cent., died. From this it is evident that 114, or two-thirds of the whole number, were benefited directly or indirectly, both physically and mentally, by the surgical treatment carried out.

To illustrate the rapidity of the mental convalescence in some and the slow improvement in others, I will give briefly the history of a few cases

S. C., aged 26, admitted into the London Asylum, November 10th, 1896, suffering from chronic mania. She had spent nearly five years already in other asylums, and had been pro-

nounced a hopeless case. She had suffered physically and mentally during her menstrual periods from the time of puberty, which gradually developed into a continuous mania. Examination revealed that the left ovary had become a multilocular cyst as big as an orange. This was removed by operation on December 1st, 1896. She made an uninterrupted physical recovery. For two months after operation her mental condition showed no change, being interspersed with outbursts of maniacal violence. After the last of these attacks passed away, she appeared quite sane and has for two and a half years been perfectly well. Recently she has taken up the profession of nursing.

S. L., aged 33. When admitted in December 9th, 1897, had been insane since receiving an injury resulting in disease of the pelvic organs, caused by falling from a tree sixteen years previous to operation. She had been in an asylum before. Examination showed a pelvic mass, which, during operation, proved to be agglutinated uterus, ovaries, tubes and small intestines. The uterus and its adnexa were removed on January 11th, 1898. After the shock of operation had passed she conversed and acted quite rationally and remained well until discharged. A recent communication from her states that she still retains good mental health.

P. E., aged 40. Was committed to the asylum on December 6th, 1890. She had been an inmate for five years before an examination of the pelvic contents was made. Attention was drawn to her by the existence of menorrhagia. It was found that the uterus was several times larger than normal, and the endometrium was lined with a gelatinous deposit. Vaginal hysterectomy was done on February 18th, 1896, and she consequently made a good recovery. The maniacal mental condition slowly but surely disappeared, and she was discharged a year ago apparently as well as she was previous to her insanity.

McM. M., aged 27. Was sent to us for mental treatment on May 9th, 1895. She was a case of simple mania, having an occasional outburst of violent crying. Being unmarried she was not examined until December, 1898. Our attention was drawn to her by an attack of severe hemorrhage which issued from a tear of the labia majora made by herself. The examination revealed a tumor of the left ovary which, when removed, on March 28th, 1899, was found to be a dermoid cyst, containing well-formed teeth, hair, and seven ounces of sebaceous matter. She made the usual convalescence, and since operation has appeared perfectly well, but is still under observation although six months have elapsed since the operation.

F. A., aged 30. Was found wandering demented on the G. T. R. station platform, of London, and could give no account of herself. Later on we found that she came from Buffalo, and had been in an asylum there. She had been insane for three years. A diagnosis was made of sexual derangement, which proved to be

on operation, December 25th, 1896, an adherent uterus and ovaries bound down to the *cul-de-sac*. Separation of the adhesions, removal of the ovaries, which were badly diseased, and a ventro-suspension of the uterus were the surgical measures carried out. For two days succeeding the operation she was violently excited; but on the third appeared quite sane and remained so for six months, when she returned to her friends in Pennsylvania.

E. E., aged 44. A case of delusional mania, which, at the time of operation, was of two years' duration and apparently hopeless. Curettage of a subinvoluted uterus and repair of a lacerated cervix, on July 2nd, 1895, was followed by immediate improvement both physically and mentally. She has been home with her friends for four years now, remaining mentally well.

It is evident, from the recital of these cases, that diseases of the organs whose physiological function is the reproduction of the species, are strong factors in determining the status of the mentality of woman. It would also seem from this, that it is of the highest importance to the preservation of the mental equilibrium that the condition of the pelvic organs should be early inquired into if a woman presents premonitory symptoms indicating the onset of insanity.

It is not claimed that the removal of pelvic lesions is a panacea for all mental derangements in women. It will not be denied, however, that these diseases are powerful factors in undermining a woman's bodily health and creating a host of nervous disorders, until the brain becomes incapable of performing its normal functions. When this stage is reached she rapidly crosses the Rubicon into the domain of insanity, and lands in an asylum often a hopeless, helpless lunatic. I am willing to admit that a certain number of these women would probably have recovered their reason without removal of the complicating pelvic lesion as many were of a minor type. I am positive, however, that recovery, even in these cases, was hastened by the appropriate treatment of the genital disease.

Conceding all this, there still remains a large number of women who would never have been restored to mental soundness were it not through the instrumentality of surgical interference, and that these women would have still been reckoned among the hopeless incurables comprising the major population of London Asylum.

The fact that 52 of the 114 patients, who either recovered or improved mentally, had been insane two years or more prior to the removal of the complicating genital lesion, is in itself presumptive evidence of the relation of physical cause to mental effect.

That gynecology is of great value as an adjunct to ordinary asylum methods can be approximately determined by comparing the number of females discharged recovered and improved, during the past eight years, as published in the reports relating to this asylum. The number discharged for the last quadrennial period, during which the gynecological surgery has been added to our

armamentarium, reached the high total of 51 per cent. on the admissions, as compared with 33 per cent. for the previous four years, when no gynecological surgery existed. This represents a gain of over 50 per cent. on former methods, which gives a fair estimate of the actual value of this additional method in the treatment of the insane.

It may be urged by some that the operation itself, and the subsequent special attention, was the principal factor in the mental recovery of many of these patients; but our experience in the surgical treatment of inguinal hernia by the Bassini method in 23 cases effectually sets aside this criticism, as no mental recovery was attained in these although the surgical means employed and the subsequent nursing were parallel. It has also been claimed that the use of an anesthetic may be an aid in clearing up the clouded mental condition; but our experience succeeding 600 general anesthetizations warrants us in saying that after the immediate effect of the anesthetic passes off the mental state of these patients is neither worse nor better from its application.

It is interesting in conclusion to note the relative value the various lesions have in the production or in the maintenance of cerebral disturbance, by dividing them into three groups.

1. Utero-ovarian disease of an inflammatory origin received attention in 96 cases. The recovery rate following the elimination of these derangements was exactly 50 per cent., or 1 in 2 cases.

2. Utero-ovarian displacements being corrected in 47 cases were followed by 36 per cent. of recoveries, or 1 in 3 cases.

3. Utero-ovarian tumors and vaginal lesions of a non-inflammatory type being attended to in 30 cases were succeeded by 26 per cent. mental recoveries, or 1 in 4 cases.

From this comparison we deduce the fact that organic lesions of the inflammatory type are the most prominent factors among pelvic diseases in exciting mental estrangement, and that displaced organs rank next in importance, and tumors last in the order of causation.

As to why this is so can only be conjectured, and several plausible theories may be propounded in explanation of these phenomena; but there is one fact at least that stares us in the face and cannot be overlooked, viz., that neglect of gynecic surgery in any institution for the treatment of the insane is a serious omission, as where so many women are congregated together there must exist (as we have already shown) many cases of unsuspected and, if not investigated, untreated forms of pelvic disease.

EXTREME EMACIATION IN HYSTERIA, WITH NOTES OF A CASE.*

BY T. BEATH, B.A., M.B.(TOR.), WINNIPEG.

THERE are a few classes of cases in which our diagnosis can be conclusively confirmed without the unpleasantness (from a patient's standpoint) of an autopsy. The success of treatment in malaria and syphilis gives to the diagnosis an immobility which it would require an irresistible force to dislodge. Belonging to the same list is the case I present to you.

E. H., a young girl, born in 1873, of sound parents, was one of a healthy family numbering twelve, and at fifteen years of age was four feet nine inches high, weighing one hundred pounds. A farmer's oldest child, all her life had been spent in the country, except the two years between the ninth and eleventh of her age, when they resided in town. At fifteen she spent a winter with an aunt, at C——n, at school, suffering during that time from constipation, having only one stool in nine or ten days. At sixteen she had fits, four or five a day, and more at night, which started with twitching in the limbs and grinding of the teeth, after which the mouth frothed, the eyes rolled up and remained open and set. In this state she would lie sometimes for three hours. These continued for six weeks. Her appetite gradually left her, and she got so thin that about October 1st, 1890, eighteen months after the fits, she could not stand, and spent four weeks in bed, weighing, her parents say, forty-two pounds. After this she rallied some, and is now just able to walk.

Condition July, 1891: Patient eighteen years of age, very thin, and weighs, with heavy boots, clothing, hat, and shawl, 43¾ pounds, measuring as follows: Wrist, 5 in., mid-forearm, 5 in.; elbow, 6 in.; mid-humeral, 4¼ in.; malleoli, 7½ in., two inches above malleoli, 4⅞ in.; thickest calf, 6¾ in.; thickest thigh, 7¾ in.; chest, 22 in.; full inspiration, 23 in.; full expiration, 20¾ in.; waist, 14 in. to 15 in.; ant. sup. spines, 7¾ in.; widest part of ilia, 9 in.

She had never menstruated. Her organs were in every respect normal, except she complained of deafness without apparent cause. Four weeks of partial segregation and Weir Mitchell treatment raised her weight seven pounds, and gave her and her friends such confidence in her powers of recuperation that she was soon well on the way to recovery, and in a short time could walk three and a half miles alone. Some two or three years later I saw her, a plump, rosy, busy little girl, not only enjoying life herself, but, besides, permitting her family to have some comfort.

I have ventured to call attention to this case, looking to a brief consideration of three points: (1) The extreme emaciation; (2) the

* Read before the Canadian Medical Association meeting, 1899.

comparative absence of other symptoms; (3) the nosological place of mucous colitis.

1. That this is extreme emaciation I think all will admit. Osler, in connection with this disease, says: "Death may, however, follow with extreme emaciation. In a fatal case recently under my care the girl weighed only 49 pounds. No lesions were found *post mortem*." Some others speak of 70 and 54 pounds as being "wasted to the limit of wasting." This girl at fifteen weighed 100 pounds, and two and a half years later 42 pounds, as I was told by her friends, who said they thought she would weigh about that now. Before placing her on the scales I estimated her at less than 42 pounds, but with rather heavy clothing on she weighed 43½ pounds, and yet she was not only able to ride ten miles in a lumber wagon sitting upon a backless seat, but walked upstairs to my office with very little assistance. One who has not seen such a case can hardly conceive the appearance of a skin drawn tightly over a jointed skeleton. Her frequent smile, instead of causing a bulging of the cheeks in curving, fatty waves, was marked by a broadening of the mouth and a few furrows in the flat drawn cheek. Generally a dry, harsh skin seemed to fit closely the prominent bones and ribbon-like muscles that could be felt; but the skin of the face was clear, and the eyes, though sunken, were not encircled in black. The only approach to this state that I have seen has been in marasmic infants. That the wasting is greater in this than in probably any other malady is due, I think, to the fact that it is uncomplicated by any other disease, and so the constitution can withstand and recover from such grades of malnutrition as if complicated with cancer, tuberculosis, or any form of enteric disease would prove fatal. And, besides, this trouble is more prevalent in adolescence when the elasticity, vital or resisting power, is supposed to be highest, while others marked by leanness, more particularly cancer of the œsophagus or stomach, are more prone to occur in older people in whom the thread of life snaps more easily. Even among hysterics, I think this case reached a low point in nutrition without serious inconvenience owing to the absence of other hysterical symptoms. It is reasonable to think that the spasms, convulsions, prolonged total abstinence, polyuria, anuria, contractures, hyper- and an-esthesiæ, which usually figure so prominently in the history of these severe cases, must of themselves be a considerable strain on the constitution. And the history of this case seems to confirm that impression, for the amount of food assimilated must have been less than in some other cases, yet the consequent disturbance was less.

2. Among the reasons for the non-development of other special symptoms in this case were the distance from doctors (only two being consulted during the course of the disease, one calling it epilepsy and the other consumption); the mother's care being necessary for the eleven younger children, the straitened circumstances of the family, and the paucity of sympathizing friends on

the prairie. These were all anti-hysteric, but above all I believe was the fortunate mistake of a physician in diagnosing "consumption." Parental belief in this removed the case from the list of rare, curious, and wonderful diseases, and placed it in the commonplace list where anorexia, wasting and death were natural, and to be waited and watched for with due composure. It required a very hysteric case to withstand such treatment for two years. In passing, I would say that any physician who, after expressing before the patient his excessive wonder at the great peculiarities and inexpressible anomalies presented, and who, after adding by his suggestive questions, other disorders, fails to amend the condition, is equally culpable with him who treats corrosive poisoning by giving carbolic acid, or opium poisoning by administering morphine, for they invariably make the patient worse and each unsuccessful attempt makes treatment more difficult. I found this a comparatively virgin case, and so tolerably easy to manage. A month or six weeks' segregation, with massage and electricity, gave her and her parents confidence in the diagnosis, and treatment was successfully carried out by them at home.

3. Incidentally the subject of mucous colitis comes up because the tough, slimy mucus that accompanied the fecal evacuations for the first two weeks, were very characteristic of what is usually described as mucous colitis. The long, tough, slimy band, found mostly on one side of the hard feces, seemed to indicate its formation originally in the empty bowel, the descending feces pushing it to one side, whence, after becoming more or less adherent, they were voided together. I have been unable in this and other such cases to find sufficient reason for the use of the term colitis, giving it the prominence of a special law-abiding disease instead of treating it as an hysterical, anomalous, nonconformist symptom. "Colitis" should evidently be applied only where there is an inflammation, and sufficient evidence to show that there is inflammatory action in these cases seems to be wanting. Of the ordinary symptoms of inflammation all are absent except the pain and functional disturbance, and as these cases occur remarkably in hysterical women, he who, in them, bases his diagnosis of inflammation on these two symptoms, might fill textbooks with rare and evanescent inflammations in all parts of the body. Besides, the disturbance of function differs from that which usually characterizes inflammation of hollow organs, for instead of frequent thin discharges with tenesmus you have constipation and usually hard stools. The pain, unlike the more or less steady pain of inflammation, has in my experience, been severe only when attention was directed to it. In fact, one lady, who brought me a mucous band several feet long (thinking it was tapeworm), had very little pain till I was unfortunate enough to inquire particularly about it, when, of course, she had it, and she continued to have it for a few times, when it wore off. Autopsies showing this condition uncomplicated are necessarily rare, hysterics are, unfortunately,

long-lived. Osler examined two and found no lesions. Inflammatory lesions are recorded, but it is quite possible to have a genuine colitis complicate this symptom of hysteria, or in an hysterical person mistaken for the disorder we are considering; but what I am maintaining is that there is an hysterical symptom (indefinite abdominal pain associated with the discharge of long strings of mucus per anum and usually constipation) which is in no way associated with colitis. And they never should have been so associated, as such a combination, besides being misleading scientifically, does positive harm to our hysterical patients by giving them a false claim to that sympathy which should be given to any organic disease, and renders treatment much more difficult because the base of successful treatment of hysteria lies in our thorough assurance that no organic lesion exists.

A NEW EPOCH IN HOSPITAL EVOLUTION.

BY ERNEST HALL, M.D.

In the evolution of scientific medicine the hospital becomes more and more a necessity. We have seen the development of specialties followed by the erection of special hospitals, which, in the main, have been an advantage, both to the patient, the physician and the student, and in the further elaboration of therapeutics we shall meet with the necessity for additional institutions. The multiplication of agencies is, in itself, disastrous, unless some great advantage is to be derived therefrom. That such necessity exists for the development of an institution to stand midway between the General Hospital, on the one hand, and the asylum, upon the other, is apparent to those who are in touch with the present state of "psychic" therapeutics. The application of modern methods of investigation, diagnosis, and treatment to the female insane has marked an era in the progress of medicine. We no longer consider the unfortunate insane patient as "possessed," but consider the mental aberration but the psychic expression of physical disease, and such disease offers a field for closer investigation than has hitherto been afforded it.

In advocating the development of an institution specially adapted for the treatment of those who have manifested psychic abnormality, and have marked physical lesion, I do not wish to underrate the most excellent work done in many of our asylums, but to indicate a sphere of usefulness, which, while not conflicting with the General Hospital nor the asylum, would be of material assistance in the furtherance of a much-needed work. The purpose of such an institution would be (*a*) to receive and treat aggravated forms of nervous disease, and (*b*) cases of insanity in which a definite local lesion could be found.

Our present system of dealing with the advent of mental disturbance is unworthy of the intelligence of the profession and the humanitarian activities of the age. It is unjust and cruel to commit to the asylum upon the development of mental trouble, too often without even an attempt to examine for local disease. Frequently it has been my duty to disagree with my confreres in cases of recent insanity, and advocate the hospital in preference to the asylum. Not a few patients have received treatment, and have returned to their homes cured both physically and mentally. By means of such an institution the stigma attached to the asylum residence could in many cases be avoided, a matter of no small importance as long as erroneous notions concerning insanity are prevalent. Mental abnormality, as dependent upon physical diseases, must be made an axiom of practice, and not one of theory only.

In order to meet the purpose here suggested, such an institution would necessitate a different arrangement of wards to that found in our hospitals, in order that greater facilities could be had for violent cases, with conveniences for control if necessary, and as far as possible, with absence of all suggestion of forcible restraint. I would suggest that such an institution become an organic part of our hospital, under the same management, or, if a distinct institution, could be placed under similar public management. It is not necessary at this stage to enter into a discussion of the medico-surgical staff, or the requirements of nursing, but merely to indicate that with a staff composed of alienists, physicians, surgeons and gynecologists, not omitting a pathologist, a more systematic and searching inquiry could be made into this class of cases than can be done in many of our hospitals for the insane as at present constituted. With such facilities the scientific study of this class of cases would be made possible.

The treatment of the insane is the question of the day with a few, and it is one of the questions of the next decade with the many, and perhaps second only in importance to the destruction of the tubercle bacillus. I urge that such an institution as here outlined be supported in part, at least, by public funds, since so many of the cases of insanity develop among those unable to pay the rates of the private hospital and sanitarium.

As an indication of the necessity such an institution would meet, I herewith give brief histories of six patients, in connection with all of whom were suggestions of asylum residence made, and in several cases consulting physicians had advised removal to the asylum, but upon finding well-marked local lesion in each case, I recommended that they receive appropriate treatment, either at their homes or in the hospital, with the result that all are to-day with their families.

CASE 1.—Mrs. D., aged 27, one child six years old, not pregnant since, convalescence from confinement slow, has not been strong since. Had delusions of her husband trying to poison her; would frequently wander from home, and be found in houses of acquaint-

ances in distant parts of the city. Examination without anesthesia showed retroversion with adhesions. Condition of appendages could not be made out. Operation: Right ovary contained cyst size of a walnut. This was removed with its tube, also left tube removed; adhesions broken up. Convalescence normal, left hospital upon eighteenth day. For a week after returning to her home had occasional desire to get up and go out without her clothes on, but since one month from operation has been perfectly normal mentally.

CASE 2.—Miss H., aged 18. For several months had acted in an excitable and strange manner, worse during menstruation. For three weeks before I saw her she manifested decided mania, at times suicidal. Previous history: Had an attack of typhoid fever, with inflammation of the bowels four years ago; complained of pain in right side, increased by walking. Had leucorrhea. Examination: No hymen. Retroversion with adhesions, right ovary enlarged; general salpingitic adhesions, profuse leucorrhea. Operative treatment, March 7th: Removed appendages, with exception of part of right ovary, small par-ovarian cyst, also removed elongated and congested appendix. Result: Better for two days after operation—worse again, but improved; and at end of four weeks was perfectly sound physically and mentally.

CASE 3.—Mrs. S., aged 42. Six children, three miscarriages, no history of inflammation, complained of pain in the head for eight or nine months, low spirited, with melancholia for two years. For last ten months had excitable periods three or four times a day, lasting a few weeks. Would run away from home, destroy furniture, threatened to commit suicide. Examination showed cervical tear, with enlargements and adhesions on right side. Curettage and amputation of cervix, varicocele of ligament, with bilateral inflammatory disease. I removed both appendages. Convalescence normal. Patient is much better, but still gives indication of mental abnormality. Remains at home, and assists in the house-work.

CASE 4.—Mrs. G., aged 28. Married eight years, four children. After second child, six years ago, gave indications of mental trouble, and again after third child; after birth of fourth child, two years ago, she became worse, and has remained incapable ever since. Insanity of mild type, wanders from home, takes no interest in affairs; worse previous to, during and directly after, menstruation. Examination: Bilateral laceration of cervix, enlarged ovaries. Amputation of cervix. Left ovary enlarged, removed with tube. Right presented two cirrhotic nodules, was resected, and tube removed. Convalescence normal. Mental condition improved.

CASE 5.—Mrs. K., aged 50, seven children. For several years suffered from pelvic pain, worse during the rainy season. Two years ago became melancholic, improved some during the summer, but melancholia returned with delusions. Examination: Perineum ruptured, adhesions excessively tender over broad ligaments. Operated on in her own house. Clitoris found adherent with retention of smegma, double varicocele of broad ligament. Append-

ages removed, and uterus ventrofixed. Convalescence normal. Mental condition normal after one month.

CASE 6.—Aged 36. Never pregnant. Kindly referred by Dr. McNaughton, of Vancouver. For six years complained of pain in side. For several years she suffered from mental confusion, previous to and during menstruation. Became worse, would throw away her clothing, would scream loudly, threaten suicide, etc. She had passed through the usual ordeal of treatment for misplacement, etc., etc. Examination showed masses upon both sides of the uterus, with dense adhesions. Operated on in City Hospital, Vancouver. Right ovary enlarged, cystic, and containing mass of hard blood clot size of marble. Left ovary enlarged, stroma destroyed. Tubes disorganized by inflammation, universal adhesions. Convalescence normal. Mental condition improving, though slowly.

Other cases might be added, but sufficient evidence is submitted to suggest the desirability of a more painstaking attitude towards the subjects of insanity. No class of patients stands in such urgent necessity, and none have been so much neglected. "Insanity is a symptom, and the removal of its cause brings recovery. In no disease is proper medical treatment so needed at the beginning."

In the absence of the psychopathic hospital, we must endeavor to discharge our duty to this class of patients by utilizing the public hospitals for the mild cases, and manage the others, as best we can, in private houses.

THE SMALLPOX OUTBREAK IN ESSEX.

BY P. H. BRYCE, M.A., M.D.,
Secretary Provincial Board of Health.

IN view of the mild character of many cases of the disease which occurred in the recent smallpox outbreak in Essex, leading many persons, even physicians, to question the nature of the disease, the following facts supplied to Dr. Bryce, Secretary Provincial Board of Health, by Dr. Bryans, of Toronto, who was physician in charge of the cases in West Tilbury Township, will be of much interest:

The disease appeared in 11 houses, with 85 inmates. Of these 4 had had smallpox previously and did not take this disease. Of the balance 51 had been vaccinated, 23 had been done during the presence of the disease in the district; and of these 25 or 50 per cent. took this disease in a mild form. Thirty had never been vaccinated; and of these 26 or 86.6 took the disease more severely. Of those with well-marked old cicatrices not one person took the disease, and only two with old cicatrices took the disease, and then only in a mild form.

The following is a summary of cases by families:

Family of S:—Total members 6: Recently vaccinated, probably

previous to exposure; 4 were successful, took disease so light as hardly to be recognizable as such; 2 vaccinated unsuccessfully, took disease with moderate severity.

Family of T.—Total members 9: 3 with good old cicatrices, all escaped; 6 recently vaccinated, probably prior to exposure to disease, all took disease in a mild form. One, the mother, had one slight old cicatrix.

Family of C.—Total members 7: 1 had had smallpox in childhood, had lost an eye, and had anchylosis of elbow, he escaped; 5 with cicatrices from former vaccinations, all escaped; 1 recently vaccinated had a mild attack.

Family of D.—Total members 12: 8 with good old cicatrices, all escaped; 3 recently vaccinated had a moderate attack; 1, a baby, not vaccinated had a semi-confluent attack.

Family of J.—Total members 6: 1 with old cicatrix escaped disease; 5 not vaccinated all had the disease, not severely.

Family of G.—Total members 10: 4 with old vaccination marks escaped; of 6 not vaccinated 5 had disease with moderate severity; 1 had fever, and had probably the disease without any rash.

Family of I.—Total members 4: 1 with old mark escaped; 3 with recent vaccination had mild form of disease, exposure prior to vaccination.

Family of B.—Total members 7: 1 had previously smallpox and escaped; 2 had old cicatrices not well marked, took disease once with moderate severity; 4 not vaccinated took disease severely.

Family of M.—Total members 6: 2 with old cicatrices escaped; 4 not vaccinated took disease with moderate severity.

Family of R.—Total members 9; 1 had had smallpox previously and escaped; 3 with good cicatrices, all escaped; 5 not vaccinated took disease with moderate severity.

Family of R—Total members 9: 1 had previously had disease and escaped; 2 had old cicatrices, 1 of these took disease mildly; 6 had been vaccinated during this outbreak and took the disease mildly. In these cases the vaccine seemed to have taken well.

Four remarkable facts stand out prominently in these statistics:

1st. The practically absolute protection of a previous attack.

2nd. The practically absolute protection of a prior vaccination where a good cicatrix is present.

3rd. The power of a recent vaccination running concurrently in the system to greatly modify the severity of the disease.

4th. That a lymph of attenuated virulence, while producing in appearance a fairly successful vaccination, fails to be more than a partial protection although very recently performed. It does not seem to have done more than modify the severity of the disease.

Orthopedic Surgery.

. . . IN CHARGE OF . . .
B. E. McKENZIE, B.A., M.B., AND H. P. H. GALLOWAY, M.D.

THE TECHNIQUE OF OSTEOTOMY.

DAVIS ("Trans. Amer. Orthopedic Assn.," Vol. XII.) advances the general proposition that in linear osteotomy for the correction of deformity, the bone incision should be made on the concave and not on the convex side of the bone. Osteotomy for the correction of genu valgum is used as an illustration. If divided on the convex side a more extensive cut in the bone is required, thus increasing the danger of accidentally wounding the surrounding structures; moreover when the bone is straightened subsequently by forcible manipulation the remaining undivided concave portion is broken. When on the contrary the bone is divided on the concave aspect, the undivided portion of bone and periosteum act as a hinge when force is applied, bending rather than breaking, thus serving as a bond of union between the fragments and preventing their separation Again, the freer separation of the fragments which occurs when the bone is fully broken gives rise to the formation of an unnecessary amount of callus. Further, much greater force is necessary to complete the straightening when the section is made on the convex side, for in straightening a curved bone the convex surface is compressed and the concave surface receives all the strain; therefore if the convex surface be divided the bone is not weakened nearly as much as when the section is made on the concave surface. After partial division of the bone the author prefers to complete the straightening by the use of a special osteoclast of his own devising instead of resorting to manual manipulation as is usually done.

(The proposition advanced is correct theoretically and mechanically, and, in the case of the instanced operation—osteotomy of the femur above the condyles for knock-knee—is correct practically. But in certain cases where osteotomy is required the attempt to follow this rule would add greatly to the difficulties and dangers of the operation. In operating for bow legs it is usually sufficient to deal with the tibia only, and this bone may be safely and properly divided on the inner concave surface. But in some cases of this deformity the fibula also requires to be cut, and it can only be reached from the outside convex side unless a saw be employed in place of the osteotome. In certain cases of knock-knee also, the deformity is

due to outward bending of the tibia and fibula, and it is better to operate on these bones than to perform the usual operation above the condyles of the femur. But to divide the outer concave surface of the tibia in such cases would involve not a little risk of wounding the anterior tibial artery and nerve. Again, in the very common operation of osteotomy just below the great trochanter of the femur, for deformity following hip-disease, or due to coxa vara, few surgeons would care to court unnecessary danger and difficulty by attacking the bone on its inner surface when it can be much more safely reached from the outside. The use of an osteoclast to complete the straightening of the bone after partial division with the chisel seems to the writer of very doubtful advantage.)

H. P. H. G.

Partial Luxation of Humerus Following Acute Anterior Poliomyelitis.—Waterman ("Trans. Amer. Orthopedic Assn.," Vol. XII.) gives the history of a boy aged twelve years, who, as a result of acute anterior poliomyelitis occurring in infancy, presented well-marked facial paralysis, diminished sense of hearing in left ear, atrophic paralysis of the deltoid, teres minor, supraspinatus and infraspinatus muscles, and atrophy of the biceps and of the flexor muscles of the arm. The shoulder joint was so relaxed by the muscular paralysis that the patient could produce a forward subluxation of the head of the humerus and then reduce it spontaneously. Four illustrations accompany the article. H. P. H. G.

Laboratory Notes from the Leiter United States Army Hospital, Chickamauga, Ga.—During the past summer an excellent opportunity of testing the value of Widal's reaction was afforded by the considerable number of cases of typhoid fever treated in this hospital. Unfortunately, patients seldom reached the hospital until the second week of the disease, and hence the value of the reaction as an aid in the early diagnosis could not be tested. Dried blood, diluted with water 1 : 15, was used, and in all cases where the agglutination took place very rapidly a further dilution was made in order to eliminate the question of a possible pseudo-reaction. The test was applied on 218 different days in 177 cases. Of these, 146 were clinically diagnosed as typhoid fever, 5 of whom shortly passed from observation. Of these, 134 gave a positive reaction, 3 doubtful, the clumping not being characteristic and second specimens of blood not being obtainable, and in 4 cases the examination was negative. The reaction was not obtained in any cases not typhoid fever. Two interesting cases bearing on the question of immunity were noted, both having had typhoid fever —one fourteen months and the other two years previously. Neither gave the Widal reaction until the eighth day and both ran comparatively low temperature courses of short duration.—*Boston Med. and Surg. Jour.*

Pharmacology and Therapeutics.

IN CHARGE OF
A. J. HARRINGTON, M.D., M.R.C.S.(Eng.)

CLINICAL NOTES ON A CASE OF CARBOLIC ACID POISONING.

I was called by telephone to see this patient. She had been found lying on the sidewalk on Davenport Road about half a mile outside the city limits. When I got there, about thirty minutes after she had been found, I found her in an unconscious condition, with pupils contracted and quick stertorous breathing. Her face was pale, and she was in a state of deep coma. I thought at first she had had a heat-stroke, as she was lying exposed to the sun in the middle of the day, about half-past one I should judge; but, detecting a smell of carbolic acid, I soon found that each expiration was laden with the smell of that drug. On examining her mouth the inside of the lips was marked in places by the action of the drug, but there was very little on her tongue. I thought at the time from her appearance and her general condition that she could not possibly survive. However, I thought that as it was nearly an hour in all probability since she had swallowed the poison, ordinary antidotes would be utterly useless, so I gave her a hypodermic injection of sulphate of atropia, $\frac{1}{30}$ of a grain, which seemed to improve her breathing somewhat. In fifteen minutes I gave her a second injection of a like amount.

An old lady, who lived near, on picking up her parasol to keep the sun off, discovered a piece of paper on which was written, "Take me to 33 Burnfield Avenue. My son, John Keith." This thoroughly convinced me that it was a case of poisoning. We took her to her son's house, where I gave her another hypodermic of atropia. There was very little change in her condition—she still breathed stertorously and was profoundly comatose. I had given her in the meantime several small draughts of linseed tea as a demulcent. The hypodermics of atropia seemed always to make a difference in her respiratory condition for the better. Her pulse, which had ranged from 110 to 118, and which was intermittent, seemed now to become more steady. I now, at seven o'clock, prescribed 15-minim doses of spirits of ammonia aromatic in linseed tea, and ordered whiskey and white of egg mixture—the white of an egg beaten up in two-thirds of a cup of water, and

two tablespoonfuls of whiskey added, to be given frequently in teaspoonful doses. At half-past eight she vomited, and the emesis still smelled strongly of the poison. Her condition gradually assumed a restless character and she moaned two or three times. I now gave a hypodermic of morphia ¼ and atropia. She quieted down and her pulse dropped to 100 and her respirations improved. At midnight she showed signs of becoming conscious, but soon quieted down into sleep, which lasted till four o'clock, when she again became restless and was rolling from side to side until 8 a.m. next morning, when I gave her another hypodermic of morphia and she rested until three o clock. She was still unconscious but had passed out of the comatose state. In the meantime she had still been taking the stimulants with the demulcents, and had vomited once. That night she became partially conscious, twenty-five hours after having taken the drug, and was in great pain and asked where she was. I again gave her a hypodermic of morphia, and next morning she seemed much better, her pulse was 90, and her respirations were 26. She complained of backache and difficulty of swallowing. I gave her a hypodermic of strychnia sulph., and soda water and milk as a nutriment, with a little thin gruel occasionally in small quantities. I saw her again that evening, when she had diarrhea, with dark-colored urine next day. She was quite herself, but complained of sore throat. I now asked her about the carbolic acid. She denied having taken any, but I told her that it was no use denying it and she confessed, saying she had taken an ounce. She had bought the acid at a drug store, and, at a small tin-shop on Bathurst Street, she had purchased a tin cup. She poured the acid out into the cup and took it at a draught. She immediately took a drink of water at the creek near by, threw the cup and bottle over the fence, walked 100 yards further west, and that is all she remembered. The way of taking the acid at a draught explains why the lips and tongue were so little affected by the acid, and explains the soreness at the back of the mouth. She made an uneventful recovery. Despondency was the reason for the act. A. J. H.

The Sense of Hearing in the Insane.—V. E. Larionoff tested the hearing in twenty cases of mental disease, in twelve of which there were or had been at some time auditory hallucinations. Two patients had fairly good hearing, but the others were either entirely deaf in one ear, or could hear the watch only on contact or at a distance of from one to six vershki. In nearly every case bone conduction was absent both for the watch and the tuning fork; yet nearly all could distinguish tones fairly well. The author concludes from this that there is a special musical centre in the brain, and this conclusion, he says, is confirmed by the results of his physiological and anatomical investigations.—*N.Y. Med. Rec.*

REPORT OF DEATHS FROM ALL CAUSES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF OCTOBER AND NOVEMBER, 1899.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

OCTOBER, 1899.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1000 per annum from all causes.	Scarlatina.	Rate per 1,000 per Annum.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,275,000	740	1,940	10.2	8	0.04	34	0.2	4	0.02	7	0.04	88	0.5	194	1.0
99.5%	95%														

NOVEMBER, 1899.

2,125,864	640	1,501	9	12	0.07	40	0.2	6	0.03	8	0.04	40	0.2	146	0.8
93%	82%														

Population of Province 2,283,182

Registration Divisions of Province..... 777

We present herewith a miniature reproduction of the celebrated engraving of "The First Meeting of the Medical Society of London, 1773," an occasion of the greatest interest to the medical profession. The picture contains portraits of John Coakley Lettsom, William Saunders, Edward Jenner, Edward Bancroft, Robert John Thornton, Robert Hooper and other prominent English physicians.

An original steelplate engraving, now one hundred years old, is in the private collection of the Mellier Drug Company, of St. Louis, Mo., who will be pleased to mail to any physician a handsome reproduction, size 12 x 16 inches, which will prove a valuable and attractive addition to the walls of his office.

Scene from Drumtochty story in "The Bonnie Brier Bush."

The character of the bachelor Dr. McLure has become famous as the ideal of the many quiet, devoted doctors whose lives are spent in a constant sacrifice for the good of their people.

This scene represents his ride past the little church on Sunday morning, on his way home, after having saved the life of a fever patient, and the news has so enthused the usually silent Scots that they forget their Sabbath severity and give him a rousing cheer as he goes past.

The Canadian Journal of Medicine and Surgery

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Editorials.

TUBERCULOSIS AND ALCOHOL.

MEDICAL authorities in Europe and America are agreed that the greatest success so far achieved in the struggle against tuberculosis is due to sanatorium treatment. This method has grown rapidly in Germany, the first establishment of the kind, the People's Sanitarium in Falkestein, having been started in 1892. From that time the movement spread rapidly, the Imperial Insurance Company, the Berlin-Brandenburg Sanatoria Society, the Red Cross

Societies each establishing sanatoria. Subsequently the Central Committee for the establishment of sanatoria, with Prince Hohenlohe, the Imperial Chancellor, as president, secured more united action and notably increased the number of establishments. It is said that there are at present thirty-three sanatoria in Germany.

Before beginning so formidable an undertaking, Germany first settled the question of funds, recognizing that in this, as well as other projects, money is the sinew of war. By an Imperial law, a tax of 2 per cent. is imposed on all salaries, and the fund thus created is employed to establish a pecuniary reserve. This tax, as an insurance against sickness, is obligatory on all persons earning salaries. Owing to the enormous disposable funds created by this impost, it has been found possible to lower the rate of taxation from 2 to 1½ per cent.

It would be rather a serious question if either political party in the Province were to propose a tax of, say 1 per cent., on the wages of all the workmen of the country, the same to be applied to the creation of a fund for establishing sanatoria in Ontario, just as has been done in Germany. Yet there does not seem to be any good reason why such a measure should not be proposed in the Legislature and, what is more, if sufficient sanatoria are to be established in Ontario, a tax of some kind will have to be raised. There is, of course, another solution of the difficulty. Our old enemy, alcohol, is a good tax-payer, and he beareth many imposts. Truth to tell, he is shrewdly suspected of being accessory to a good deal of the mischief done by tuberculosis. French statisticians, notably Jacquet, even go so far as to say that "more than four-fifths of the consumptives treated in the hospitals of Paris owe their disease to absinthe and alcohol."

Dr. Ribard writes on this subject: "Inebriates die of cirrhosis and dropsy, because alcohol has accumulated in the liver; they die of disease of the brain and insanity, because their brains contain pure alcohol; they perish from disease of the kidneys (nephritis), or from disease of the heart (arterio-sclerosis and myocarditis); but they may also die of lung disease, by contracting pulmonary consumption.

"An inebriate catches consumption because he eats too little. His dried, shriveled, burned-up stomach can no longer endure food, and the amount of nutriment he takes being insufficient, his body soon exhausts its reserve force and falls into a state of physiological poverty with the well-known consequences. He not only eats

little, but he vomits almost every morning a quantity of phlegm, which is a sure sign of the serious disorder prevailing in the functions of the stomach. Then he drinks a good deal. An inebriate is always thirsty. The hot, dry mucous membrane of the stomach craves for some kind of liquid to moisten and refresh it. On awaking, the first thing he does is to drink. He drinks between meals, and at table he drinks much and eats little. His stomach, gorged with liquids, is over-distended and paralysed. The food he eats, being mixed with an excessive quantity of liquid, is not absorbed, and this becomes a fresh source of loss of strength.

"He sleeps little and badly. His nights are not restful. His sleep is of short duration and disturbed by frightful dreams. He sees queer-looking objects, which grow to an enormous size and then become reduced to mere microscopic dimensions. He sees crowds of people all dressed in red; he sees great crowds of animals, but they are all panting for breath and covered with blood. His dreams are tinged with red, and he is fortunate, indeed, if dreams of this hue do not plague him all night. Instead of being refreshed, his nerves are in a state of constant excitement, and the sufferer, more fatigued, more weary, more stupid on awaking than when he retired, feels that it is absolutely necessary to strengthen his nerves with a dram of his favorite poison.

"Now all these sources of weakness end in tuberculosis. This form of the disease results so clearly from the debility produced by alcohol, that it presents special characteristics, which have been studied and described by Dr. Lancereaux, of Paris, and Dr. Roussel, of Geneva. Alcoholic tuberculosis develops at an age when cases due to the hereditary form of the disease have already succumbed; that is to say, from thirty-five years of age up to old age, in individuals who at birth were strong, vigorous and well-proportioned, and whose ancestors and parents were not tubercular. This disease shows a special predilection for the apex of the right lung; it advances by rapid successive attacks, in which it differs from acute tuberculosis, which marches rapidly in a continuous fashion. The attacks of alcoholic tuberculosis are frequently accompanied by hemoptysis, resulting from the pre-existing bad condition of the pulmonary vessels. Finally the disease is accompanied by grave manifestations of liver disease, assuming the form of fatty and tubercular cirrhosis."

Seeing, therefore, the causative influence of alcohol in developing one of the worst forms of tuberculosis, we feel justified in asking

our legislators to create the special fund necessary to establish sanatoria in different parts of the Province, by placing an extra tax on alcoholic beverages, more particularly whiskey? As the physicians are agreed as to the best means of struggling against the widespread evil of tuberculosis, it simply remains for the legislators to provide the ways and means. The day is gone by when sanitarians and physicians should occupy their time discussing the advantages of different models of spittoons, or in formulating Platonic resolutions in favor of the establishment of sanatoria.

J. J. C.

HYPODERMIC INJECTIONS OF MERCURY IN SYPHILIS.

THE treatment of syphilis by hypodermic injections of mercury should be the method of election and routine practice for adult patients. Inunction operates quickly and efficaciously; but is unclean, troublesome, and cannot be kept secret. The oral use of mercury is slow, uncertain and often interrupted by the occurrence of gastro-intestinal derangements. The patient who uses it gets to look upon his disease as chronic, perhaps incurable, and after a few visits to his physician, drops into the hands of the pharmacist. The hypodermic method involves a little pain, but if a suitable fluid be used, and it be rapidly injected, the pain is slight, and if antiseptic precautions are taken in the care of the needle and the cleansing of the site of the injection, neither abscess nor induration follow. The hypodermic injection of mercury produces curative results rapidly, the patient remains under his physician's control, and the pharmacist is not taken into consultation.

The composition of the mercurial fluid used in these injections is important. A 10 per ce. % suspension of calomel in albolene has been used a good deal in Europe and America, but is rather painful, and being insoluble, may cause severe constitutional symptoms of mercurial poisoning long after the injections have been given. Dr. Gaucher, of Paris, recently reported the case of a syphilitic patient who suffered from marked symptoms of mercurial poisoning, traced to three injections of calomel, grains ¾ each, which had been given with intervals of five days, four months prior to his observation. This patient succumbed to mercurial poisoning. In explanation of the curious fact that the hurtful action of the drug was delayed four months, Dr. Gaucher said that when insoluble mercurial salts are injected into the tissues, their absorption takes

place in an irregular manner. The injected masses of calomel may become encysted, remaining inert a long time, and afterwards may be dissolved altogether, and in a short space of time. This is a rather serious danger, and should lead to the employment of soluble mercurial salts, which may be graduated at will, their physiological and therapeutic effects being closely watched. Another reason in favor of the latter is that certain persons exhibit a marked susceptibility to the untoward action of mercury (called idiosyncrasy for want of a better name). When soluble preparations of mercury are injected, the surgeon can watch over the elimination of the drug and be prepared to meet its untoward effects. One objection to the use of soluble mercurial salts in a case of syphilis is that it is painful; a second, that it must be repeated every day; and a third, that it is expensive.

The first objection may be removed by the use of cocaine, as in the formula of Dr. Abadie:

℞ Cyanide of mercury,
Cocaine..... āā 0.10 grams.
Distilled water..... 10 "
Sig.: 1 gram (℥ 16) once a day subcutaneously.

The inconvenience arising from a daily injection of such a soluble preparation as the above is of small moment compared to the grave dangers to which a patient is subjected after the hypodermic injection of calomel or any other insoluble salt. Fournier, of Paris, has reported remarkable cures of syphilitic glossitis from the use of calomel suspension; but it would not be reasonable on that account to select such a therapeutic method to the exclusion of soluble mercurial preparations. Besides, the daily observation of the patient offers the best security against the dangers of mercurialism.

It is for the surgeon to decide the question of expense, which need not be great when one considers the brevity of the operation.

The number of injections will depend on the progress of the disease, and will largely be a matter of judgment, according to the requirements of each individual case. Of course, when these injections are given daily, the patient can be quickly and thoroughly brought under the influence of mercury, and in eye lesions and where the nervous system is affected this practice may be deemed necessary. Usually, however, such severe effects are not sought for, and at the slightest sign of gingivitis or mercurial fetor in the

breath the injections should be stopped, only to be resumed when the danger signals have been withdrawn. Chibret says in *La Semaine Medicale*, April, 1890: "Injections of the oxycyanide of mercury are well borne, little painful and, used in over 1,000 cases, have never caused untoward effects. Six or eight injections are equivalent to an energetic treatment by means of frictions."

After two years of such treatment, and after the patient has ceased to show symptoms of syphilis for six months, he may be considered cured. The hypodermic method is also very useful in the later chronic lesions of syphilis, as an aid to the iodide of potassium. The injections should be made into the muscular tissue of the buttock, or that between the scapulæ, and the needle (1½ inches in length) should be pushed home. J. J. C.

THE CINEMATOGRAPH IN ITS RELATION TO SURGERY.

In these days it would be an ill wind that would blow the mote of blindness into the eye of man or mortal. Seeing is not only believing, but it is becoming more than ever a means of amusement and a popular method of administering knowledge. Less thought is given now to the recitation of the lines perhaps, and more to the staging of the play. The eye is constantly appealed to. What an interesting problem the diary of the medical student of to-morrow will present! What a new vocabulary!

Did the thought dawn upon any of us, as a few years ago in this city we witnessed the cinematograph reproduction of "Miss Jerry," and saw her climb the steps of the Pulitzer Building and interview Chauncey Depew, and her various meanderings about Gotham, that this young lady would have to step down and out, as by the trend of scientific investigation her place was required, and soon an interested group of scientific men would be watching intently a surgical operation being performed through the medium of a cinematograph? Theory teaches much, but add to the precept a picture, and the semblance seems to stamp the fact indelibly on the memory, but when that picture becomes animated and gives the idea of motion and detailed action its value educationally is assured. Soon we shall in the order of things see our medical colleges equipped with this new aid to knowledge, so that all the class may see what before was really only visible to those grouped near the operating surgeon.

It is not strange that it was a Frenchman who first carried out this notion of applying the cinematograph to scientific purposes. Already Prof. Doyen, the eminent surgeon, has given demonstrations of his application, and has met with encouragement and approval. May this new idea prove a great success and the mechanical medium grow into even greater perfection. May all students of surgery benefit, and never more may the newspapers end their obituary notices thus: "The operation proved highly successful; the patient died twelve hours later." W. A. Y.

A SERIOUS AMBULANCE ACCIDENT IN NEW YORK.

On Saturday evening, December 16th, one of the Harlem Hospital ambulances met with a serious mishap, which involved painful injuries to three of its occupants—two physicians and the driver; though, strange to say, the patient on the litter, being conveyed home, escaped without a scratch.

The ambulance, a heavily constructed vehicle, left the hospital at about 9 p.m. to transfer to his home an intoxicated man who was brought in during the morning with a sprained ankle. The night was somewhat misty, and the bus was making a moderate pace when Third Avenue was approached. The driver hearing no gong and seeing the way clear ahead, proceeded to cross the tracks, when all of a sudden he saw a car at full speed tearing down on him. In a instant there was a terrible crash, the ambulance having been struck in the centre by the first impact, and in the rear by the second.

Drs. Samuel Babcock and Wm. E. Muller on the back seat, unconscious of any danger, were thrown out, the latter caught under the fender of the cars and pushed fully ten yards before the car could be stopped. Dr. Babcock and the driver were both pinned under the overturned ambulance, and from this painful position were extricated with difficulty. Dr. Babcock sustained four fractured ribs and a large scalp wound. Dr. Muller had his left wrist dislocated and right arm fractured. The driver had his nose broken and his body badly bruised. The most remarkable incident was the entire escape of the patient, who seemed to have been sobered off by the violence of the collision, and suddenly recovered the use of his limbs, for when the crowd gathered and the police sought for him he had scampered home unaided.

Ambulance accidents are becoming unpleasantly frequent in New York since the Metropolitan Traction Company covered the city with its ponderous fleet of trolley cars; hence, hereafter, in order to insure safety every description of vehicle must cross the avenues with greater caution.

There have been several such accidents in New York recently. A year ago the Fordham Hospital ambulance was upset by a collision on the "Huckleberry" road, Dr. Brennan, the ambulance surgeon, being thrown from his seat and having his hip badly sprained. In the early spring the Flower Hospital ambulance was struck by a Madison Avenue car, the horse killed and the driver badly injured.

This was the third time that ambulance-surgeon Muller had been in his seat when collisions with the trolleys occurred.

These accidents will teach a lesson much needed in the future movements of ambulances. In the first place their work is being vastly overdone. Very many after injury are almost forced into them by the police, whether they are willing or not. A "bum" with a bruise or a scratch may summons an ambulance for a ride to a hospital to abuse doctors and laugh at the authorities. They have worked incalculable harm to the profession by forcing into hospitals thousands yearly who should be treated at their homes.

With their banging of gongs and galloping horses they are a nuisance and a public menace to pedestrians. There is nothing to justify or excuse the mad rush of these conveyances, for the reason that it is indeed very rarely important whether a man with a burn or a broken limb, in an epileptic fit, with a cerebral hemorrhage or an overdose of alcohol, is seen by a physician in five minutes or an hour.

In obedience to a demand from the taxpayers and the travelling public, the whole ambulance system should be reconstructed and conducted on such methods as will commend it to citizens and visitors.

T. H. M.

THE PATHOLOGICAL SOCIETY.

On Thursday, December 28th, the Pathological Society of Toronto held its annual open meeting. There were about sixty members and guests present.

The paper of the evening was by Dr. T. Cullen, of the Johns Hopkins Hospital, Baltimore, upon the causes of uterine hemor-

rhage. Seldom has a more interesting or more practical paper been presented at the Society. The theme of the paper was practically the early diagnosis of uterine cancer, and Dr. Cullen presented to the audience the cream of his experience in the gynecological clinic in the Johns Hopkins Hospital.

He began by a discussion of the histological findings in scrapings from the normal uterus, pointing out how occasionally these may seem to simulate malignant disease where the normal structure is not thoroughly understood. From this discussion of the normal mucosa he passed to an exhaustive account of the findings under pathological conditions. Throughout the address was illustrated by a series of most beautiful drawings, which added very much to the interest of the meeting. We understand that Dr. Cullen's address was but an abstract of a larger work which is in preparation for the press. From the foretaste which has been given, pathologists and gynecologists will eagerly look forward to the completed work.

A vote of thanks to Dr. Cullen was moved by Dr. Reeve, seconded by Drs. Oldright and Cameron, and heartily endorsed by the whole meeting.

In addition to Dr. Cullen's paper, members of the Society exhibited a number of pathological specimens and microscopic slides which greatly interested those present. J. J. M.

SURGICAL WORK IN LUNATIC ASYLUMS.

We feel much pleasure in directing the attention of our readers to Dr. Hobbs' paper, which appears at page 88 of this number. Dr. Hobbs has availed himself of his opportunities in the great asylum at London, Ont., and out of 173 gynecological operations done on insane women, has noted 42 per cent. of patients who have been cured, and 24 per cent. who have been improved. The therapeutic efficacy of gynecological surgery in insanity being thus proved, we trust that the success achieved by Dr. Hobbs may induce other Canadian alienists to follow his example and report their results. Although *prima facie* gynecology would seem of the first importance, there should be good opportunities for ordinary surgery in lunatic asylums, and we suppose that when modern superintendents are appointed, surgical operations are of frequent occurrence.

Speaking broadly, anything in surgical or medical practice

which can be of service to psychiatric patients should be done, not only to cure insanity, but to relieve such diseases and physical defects as the insane may suffer from. Following out this line of thought, special operations, such as venesection, lumbar puncture, etc., may be called for to relieve the insane; and in other instances general or special operations to cure diseases, such as hydrocele, varicocele, hernia, etc., from which insane patients suffer as well as others. An oculist could also be employed to correct the errors of refraction, and in a goodly number of cases with advantage to the patients. A dentist might also relieve the gloomy prognosis of chronic insanity, and although unable to "minister to a mind diseased," could alleviate the horrors of *un dent enragé*.

J. J. C.

OUR NEW DEPARTMENT OF CLINICAL SURGERY.

It is a very great pleasure to us to be able to announce that Dr. Alexander Primrose has consented to identify himself with this journal, and will from this date take charge of the Department of Clinical Surgery. We do not hesitate to say that there is no one more favorably known to the profession of Canada, nor one better able to do ample justice to such a subject as this than Dr. Primrose, his work in connection with Toronto University for years past having been of such a character as to place him very high up in the list of scientists of Canada. We know that our readers will eagerly watch for the doctor's contributions to this new department, as he may find time to spare from his many other duties.

W. A. Y.

EDITORIAL NOTES.

Ligature of the Dorsal Vein of the Penis in Functional Impotence.—Dr. Wiley Broome reports in the *Medical Review* seven cases of this operation, six of which were collected from medical literature and one done by himself. All the cases with one exception were cured. This operation, which may be done by the aid of cocaine, is not at all dangerous and yields excellent results.

Prof. Schenk Moving.—A Vienna cable says that Prof. Samuel L. Schenk, the professed discoverer of the secret of sex, who was censured by his brother members of the faculty of the University

of Vienna for too much self-advertising has, in an interview, expressed his contempt of the Vienna University. He says he will locate either in Switzerland or America and openly practise his system.

Bareggi's Reaction to Distinguish Acute Tuberculosis from Typhoid Fever.—Twenty or thirty drops of blood taken from the patient's finger are collected in a test tube and allowed to rest for twenty-four hours. In typhoid fever the resulting clot does not contract and very little serum is formed; in tuberculosis there is a marked contraction of the clot, which is separated from the walls of the test-tube and the blood serum is quite abundant.

Euphthalium in Ophthalmoscopic Examinations.—Euphthalium, says Hermann Knapp, in *Arch. of Ophth.*, is without a rival as an aid to ophthalmoscopic examinations. Used in 10 per cent. solution one instillation dilates the pupil sufficiently in fifteen to twenty minutes. It interferes so little with accommodation that no complaint is made by the patient; the pupil is back to its normal condition in five to ten hours. The one objection to the drug is its cost, $1.75 per gramme (15 grains).

Constant Sterilization of Surgical Instruments.—Lippincott recommends a solution of formol, 20 per cent., containing 3 per cent. of borax. With this corrective the formol, he says, will not spoil the edge of a cutting instrument. Instruments may be allowed to remain in this solution for months without receiving any injury and will be always ready for use. Before using them they should be washed in sterilized water. Lippincott says that the presence of an infected instrument in absolute alcohol does not cause it to be disinfected, but if placed in the above-mentioned fluid all germs are destroyed in twenty-four hours.

Cinnamate of Soda in Tuberculosis.—For tubercular fever Bernheim and Landerer use hypodermic injections of cinnamate of soda in doses of from $\frac{1}{6}$ to $\frac{1}{12}$ grain. It increases leucocytosis and phagocytosis, placing the body in a good defensive condition, so that the bacilli of Koch no longer secrete any toxins or less of them. They have had 284 cases and a large number of cures. For tubercular fever they recommend absolute rest, good hygiene and dietetics; for bacillary fever, daily gluteal injections of cinnamate of soda; in septic fever they use salicylic acid and antipyrine; in hectic fever all these agents, with good hygiene, sometimes but only exceptionally succeed.

Extract of Suprarenal Capsule.—The extract should never be combined with any other substance; even glycerine seems to impair its astringent properties. Bates, in *Arch. of Ophth.*, insists on this point, and on its being freshly prepared by mixing five grains of the dried suprarenal capsule with one drachm of water, and filtering it after allowing it to stand for five minutes. One drop whitens the inflamed conjunctiva in a few minutes, the anemia lasting about twenty minutes. It greatly increases the anesthetic action of cocaine. It is useful not only in affections of the eye, but also to control hemorrhage after operations on the nose.

The Treatment of Paraphymosis.—In treating paraphymosis most practitioners endeavor to produce retraction of the foreskin, and failing in this manœuvre, incise the stricture. A writer in the *Gazette des Hopitaux* recommends a simple measure, which is well worthy of practice before the severer one is adopted. He advises that two to five punctures be made with a bistoury in the swollen edematous prepuce, which should then be gently kneaded during three or four minutes. An abundant flow of serum, containing some or little blood, escapes, and immediately the integuments which were swollen and ready to burst become soft and slack. A slight taxis is then successful in restoring the parts to their natural position.

Treatment of Pleurisy by Local Applications of Guaiacol.—Prosorowski, in *Gazette des Hopitaux*, reports eleven cases of pleuritic effusion treated by the local application of guaiacol on the skin of the affected side, and finds that the effusion is more rapidly absorbed than by other methods. He has never observed any bad results from his method of treatment. He generally repeats the local application five or seven times, and observed on each occasion that the temperature was lowered from 1° to 5° F. The temperature rises again in a few hours. He explains the effects produced in pleurisy: 1, by stimulation of the nerve endings, which produces an effect on the vaso-motor centres; 2, the guaiacol which is absorbed by the tissues destroys the toxins elaborated by the pleurisy.

Oh! Take This Pill.—I think that the majority of church choirs in Brooklyn are helps to churches. But some of them have got a bad habit of late—the quartet habit. They sing without the accompaniment of an organ, and thus exhibit all the blemishes of their voices. Only well trained and highly cultivated singers may

safely venture to sing without musical accompaniment. When the amateurs try the experiment they inflict needless pain upon their hearers. And the modern anthem! I recall an occasion on which the anthem ran in this way: Soprano, "Oh, take this pill—." Tenor, "Oh, t-a-ake this pill—." Contralto, "O-o-h, take this pill—" Basso, "O-o-o-h, take this pill—." All together, "Oh, take this pilgrim home."—*Brooklyn Eagle.*

Iodide of Potassium in Actinomycosis.—Dr. Prutz reports in the *Bulletin Medical* that, as a result of experiments made on animals, iodide of potassium is of no value in the diagnosis of actinomycosis. It cannot do away with the necessity for a surgical operation, but it may lessen its extent. It may improve the centre of actinomycosis to such an extent that a trifling operation may suffice instead of a severe operation, and it may render operable certain cases of abdominal actinomycosis, which otherwise would not be amenable to surgery. Although not constantly successful, iodide of potassium proves curative in the majority of cases of actinomycosis, so that its therapeutic employment in all cases of this disease may be considered proper as a matter of principle.

PERSONALS.

DR. MCNULTY, late of St. Michael's Hospital, will practise in Peterboro'.

DR. F. LEM. GRASETT volunteered to go as surgeon to the second contingent.

DR. ERNEST HALL has removed from Toronto and is again settled at Victoria, B.C.

DWYER.—On January 6th, the wife of Dr. R. J. Dwyer, No. 12 Carlton Street, of a daughter.

DR. ALTON H. GARRATT has removed from Bay Street to his handsome new house at the corner of College and Teraulay streets.

SURGEON-MAJOR RYERSON left with the second contingent for South Africa last month as representative of the Red Cross Society, and while in South Africa will inquire into the necessities for our volunteers, so that our moneys may be properly expended, and that we will not be working, as it were, in the dark. Dr. Ryerson expects to return to Canada in a couple of months.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

A ROW IN THE CHRISTIAN SCIENCE CAMP.

36 St. Joseph Street,
Toronto, *January 15th, 1900.*

Editor Canadian Journal of Medicine and Surgery,

My Dear Sir,—There is a row in the Christian Science camp. The editor of the *Washington News Letter*, once a most pronounced Christian Science advocate, is out in antagonism to the Christian Science Publishing Co., which he stigmatizes as a "religious trust which is selling God's truth at $100 a head," and is founded on "the love of money," and "must be killed out or it will choke and destroy religion." About one year and a half ago the editor made an appeal to Mrs. Eddy for support, as the paper, he said, had lost a great many subscribers because of its advocacy of Christian Science. Mrs. Eddy thereupon issued a proclamation to the faithful that they should subscribe to the paper for one year. The hierarchy at Boston seem to have had some suspicion that the editor of the *Washington News Letter* contemplated some rebellion, for when the year was up, Mrs. Eddy, in July last, published in her journal that "Christian Scientists are under no further obligations," *i.e.*, to renew the subscriptions. The result is that the editor of the *Washington News Letter* has got his back up. The whole matter is ventilated in the *Christian Science Sentinel*, of October 26th, 1899.

The Board of Management of the Christian Science Church in London, Eng., sent to Mrs. Eddy a resolution signed by W. N. Miller (Q.C. of this city), in which it is stated that the Board "directs that no copies of the *Washington News Letter* be issued from the book room, or be allowed to remain in the reading room of this church."

Mrs. Eddy's reply is excessively comical. It is as follows, leaving out a few passages:

"My Beloved Brethren,

"Pardon delay in answering your loyal letter, and living light set upon a hill. The chain of Christian unity unbroken stretches across the sea and rises upwards to the realms of incorporeal life—even the glorious beatitudes of divine love. . . . What holds us to the Christian life is the *sevenfold shield* of honesty, purity, and unselfish love. I need not say this to *thee*, for *thou* knowest the way in Christian Science.

"*Pale*, sinful sense, at work to *lift itself, on crumbling thrones of justice*, and *by pulling down its benefactors*, will tumble from this scheme into the *bottomless* abyss of self-damnation, *there* to *relinquish its league with evil.* Wide yawns the gap between this course and Christian Science; *here the connection stops.*

"God spare this plunge, *lessen its depths*, save sinners, and *fit their being* to recover its connection with its divine Principal, Love. God is blessing *thee, my* beloved *students* and *brethren* . . . and Love and good-will to man, *sweeter than a sceptre*, are enthroned now and forever.

"Lovingly yours,
"(Signed) MARY BAKER EDDY."

I wonder what effect the reading of the above message from the divine Mother Mary will have upon the well-educated, refined, aristocratic members of her church in London.

The editor of the *Washington News Letter* declares that he intends to "unchain the truth," and has published a sort of synopsis of Christian Science healing, so as to put it within the reach of the masses who cannot afford to pay $3.18 for "Science and Health." At the outset he warns his healers to be on their guard against the insidious and diabolical efforts of what he calls "Malicious Animal Magnetism," to thwart their healing power.

This Malicious Animal Magnetism he represents as a terrible agent of evil, rampaging all the earth, and especially exerting its (or his or her) power *by putting Christian Science healers to sleep*, while engaged in their pious ministrations in healing suffering humanity.

He writes from experience, for he declares that he has been attacked by this frightful Malicious Animal Magnetism many times and overwhelmed by sleep while "arguing (silently, not audibly)" with his patients to convince them that there is no such thing as sickness or evil, *unless* it may be "Malicious Animal Magnetism."

That so many thousands believe in the absurdities of Christian Science is a marvel, only to be explained by Mother Mary Baker Eddy herself, who, on pages 484, 485 of "Science and Health," says: "The *less mind* there is manifested in matter *the better.* When the *unthinking* lobster loses its claw it grows again. If the Science of Life were understood . . . then the human limb would be replaced as readily as the lobster's claw—not with an artificial limb, but with the genuine one, *i.e.*, when the Christian Scientist becomes as 'unthinking' as a lobster, then his lost leg would grow again as readily as the lobster's claw, and 'the Science of Life' would be understood." And so, of course, when the Christian Scientist became as "unthinking" as a polyp, he might be cut up into fragments, each of which would develop into a perfect Christian Scientist.

This blissful condition Rev. Mary Baker Eddy's worshippers seem to be fast approaching. J. H. R.

The Physician's Library.

BOOK REVIEWS.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. Twenty volumes. Vols. XVII. and XVIII. New York: William Wood & Co. 1899.

Volume XVII. of "Twentieth Century Practice" is devoted to completing the section on "Infectious Diseases" and to the consideration of "Malignant New Growths." The contributors include such men as Victor Babes, of Bucharest; John T. Bowen, of Boston; William B. Coley, of New York; A. Jacobi, of New York; Edward McGuire, of Richmond, Va.; W. Hallock Park, of New York; and W. Roger Williams, of Bristol, England. "Diphtheria, its General Pathology and Bacteriology" is considered by Dr. William H. Park, of New York; while the "Symptomatology and Treatment of Diphtheria" is contributed by Dr. Jacobi, of the same city. About 120 pages are devoted to the discussion of this disease in its various phases, and the article, therefore, is very complete, and we consider that no better men could have been chosen to make the contribution to so important a work as the "Twentieth Century Practice of Medicine." We read with considerable interest what Dr. Jacobi had to say on the subject of serum-therapy in the treatment of diphtheria. He says that in the vast majority of cases of pseudo-membranous laryngitis the Klebs-Loeffler bacillus is found, and that, therefore, all of them are subjects for the use of diphtheria antitoxin. He says that since its introduction, both general and local diphtheria have been greatly benefited. It was proven, at the meeting in Washington, in May, 1897, of the American Pediatric Society, when was presented "the report of its committee on the collective investigation of the antitoxin treatment of laryngeal diphtheria in private practice," 1st, that before the use of antitoxin 90 per cent. of cases of laryngeal diphtheria required operation, while under the antitoxin only 39.21; 2nd, that the per centage figures have been reversed, formerly 27 per cent. represented the recoveries, now under antitoxin this figure represents the mortality. Dr. Dillon Brown reports the following figures of his own. He divided his intubation cases into three classes: Previous to November, 1890; from November, 1890, to September, 1894 (calomel sublimation period); from September, 1894, to April 1st, 1897 (antitoxin period). Of 442 cases of intubation without calomel sublimations and without antitoxin, 27.3 per cent. recovered. Of 295 cases of intubation with calomel sublimations, 41.6 per cent.; of 69 cases of intubation with antitoxin, 67.8 per cent. recovered. Without sublimations, 10.1 per cent.; with sublimations, 13.2 per cent.; with antitoxin, 23.3 per cent. recovered. Caillé sums up his personal experience as follows: "Tracheotomy and intubation cases, before antitoxin, 280 cases, 30 per cent. recoveries; 17 intubation cases, with antitoxin, 3 deaths." He says that over one-half of all laryngeal cases treated with antitoxin recovered without operation. Dr. Jacobi holds the view that if there be those who shoulder the responsibility of relying on a sole remedy, which frequently heals and frequently fails, to the exclusion of every other helpful medication or contrivance, they are as short sighted as those who still refuse altogether to acknowledge the great efficacy of antitoxin in diphtheria. The fanaticism of the one should not be permitted to justify that of the other. The satisfaction at having a powerful remedy like antitoxin should not engender the nihilism which begins after the subcutaneous

injection of serum. This cannot be said too often, particularly in reference to mixed infections. It is only the bacillus part of the malady which can be counteracted by antitoxin. The mixed infections, at least, with their virulence and danger, should not be left to die without medication beyond injection and "expectant" neglect.

Dr. Victor Babes, of Bucharest, contributes an article in Volume XVII. on "Tetanus." The chapter covers between sixty and seventy pages, and is thoroughly up to date. "The General Pathology of Cancer" is from the pen of Dr. W. Roger Williams, of Bristol, England; the "Symptomatology and Treatment," that of Dr. William B. Coley, of New York. The "General Pathology of Sarcoma" is contributed also by Dr. W. Roger Williams, while again the "Symptomatology and Treatment" comes from Dr. W. B. Coley. Dr. John T. Bowen, of Boston, writes the chapter, "Malignant New Growths of the Skin," while Dr. McGuire, of Richmond, Va., devotes a very interesting thirty pages to "Malignant Diseases of the Female Organs of Generation."

Volume XVIII. is devoted to Syphilis and Leprosy, the contributors being Jonathan Hutchinson, of London; Edward Lang, of Vienna; and Prince A. Morrow, of New York. "Acquired Syphilis" is a chapter of 350 pages, and is contributed by Lang; "Inherited Syphilis," from the pen of that master-mind, Jonathan Hutchinson, and "Leprosy," written by Prince A. Morrow. In writing of the prevalence and severity of inherited syphilis, Jonathan Hutchinson states that the estimate entertained by certain sections of the public as to the prevalence of inherited syphilis is a very gross exaggeration, and he thinks that the same is probably true, though to a lesser extent, of that which obtains in the profession. Mr. Hutchinson's experience is with the patients brought to him in consultation as suffering from inherited taint, and only in quite a minority of them was he able to confirm the suspicion. The statement that syphilis is likely to become a cause of degeneracy of race is one which Mr. Hutchinson most utterly dissents from. He thinks that the disease is much less common than it was in the sixteenth century and is gradually becoming less so, and the extent to which its hereditary transmission influences the well-being of the community is exceedingly small. According to the Registrar-General's reports for England, the deaths from syphilis in children under one year old were in 1878, 219 per 100,000 living; in 1883 the number rose to 235, but it has ever since been decreasing, and in 1897 was but 170. Mr. Hutchinson considers it proved that the acquisition of syphilis by a young infant after birth may produce just the same results as its acquisition *in utero* or its sperm or germ inheritance. This has been proved by at least two authentic cases, one of Dr. Welander, of Stockholm, who states that a boy who had acquired syphilis from his nurse when three months old, at thirteen years of age had intestinal keratitis and nodes, and that his teeth were characteristic. The other case was one brought before the Paris Society of Dermatology by M. Eudlitz. The patient, now twenty-three years old, is small in stature, beardless, and with atrophied testicles. He has characteristic teeth and has been under Fournier's care for cerebral syphilis. The history is that he acquired syphilis at the age of two months from his mother, who had herself been infected by a nursling. Volume XVIII., though it does not include such a vast array of subjects as some of those preceding it, is very valuable, the contributions on syphilis being alone worth a great deal more than its price as a book.

W. A. Y.

! *Manual of Surgery.* By CHARLES STONHAM, F.R.C.S.Eng., Senior Surgeon to the Westminster Hospital; Lecturer on Surgery and Clinical Surgery, and Teacher of Operative Surgery, Westminster Hospital; Surgeon to the Poplar Hospital for Accidents; Examiner in Surgery, Society of Apothecaries, London; late member of the Board of Examiners in Anatomy under the conjoint scheme for England, etc., etc. Vols. I., II., III. London: Macmillan & Co., Limited. New York: The Macmillan Co. Toronto agents: Copp, Clark & Co. 1899.

Volume I. is devoted to General Surgery, Volume II. to Injuries, and Volume III. to Regional Surgery. The volumes are small and the material in

each is well boiled down, the information being crisp and all ready for digestion. The author in his first volume devotes his space, consisting of about three hundred pages, to the consideration of such subjects as the Degenerations, Atrophy and Hypertrophy; Local Circulatory Disturbances—Inflammation, Suppuration and Abscess, Ulceration and Ulcers, Gangrene; Bacteriology' Surgical Septic and Infective Diseases (four chapters), Tumors and Cysts, and Deformities. About fifty pages of Volume I. are devoted to the subject of Deformities, such deformities as spina bifida, spina bifida occulta, spinal curvature, lordosis and kyphosis, scoliosis, crania bifida, torticollis, hare-lip and cleft palate being considered.

Volume II. is given over, as we have already stated, to Injuries. This book has been subdivided into seventeen chapters, and is made up of sections on such subjects as Antiseptic Surgery, Injuries and their Effects, Gun-shot Injuries, the Effects of Heat Corrosives, Caustics and Cold, Injuries of Blood-vessels, Injuries of Bones, Injuries of Joints, Injuries of Muscles, Nerves and Tendons, Injuries of the Upper Extremity, Injuries to the Lower Extremity, Amputations, Injuries to the Head, Injuries of the Spinal Column and Cord, Injuries of the Face, Neck and Throat, Injuries of the Eye and their effects, Injuries of the Chest and Thoracic Viscera, and Injuries of the Abdomen and Abdominal Viscera.

We venture to say that Volume III. of Mr. Stonham's work will meet with a most enthusiastic reception, as the subject of Regional Surgery is one which is always of great interest to surgeons. The author takes up Diseases of the Blood-vessels, Ligature of Arteries in Continuity, Diseases of the Lymphatic System, Diseases of Bone, Diseases of Joints, Operations on Joints, Diseases of the Nerves, Muscles, Tendon Sheaths and Bursæ, Surgical Diseases of the Brain, Spinal Column and Cord, Diseases of the Nose and Naso-Pharynx, Injuries and Diseases of the Ear, Diseases of the Larynx, Disease of the Thyroid Gland, Diseases of the Jaws, Diseases of the Lips, Cheek, Mouth and Tonsils, Diseases of the Tongue and Salivary Glands, Diseases of the Esophagus, Surgical Diseases of the Abdominal Viscera, Intestinal Obstruction, Hernia of the Abdomen, Diseases of the Rectum and Anus, Diseases of the Urinary Organs, Surgical Diseases of the Kidney, Diseases of the Bladder, Diseases of the Prostate, Diseases of the Urethra, Diseases of the Penis and Scrotum, Diseases of the Testicles, Cords and Vesiculæ Seminales, Surgical Diseases of the Female Genital Organs and Diseases of the Breasts. The book is a very complete manual of surgery, and the author has, in presenting his subject to his readers, done so not only thoroughly, but concisely, in no instance leaving his meaning obtuse, but, on the other hand, lucid and clear. The book sells at half-a-guinea and is attractively bound in red cloth, the leaves being gilt-edged.

Of course, even though divided into three volumes, the author cannot (in fact, does not) claim that his is a text-book of surgery. It is simply a manual, which must be of greater value to the student than to the surgeon. It is essentially preliminary, and even for the final year of the student would have to be further supplemented by the use of a text-book, which goes more into the details of operative work and major surgery. That, however, does not detract from the work as a manual of surgery. Mr. Stonham has placed before his readers a work which covers a large field, and, as we have already said, has so digested what he has given us in his book that it is a simple matter for anyone to glean from any special chapter or section the desired or necessary information.

Mental Affections: An Introduction to the Study of Insanity. By JOHN MACPHERSON, M.D., F.R.C.P.E. London: Macmillan & Co. 1899.

In writing upon the subject of insanity a great deal depends upon the standpoint from which the writer views the subject. The great mistake of the past and one which was made by nearly all the earlier alienists, was in regarding insanity as a separate subject, as one sometimes regards diseases of the eye or the ear. Though no branch of medicine can ever be altogether independent, the study of mental affections is, more than any other, intimately associated with

the entire body of medical doctrine; and far from affording a field for a specialist, should be carefully studied by the general practitioner. Light, indeed, is thrown upon the nature and causes of mental disease from every branch of scientific research. Psychiatry does not embrace a group of separate diseases, properly speaking, so much as a group of symptoms; and symptoms which reflect not cerebral lesions alone, not neuropathic changes only, but the distant fluctuations of unsuspected conditions, toxic and degenerative, which should be resolutely traced back step by step to their ultimate causes in obscure, often, and sometimes remote regions of the animal autonomy.

From this broader standpoint the present writer has reviewed the Psychical Symptomatology of Disease, and the work before us may be justly regarded as a useful contribution to one department of the literature of Clinical Medicine. As the knowledge of mental aberration undergoes reconstruction, and the facts already collected together, reinforced by what the future shall contribute, are readjusted upon a somewhat more scientific system, it will be found eventually, we doubt not, that the "motions of the mind," by reason of the great delicacy and sensitiveness of that organ to every physiological process, how intangible soever, will come to be regarded in time as a most useful index to many morbid processes which, while eluding at the present time the ingenuity of the section stainer, and processes purely transcendental, therefore, in the eyes of pathological dilettante, are of the utmost importance as data for the reasoning of science, and operate frequently as a grave menace to the life of the individual. At the same time the converse must never be overlooked; and in this connection a passage from one of the most philosophical of contemporary medical writers occurs to our mind. "On the other hand, ' Allbutt remarks in his section on Functional Diseases of the Heart, "it seems no less certain that perennial depressing causes, exile or bondage in an invisible Babylon may induce degenerative changes in the heart and blood-vessels, or in the kidneys."

Dr. Macpherson's work, while marking a distinct step in the study of mental disease, merely trenches, after all, upon new fields which await the scrutiny of the logical alienist. E. H. S.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College, Hon. Fellow Royal College of Physicians of Ireland. Vol. VIII. London: Macmillan & Co., Limited. New York: The Macmillan Co. Toronto: A. P. Watts. 1899.

Volume VIII. of Allbutt's "System of Medicine," the other volumes of which we have already taken several occasions to criticise most favorably in this journal, is devoted to a continuation of Diseases of the Nervous System, Mental Diseases, Diseases of the Skin, and concludes with an appendix on Malaria. Those diseases of the nervous system considered include Craft Palsies, Spasmodic Torticollis, Facial Spasm, Tetany, Paralysis Agitans, Migraine, Hysteria, Catalepsy, and Neurasthenia. Mental Diseases and their consideration consume over 250 pages of Volume VIII. In this section Dr. Francis Warner writes on Dull, Delicate and Nervous Children. Dr. Leonard Guthrie contributes a chapter on Night Terrors; Dr. Shuttleworth, on Idiocy and Imbecility; Dr. Mercier, on Vice, Crime and Insanity; Dr. Clouston, on Epochal Insanities; Dr. Savage, one chapter on Toxic Insanities, a second on Mania, and a third on Mental Stupor; Mr. Clinton Dent, on Insanity and Surgical Operations; Dr. Hyslop, on Alcoholic Insanity; Dr. Robert Jones, on Insanity and Epilepsy; Dr. Percy Smith, on Acute Delirium; Dr. Rayner, on Melancholia and Hypochondriasis; Dr. Urquhart, on Recurrent Insanity, and on States of Mental Weakness; Dr. Conolly Norman, on Systematized Delusional Insanity; Dr. J. Batty Tuke, on General Treatment of the Insanities; Dr. Outterson Wood, on English Law and Practice of Lunacy; and Dr. Nicholson, C.B., on Criminal Lunacy in England. It will therefore be seen that the alienist will be able to take special comfort out of this volume of Allbutt, containing, as it does, quite a full department on the subject of the keenest interest to him. The editor of

this "System" has given a complete array of mental diseases and their treatment, and the contributions are very complete and full of interest, and come from the pens of those best able to write upon the subject in its different phases. Diseases of the skin consume about five hundred pages of Volume VIII., and this section alone makes a fairly good-sized book on the subject. The contributors to this section include such well-known men as Dr. Colcott Fox, Dr. Payne, Dr. Stephen Mackenzie, Dr. Head, Dr. Pringle, Dr. P. S. Abraham, Dr. Radcliffe Crocker, Mr. M. Sheild, Mr. Malcolm Morris, and others.

Diseases of the Skin in this "System" have been divided into Superficial Diffuse Inflammations, Deep Diffuse Inflammations, Discrete Inflammations, Hypertrophic and Atrophic Conditions, Affections of the Pigmentary System, Cutaneous Hemorrhages, Affections of the Sweat Glands, Affections of the Sebaceous Glands, Affections of the Hair, Diseases of the Nails, Tuberculous Diseases, Syphiloderma, Benign Growths of the Skin, Malignant Growths of the Skin, and Parasitic Diseases of the Skin. We don't hesitate to say, after a careful perusal of this section of Volume VIII., that it is as complete a consideration of the subject in as limited a space of about five hundred small pages as we have come across anywhere. The chapters are written by experts, so that every confidence can be placed in the statements made. The appendix on Malaria, by Dr. Manson, is a fitting close to the last volume of a system on medicine, which has, and that deservedly, met with a grand reception at the hands of medical men over almost all the countries of the world.

The Modern Treatment of Wounds. By JOHN E. SUMMERS, JUN., M.D. Omaha: Medical Publishing Company. 1899.

The book before us is apparently a reprint of a series of journal articles, dealing with the treatment of wounds as a hospital surgeon, in active service and doing much railroad work, is likely to see them. It begins with a chapter on bacteria, which is too elementative, in fact too much of the kindergarten order to be of practical value. Then follows a discussion of preparatory surgical technique, in which the sterilization of the hands, the field of operation and the instruments are considered. Operations and accidental wounds, operations on infected tissues, penetrating wounds of the various body cavities, compound fractures, head injuries, and various wound complications and allied subjects are next discussed, but the practitioner who has at command any one of the recent standard works on surgical practice will find in this volume very little that is new, or that is presented in an unusually or specially striking manner. On the whole the work is hardly one which has a very distinct reason for its existence, nor can it for a moment be put into competition with such a masterly work as that of "Pilcher on Wounds," on the practical side, or such a work as "Nancred's Principles of Surgery" in its pathological aspects.

It is well printed and published, and such illustrations as appear are good reproductions of photographs of cases under the author's treatment.

N. A. P.

The International Medical Annual, 1900. A complete work of reference for Medical Practitioners, alphabetically arranged, and combining the features of an Annual Retrospect with those of a Medical Encyclopedia. Each volume contains entirely new matter. New York: E. B. Treat & Co., Publishers.

E. B. Treat & Co. have followed their usual practice in making this work for 1900 something more than a mere retrospect of the past year. It includes a series of articles intended to bring the readers' knowledge up to date on subjects of modern investigation, and the volume now in press contains new matter of practical interest concerning almost every known disorder.

The "Annual" is the standard reference in all parts of the world, and its value is endorsed by the medical press of every country. It is entirely owing to the consequent large circulation that the publishers find it possible to give the practitioner a handsome volume, freely illustrated in colors and in black and white, with the articles written by well-known authorities (this year's

"Annual" has forty contributors, among whom are W. Gilman Thompson, A. W. Mayo Robson, E. Hurry Fenwick, Henry P. Loomis, Thos. More Madden, Graeme M. Hammond, J. Dundas Grant, Boardman Reed, Robert Jones, A. H. Tubby, Henry Dwight Chapin, Joseph McFarland, Wm. Murrell, Robert Saundby, Samuel G. Gant, P. Watson Williams, Wm. A. Purrington, T. Colcott Fox, etc.), at a price which in comparison with other medical works is almost nominal.

Thorington. Refraction and How to Refract. Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-glasses, etc. By JAMES THORINGTON, A.M., M.D., Adjunct Professor of Ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine; Assistant Surgeon at Wills' Eye Hospital. Two hundred illustrations, thirteen of which are colored. Octavo; 301 pp. $1.50 net, cloth. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street.

The Blakistons have been good enough to send me a type-written head for this review, some nine lines of which relate the different titles the author holds. If you are anxious to know what they all are spend $1.50 and find out. I like this A.M., M.D.; it's chaste and classic. I have often wondered why the American publishers did not hunt up an L.K.Q.C.P.I. and have him write a book for them. Just imagine the sale such a Chinese puzzle as that would have. *Mais revenons à nos moutons.* This is practically a fattened edition of the author's work on retinoscopy—the fattening has added considerably to both its beauty and its value. J. M. M.

A Laboratory Manual of Physiological Chemistry. By ELBERT W. ROCKWOOD, B.S., M.D., Professor of Chemistry and Toxicology in the University of Iowa. Illustrated with one colored plate and three plates of microscopic preparations. 5⅝ x 7¼ inches. Pages viii—204. Extra cloth, $1.00 net. Philadelphia: The F. A. Davis Co., Publishers, 1914-16 Cherry Street.

This little text-book is one which will, no doubt, commend itself to students and physicians, on account of its conciseness. In its two hundred odd pages there is contained practically all the material which we find in many larger and more pretentious works. The experiments are clearly and briefly stated, and the explanatory paragraphs are full and up to-date. One of the best chapters in the book is that upon the gastric juice and gastric tests, in which the physician will find a careful description of all the more recent methods. J. M. M.

A Manual of the Diagnosis and Treatment of the Diseases of the Eye. By EDWARD JACKSON, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic. Philadelphia: W. B. Saunders. Toronto: J. A. Carveth & Co. $2.50 net.

One should always read, first of all, the preface of a book—such a pleasant sight is it, to see the author make his deferential bow, and beg pardon for living. Truth to tell, I am in hope that some day I shall run across a man who shall make no apology, but say, "I wrote this book because I wanted to; it is a good book, and you'll like it." Had Edward Jackson said so I should have backed him up, for it is a good book, and you'll like it. J. M. M.

A Text-Book of Embryology for Students of Medicine. By JOHN CLEMENT HEISLER, M.D. Philadelphia: W. B. Saunders. Toronto: J. A. Carveth & Co. Price, $2.50.

The author and publisher are to be congratulated on producing a text-book on this subject which, although fairly complete, does not attempt the minuteness of detail present in the larger works. The student who has not the time to devote to the study of Minot's large work, will welcome this book, which he will find contains the essentials of human embryology presented in a thoroughly lucid form. The illustrations have been drawn from the most recent works, and are well selected and carefully reproduced. J. M. M.

Merck's Manual of The Materia Medica. A ready reference pocket-book for the Physician and Surgeon. Germany: E. Merck, Darmstadt.

We cannot improve upon the method used on the title-page of this small book in order to describe it, more than to say that it is "a ready reference pocket-book for the Physician and Surgeon." It will be found to be an exceedingly valuable compendium of information, giving as it does in detail every new fact regarding the most modern therapeutical agents. We do not know of any other book which gives such up-to-date information along these lines, and feel that it will more than repay medical men to send for a copy, if they desire to have at their right-hand a vade mecum of invaluable facts for use in every-day work.

ANNOUNCEMENTS.

LEA'S SERIES OF POCKET TEXT-BOOKS.—The volumes of this series will hereafter be bound in red cloth, heavy beveled edge boards, and also in flexible red leather with round corners and with margins trimmed to facilitate carrying in the pocket. The leather bound books will cost 50c. more than the cloth bound.

Scribner's for 1900 will include: J. M. Barrie's "Tommy and Grizel" (serial). Theodore Roosevelt's "Oliver Cromwell" (serial). Richard Harding Davis's fiction and special articles. Henry Norman's "The Russia of To-day." Articles by Walter A. Wyckoff, author of "The Workers." Short stories, by Thomas Nelson Page, Henry James, Henry van Dyke, Ernest Seton-Thompson, Edith Wharton, Octave Thanet, William Allen White. Special articles, "The Paris Exposition"; Frederic Irland's articles on sport and exploration; "Harvard Fifty Years Ago," by Senator Hoar. Notable art features, the Cromwell illustrations, by celebrated American and foreign artists; "Puvis de Chavannes," by John La Farge (illustrations in color). Special illustrative schemes (in color and in black and white) by Walter Appleton Clark, E. C. Peixotto, Henry McCarter, Dwight L. Elmendorf and others. Illustrated prospectus sent free to any address.—Charles Scribner's Sons, Publishers, New York.

The Macmillan Company beg leave to call renewed attention to their magazine, entitled *The International Monthly*, which has met with a most cordial reception. The special features of this publication are: 1. Each number contains not less than three carefully elaborated essays on important topics within a field covered by the twelve departments of the journal, which are: History, Psychology, Comparative Religion, Fine Art, (Physics, Chemistry), Medicine, Philosophy, Sociology, Literature, Industrial Art, Biology, Geology and Geography. These essays are prepared by leading scholars chosen by the editor and by his American, French, German and English advisers. Thus during each year it is promised the essay in each of the above enumerated departments of literary and scientific activity will be furnished by the most competent writers of America, Great Britain and the continent of Europe. These essays will be fundamental in character and will be designed with reference to subsequent publication in permanent form. 2. In addition to the essays each number will contain two or more articles of important contemporary interest on topics connected with the stage, the art, the music, the literary, the science, the broad political and financial issues of the day. A feature of particular interest is a review each month of the recent progress of some one branch of knowledge. This review also deals with the most important literature of the subject under discussion.

REPORTS RECEIVED.

The Congress on Tuberculosis held at Berlin, Germany, on May 24, 25 and 26, 1899. Report of the proceedings by Edward Farrell, M.D., Halifax, N.S., the Canadian delegate to the Congress. Ottawa Government Printing Bureau, 1899.

Selected Articles.

THE ETIOLOGY AND TREATMENT OF NEURASTHENIA. AN ANALYSIS OF THREE HUNDRED AND THIRTY-THREE CASES.

BY JOSEPH COLLINS, M.D.,

Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School; Visiting Physician to the City Hospital;

AND

CARLIN PHILLIPS, M.D.,

Assistant in the Clinic.

(Continued from last month.)

Hydriatic Treatment.—The value of hydriatic procedures in the treatment of neurasthenia can easily be overestimated. It is, nevertheless, perhaps the most important member of the physical measures upon which experience has taught us to rely. It owes its beneficial effect to the powerful appeal that it makes alike to the body and to the mind. It is a very important measure in aiding constructive metamorphosis by stimulating the peripheral and deep circulatory fluids; it is an important agency to excite and sedate the peripheral nerves and their central and peripheral distribution; its utilization is almost invariably accompanied by at least a temporary feeling of well-being, attendant upon reaction, which, by making an impression upon the patient's mind, helps to restore the loss of confidence and to overcome the mental depression which play such a conspicuous part in the disease. In these ways and in others it overcomes the myasthenia, it promotes the appetite for food and facilitates digestion, it contributes to repose and to slumber, and it tends to overcome the numerous paresthesiæ which constitute such a conspicuous feature of the patient's complaint. The method of utilizing water advantageously in the treatment of neurasthenia varies with the individual, and particularly with his capacity to react. It therefore varies with the same individual in different stages of the disease. There is no such thing as a stereotyped hydriatic prescription, because the instructions that may be beneficial to one patient will very likely be injurious to the next. When the conveniences of a hydriatic institution are to be had, the physician should avail himself of them, because the mode of applying water can be there more carefully and accurately done, while

the seemingly complex apparatus makes a leading appeal to the patient's mind, a result at all times to be striven for in the treatment of neurasthenia. The possession of such hydriatic apparatus is one of the most important claims for the advantages of sanatoria treatment of neurasthenia. Much benefit, however, may be obtained from the application of water with no other apparatus save the attendant's hand, a pitcher, and a sheet. The customary hydriatic procedures in the treatment of neurasthenia are cold ablutions, the dripping sheet, the spray, and the simple douche. Of these the latter is by far the most important. In order that the douche may be used successfully, it is necessary that a certain amount of pressure which can be readily graduated is available. For the average neurasthenic individual of the depressed type, the customary procedure is to prepare him for the application of the douche by a few treatments with cold ablutions (80° to 65° F.), the water being applied from the attendant's hands, accompanied by brisk friction, while the patient stands in warm water, with a cold compress about the head. If the patient reacts well after being dried and made to take lively exercise in the open air, or after having been put to bed, the cold-douche treatment may be begun. When the patient is sent to an institution, some such procedure as the following is employed: the cutaneous circulation is stimulated by encasing the patient's body up to the chin either in a hot box or in dry hot sheets for a few minutes, never up to the point of considerable perspiration, except in the irritable varieties of neurasthenia and in those accompanying the uric-acid diathesis; then the douche is employed with from ten to fifteen pounds pressure, and with water from 85° to 55° F., for from thirty to sixty seconds, and applied all over the body. The treatment is then terminated by the application of a spray (called the Fleury spray, after its French originator), with water of about the same or a little higher temperature and with equal or somewhat greater pressure. The patient is then quickly dried and reaction facilitated in the customary way. It depends entirely upon the degree and completeness of reaction what the formulary for the next treatment will be. If reaction is satisfactory, the temperature of the water is diminished on each succeeding day and the pressure somewhat increased, but never above eighteen or twenty pounds. The Scottish douche is rarely used, unless it be for the purpose of counterac ing neuralgic pains and painful paresthesia. When the hydriatic treatment must be carried out at home, cold ablutions and the dripping sheet are most serviceable. The application of the former is very simple, and may be done in one of two ways. A linen sheet is wrung out of water from 75° to 65° F., and thrown about the patient, who is standing upon a warm, dry surface or in warm water; then the attendant makes friction for from thirty to ninety seconds through the sheet, which is then removed and substituted by a dry sheet, through which the frictions are kept up until the patient begins to react thoroughly. The reaction is then kept up by utilization of the

customary measures. The dripping sheet is oftentimes more serviceable than the one just described. The linen sheet is thoroughly saturated in water of the same temperature, but is not wrung out. It is applied in a similar manner after the patient has been given a brief ablution with water of the same or somewhat higher temperature, and removed after from thirty to sixty seconds, during which time friction is kept up through the sheet.

The other applications of water, such as the prolonged lukewarm or warm bath, the half-bath, the sitz-bath, the local and general cold pack, may be utilized to meet special indications. In the forms of neurasthenia characterized by erethism, mental excitement, physical unrest, continual expression of dissatisfaction, the general cold pack repeated once or twice daily, and kept on from two to four hours, is a very important and beneficial measure.

The Use of Electricity.—The rôle played by electricity in the treatment of neurasthenia is a much less important one than that of water. A discussion of the mode of its beneficial action does not seem to us necessary. The conviction seems to be increasing that its capacity for good stands largely in relationship to its effect in making a psychical appeal to the patient. Its unknown nature, its wondrous manifestations, its attributed health-restoring capacities, all tend to impress the patient with its potency for benefit. It really matters not how it acts or upon what it acts, so long as it may be utilized for the patient's benefit. Nor does it matter particularly what form of electricity is used. The form that appeals most powerfully to the patient's emotion and the form that is given from the most complicated and elaborate apparatus, according to the most studied plan and with the greatest care, is the one that will act most beneficially. It is because these essentials are best provided by the static apparatus that the application of this form of electricity seems to be more beneficial than either the faradic or galvanic. The next most useful form of electrization is the electric bath with interrupted current. We do not mean to deny that faradic and galvanic electricity are not sometimes useful in neurasthenia to assist in overcoming certain conditions, such as pain and myasthenia, by virtue of certain physical properties which they possess. For instance, general faradization, if not carried to the point of fatigue, may be of considerable assistance in tonifying the relaxed muscles. On the other hand, the rapidly interrupted current may sometimes be used advantageously to counteract pain and paresthesia, while the positive pole of the constant current is now and then useful in overcoming local pain, such as rhachialgia. The latter current should never be used about the head, because of the vertigo that it is liable to produce, which may be fastened upon by the patient as a new symptom, which, sinking into the morbid memory, will but add to his suffering. Formerly the use of faradic electricity, to produce muscular contraction and therefore make for tissue metamorphosis, was thought to be very essential in the rest cure; but it is gradually being discarded in favor of massage, passive

exercise, and graduated active exercise, although it is still used for its effect as an indirect psycho-therapeutic agency.

Rest and Exercise.—The utilization of rest, exercise, and massage in the treatment of neurasthenia will depend largely upon the individual and the type of the disease from which he suffers. In some cases, particularly in women who are run down from social, maternal, or household duties, and in those in whom neurasthenia followed some such exhausting experience as prolonged suffering, repeated illness, protracted attention to the claims and wants of others, especially when associated with anemia, more or less loss of flesh occurring either in men or women, absolute rest in bed for a number of weeks is a very essential element in the treatment. The utility of rest, combined with forced feeding and passive exercise, was first demonstrated by Dr. Weir Mitchell, and it is generally known as his rest-plan of treatment. In my own experience, it is applicable to a relatively small proportion of all neurasthenics, when carried out in a radical way. A modification of it is, to be sure, one of the essential features in the plan of treatment which we are attempting to outline. But in many cases it is more essential to prescribe some exercise that is consistent with the patient's strength and purse, in connection with a certain amount of enforced rest in bed. In beginning the treatment of a severe case of the anxious, depressed type of neurasthenia, it is, as a rule, advisable to keep the patient in bed for two or three weeks, during which time exercise necessary to combat the myasthenia and to promote tissue reconstruction is got by the use of massage and resistance movements. After such a time the patient is kept in bed from fourteen to eighteen hours out of the twenty-four, the remainder being taken up in hydriatic and electrical treatment, walking, cycling, golfing, riding, fencing, boxing, rowing, etc., whichever is most feasible and suitable to the patient. The variety of exercise that is beneficial in neurasthenia depends somewhat upon the type of the disorder, but more upon the individual. The greatest difficulty is experienced in deciding upon the exercise that is most suitable for women who, from one end of life to the other, have never tasted the sweet weariness that follows accustomed toil or whose age precludes them from indulging becomingly in the varieties of exercise that have been mentioned. For them walking is tedious and lends itself to introspection; cycling is looked upon as unfitting their years and dignity; golfing is too spectacular and violent, and so on throughout the list. It is in such cases that the patient should be sent into some new country, especially a hilly or mountainous one, whose attractions invite exploration, and to accomplish which requires walking, climbing, donkey riding, etc.

The safest criterion in the election and insistence on certain varieties of exercise is the effect that it produces, not the effect that the patient says it produces. If indulgence in exercise tends to make the patient accept the enforced rest and isolation more gracefully; to increase the appetite and facilitate the action of the

bowels; to promote a feeling of relaxation and sleep—then it is beneficial and should be continued, increased, and varied. If, on the other hand, it produces the antithesis of these, it should be curtailed or entirely stopped for a time, and enforced rest rigorously carried out, while the exercise necessary to promote tissue metamorphosis is obtained by passive movements. It is often advantageous for a patient who is isolated and who is taking a moderate rest cure, to indulge in certain occupations which help to pass the time and to distract the mind. Women should be encouraged to sew, to knit, to play cards, etc.; while men should be allowed to play billiards, backgammon, etc., providing these are not looked upon as tasks and do not cause fatigue.

Exercise in the open air, particularly when it engrosses the interest, is particularly beneficial in those whose neurasthenia is apparently the result of sedentary labor, absorbing mental occupation, worry, care, anxiety, etc. It is also very essential for those who have the uric-acid diathesis and tendency to catarrhal condition of the bowels. In the forms characterized by anxiety, vasomotor manifestations, and profound myasthenia, and in some cases with profound disturbance of the sexual sphere, it is not so valuable.

Massage is often overrated as a therapeutic aid in the treatment of neurasthenia, and perhaps sometimes underrated. It is needless to say that it has no specific virtue. Like all physical agencies that are useful in the treatment of this neurosis, it owes its beneficial effects to the aid which it gives to processes of metabolism, and to the appeal which it makes to the mind of the sufferer. The latter overshadows the former. Massage is therefore oftentimes more beneficial when it is given according to a complicated system, in which all the details are rigorously carried out, and when it is given with complicated mechanical apparatus. The usefulness of abdominal massage in overcoming constipation has already been mentioned. No definite rules can be given for the utilization of massage, for so much depends upon the individual and upon the type of his disease. Some patients, particularly men and those with anxiety type of the neurosis, do not tolerate it at all; while others, women, depressed neurasthenics, and fat individuals, enjoy it and frequently sleep after a séance. Massage operators aver that the efficacy of massage depends largely upon the manner of its application and upon the system with which it is utilized. Their view of the matter is an interested and a biased one. It may be used advantageously to overcome constipation, stiffness and soreness of the joints and extremities, and myasthenia. Insomnia can sometimes be combated by the use of vigorous massage of the entire body for an hour or more just before retiring, or by downward stroking of the sides and back of the neck. This procedure seems to influence the intracranial circulation by facilitating the flow of blood in the veins.

Climato-therapy.—The influence of climate in the treatment of neurasthenia is not very great. The neurasthenic patient recovers

more quickly in a climate that allows him to spend comfortably a portion of the time in the open air, and to have plenty of this important element in a pure state in his living apartment. A climate that is so moist and warm that it tends to general enervation, or one that is so cold and dry that it requires the expenditure of a great deal of energy to withstand it, is contraindicated. The benefit that is obtained from change of climate is more often due to the new environment, with its absence of strife and distressing annoyances, and the attention to diet, rest, exercise, and hygienic rules which it entails, than to climatic conditions. A sojourn in the hills or mountains for those on whom the seaside or plain palls on account of long association, is beneficial, and *vice versa* for the same reasons. The influence of beautiful scenery, inspiring surroundings, and the wonders of nature may impress upon the self-centred patient how trivial and uninteresting he is when compared with it all, and help to lift him out of himself. Like everything else in the treatment of neurasthenia, very much depends upon the individual.

The question of travel for neurasthenic patients is not a very difficult one to decide. For the majority it is impracticable, and the minority are better off without it. For one neurasthenic patient who is benefited by aimless "travelling for health," ten are injured by it.

Drugs in the Treatment of Neurasthenia.—The medicinal treatment of neurasthenia is the least important duty of the physician, though it is oftentimes difficult to convince patients of this, and physicians as well. Symptom medicines are invaluable to meet certain indications, and disease medicines assist in overcoming certain organic conditions, such as anemia; but, despite this, the majority of neurasthenic patients would reach the goal of recovery just as surely and speedily if drugs were entirely discarded. At least it may truthfully be said that it is oftentimes as important to forbid the patient all medication as it is to prescribe it. Neurologists will probably agree that the majority of patients that come to them for advice and treatment, after they have been under treatment by their family physician, or desultorily by a number of physicians, are so thoroughly bromidized that this state demands treatment. I do not mean to say that the bromide salts are not oftentimes of signal benefit to relieve certain distressing symptoms, such as head pressure, cardiac palpitation, abdominal fluttering, etc.; but should never be given continuously, promiscuously, or without special indication. Although the pharmacopeia contains no drug that has special virtue to "strengthen" the nervous system, or to restore its equilibrium when the balance is once disturbed, there are certain drugs which, by creating an appetite, facilitating digestion and assimilation, forcing oxidation and elimination, and by adding to the constituents of the blood, are serviceable when such indications exist. The simple bitters and stomachics can be given for a short time with considerable confidence that they will cause a greater relish for food. Arsenic,

nux vomica and quinine oftentimes not only create a greater desire for food, but seem to have a general tonifying effect, particularly upon the muscular system. Cod liver oil, which is supposed to be of especial service in the treatment of neurasthenia, has no other virtue than to provide an easily digested carbonaceous food. In anemic individuals suitable preparations of iron and arsenic, alternated or combined with the simple bitters, must be given. In administering iron it should not be forgotten that it has been proven experimentally that the quantity which the blood will take up stands in no relationship to the amount administered. Not infrequently beneficial effects follow repeated inhalation of oxygen. This procedure not only affords a general fillip to the system, but has a desirable mental effect. In the use of arsenic and quinine, it is well to bear in mind that the former has a tendency to produce disturbance of the stomach and intestines, which may have a very distressing mental effect upon the patient; while the latter, if given in other than very small doses, is sure to produce ringing in the ears and vertigo, which the patient will be likely to interpret as most disastrous manifestations. The administration of aphrodisiacs in sexual neurasthenia is conceived in error, and should never be tried except for the mental effects. Drugs that make powerful appeal to the mind by insulting one of the special senses—such as valerian, for example, particularly when given with assurance that it will be beneficial—are oftentimes of great comfort to the patient, and thereby useful. Hypnotics are rarely necessary when rest and exercise, hydrotherapy and massage are properly and faithfully utilized. It is oftentimes necessary to give one of the simpler hypnotics a few times, in order to secure sleep until the physical measures just mentioned have time to become effective. They should be given in sufficiently large doses to make their effect decided, so that the patient may be impressed that a medium is readily at hand that can easily cope with the insomnia.

Local Treatment.—Reference has already been made to the absurdity of depending upon local treatment alone to cure neurasthenia, whether such treatment be directed to the prostate, the eye muscles, the uterus, or the stomach. All of these organs are very liable to reveal considerable disorder of function in neurasthenia, but so does every other tissue or organ of the body in varying degree. They all need treatment, and thus it is that hydriatic procedure, diet, rest and exercise, etc., have proven to be the really trustworthy therapeutic agencies. Occasionally neurasthenia occurs sequentially to rectal abscess and fistula, to enlarged prostate, to prolonged and excessive use of ill-balanced eye muscles. In every such case the effort should be made to rid the patient of these evident infirmities. This is tantamount to saying that the casual treatment of neurasthenia should never be neglected. If such treatment suffices, the patient and the physician have good cause for mutual congratulation. Unfortunately, however, it does not suffice in about 90 per cent. of the cases, and it is unwise to

neglect the ninety merely to reach the ten. The picture is more enticing when reversed.

The Plan.—From all that has been said, it will be readily inferred that the physician himself is the important measure in the treatment of this neurosis. His success in handling neurasthenia will stand in direct relationship to his capacity to inspire and maintain the confidence of his patient, and the thoroughness and persistence with which he utilizes the physical measures for the improvement of general nutrition of the body and the mind that we have detailed. To carry such treatment to a successful issue requires great individualization, tact, perseverance, and, above all, strict personal attention to detail. As a rule, it may be said that a patient with neurasthenia should be examined and treated with the same attention to detail as a patient with typhoid fever or endocarditis. That such careful examination and methodical treatment encompass a cure, in part or largely through their appeal to the mind of the individual, in no way detracts from them as tangible therapeutic measures. On the contrary, there is all the more reason for their utilization. The more often they are employed the less frequent will be the reports of cures by Christian scientists, faith curists, negro hoodoos, incantation men, and other fakirs and mystery mongers.

The physician who has neither the time nor the inclination to devote such attention and care to the neurasthenic patient should have the frankness and moral courage so to inform the patient, and not keep him on by promises of recovery which he cannot back up with results; while the physician who feels that he is discharging his duty by telling the patient that his sufferings are "imaginary," "mental," "trifling," can scarcely be said to have the modern conception of this neurosis, and is therefore unfitted to deal with it. The plan of treatment being so important in neurasthenia, the physician and the patient will have to carry it out at home. If it is not entirely so, it had better not be attempted, as each failure adds jeopardy to the patient's chance of recovery. No compromise should be made with the patient or with the family relative to his conformation to all the conditions on which treatment is undertaken. If the patient is unwilling to do all that the physician assures him is necessary, he soon comes to view the matter in a different light when told that the treatment of his case cannot otherwise be undertaken. Occasionally it will be necessary to avail one's self of the facilities of sanatoria which are fully equipped with hydriatic and mechanical devices for the application of massage, passive exercise, etc. There is much to be said against, and but little in favor of such institutions. As a general rule, it may be said that institutional treatment is inimical to individualization, and should rarely be recommended.—*Med. Record.*

LECTURE ON THE CINEMATOGRAPH AND THE TEACHING OF SURGERY.*

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ANIMATED photographs were at first used as an entertainment. Only short scenes were represented, a row of films, eighteen metres in length, system Lumière or Edison, at the rate of sixteen pictures a second, lasted exactly one minute. The vibration of the picture, always fatiguing to the eye of the spectator, became intolerable when it was a matter of reproducing complicated subjects. Only in the open air or in a special studio could good negatives be obtained. I endeavored several years ago to apply the cinematograph to surgical instruction, but was unable to overcome the difficulties referred to; the films were not sufficiently sensitive for the most powerful lens then in use, and it was impossible to obtain satisfactory results with the apparatus of those days except in the case of a movement of very short duration. Operations on the dead body could easily have been photographed in the open air, but would have had no scientific interest or value. In all medical schools there is an amphitheatre for operative surgery where the use of instruments and technical details may be demonstrated by the professor at each lecture. The students practise on the dead body the ligature of arteries and the various sutures. It is even possible to imitate the flow of blood by connecting the aorta and the carotid with a raised recipient filled with colored water. These practical experiments give but a faint idea of true surgery. An operation on a dead body can never be compared to an amputation on the living subject. With a view, therefore, to supplementing this notoriously defective system of instruction, we must have recourse to the cinematograph and reproduce real operations. With the projections we shall be able to explain to our students the difference which exists between real and operative surgery, which has been rightly termed the "Surgery of the Dead."

If we go on to consider such operations as the removal of the kidney, of the thyroid gland, ovariotomy, hysterectomy, the difference becomes more marked, and operative surgery can only be considered the complement of topographical anatomy. The student will study, for instance, the different layers he must traverse to reach the kidney, its exact position, and the relations of its blood vessels. In thyroidectomy or hysterectomy he will appreciate the relations of the thyroid gland, the great vessels of the neck, and

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† Translation by A. A. Warden, M.D.Glasg. (Clinical Assistant to Professor Doyen).

the laryngeal nerves, the exact position of the ureter, the hypogastric, uterine, and vesical arteries. A certain amount of practice can even be obtained in the surgery of the stomach and of the intestines, and familiarity with the blood supply of these organs, the action of the various clamps, and the arrangement of the sutures. But operative surgery will never confer the gift of operating.

Do our books fill the gap thus left? Certainly not. The most detailed descriptions, the best diagrams or photographs of the various steps of an operation are inadequate. Take, for instance, the clamping of the broad ligaments in vaginal hysterectomy. Surgeons who have not seen my crushing forceps used cannot grasp its simplicity, and photographs of the various steps of the operation can only give them a partial idea. On the other hand, with the cinematograph we can make hundreds of people follow in one minute what a whole lecture could not make clear to a limited number of students. Thus there is accumulating in medicine a mass of more or less useless literature, descriptive and critical, and due appreciation of new methods becomes impossible. Surgeons themselves cannot derive the full benefit of visits to foreign schools and only fifteen or twenty of those who assist at an important operation can follow with profit the details of the technique. The safety of the patient demands that spectators should be at a certain distance; the hands of the surgeon and his assistant conceal part of the field of operation, and the surgeon himself may be the only one to follow some of the more delicate steps. It is not sufficient to follow the operation, as it were, second-hand; but the author of the technique, the master himself, must be seen at work. The surgeon is judged by his work, and no text-books, however well illustrated, can sufficiently express his personality.

It has been with the object of completing our means of teaching the art of surgery that I have been led to study and employ the cinematograph.

The first operations taken by the cinematograph were a craniectomy and an abdominal hysterectomy. The films thus obtained by M. Clément Maurice with the Lumière apparatus, and by Monsieur Parnaland with his own invention, were sufficiently clear to show the value of the method. The first demonstration of the teaching of surgery by the cinematograph took place at the annual meeting of the British Medical Association in Edinburgh in July, 1898. Three films where shown:

1. The manipulation of my operating table.
2. An abdominal hysterectomy.
3. A craniectomy.

This first demonstration was conclusive and so satisfied the physicians present that I was asked to give a second the next day.

And yet no one has shown a satisfactory series of films since July, 1898, the date of my first demonstration in Edinburgh, the priority of which has never been disputed. Since the meeting of

the British Medical Association in Edinburgh I have added to my collection of films, which will be issued in a few months for use in teaching faculties. With each film a full description, clinical and pathological, will be supplied. Surgeons who may wish to use the cinematograph themselves, either in operating or teaching, are welcome to ask us for any details which may spare them errors and expense. Students abroad may thus follow the technique of the great surgeons of the world, they can compare methods and follow the progress of surgery. The historical value of such a possession can hardly be denied. What do we know of the prowess of Maisonneuve, of Langenbeck, of Billroth or of Péan, who yet are, it may be said, of our own day? How valuable could we follow now with the cinematograph those marvellously rapid operations without chloroform, on the field of battle or in the operative theatre, and see once more the courage of the patient and the skill of the operator!

The progress of surgery is such that what is good to-day is improved upon to-morrow. Thanks, however, to the cinematograph, the future surgeons will be better able to judge of the real progress accomplished.

Finally, and perhaps most unexpectedly, the surgeon himself may greatly benefit by the cinematograph. When I saw for the first time one of my operations reproduced on the screen, I recognized how far short I fell of my ideal. Many details of technique that had seemed satisfactory I now saw to be defective, and the cinematograph has thus enabled me considerably to correct and simplify, and to perfect my operative technique. My first films also show the personal progress that I have been able to make. Our films are so clear that the most delicate manœuvres, such as the suture of the pelvic peritoneum in abdominal hysterectomy, and the opening of the dura mater in craniectomy, may be followed.

You will notice that each operation is done methodically. The patient, the movements of whose respiration can be followed on the screen, is anesthetised: there is no suffering, and the loss of blood is trifling. The surgeon is calm; his movements are precise and calculated. When he makes a muscular effort you can see his biceps harden, his face contract, his whole body place itself in the most favorable position. The cinematograph registers the whole scene as it takes place, faithfully, rapidly, and in detail. Each step can thus be studied, analysed, criticised. The surgeon can assist at and calmly study his own operations. He can see in his face the anxiety of the moment. He can see himself superintending the respiration of the patient under the anesthetic. He can see his whole mind set upon the successful execution of some movement, and almost anticipate the smile of relief that follows its accomplishment. Unnecessary gestures and movements may be noted and avoided. The cinematograph has more than once almost startled me in the resemblance I could not help seeing between myself and my late father, Dr. Octave Doyen.

The hours that I have spent with M. Clement Maurice and my assistants studying my technique with the help of the cinematograph, have been of the greatest interest and value.

It is a help to all. The anesthetist is surprised to see himself nervous and anxious at one moment, calm and attentive at another. The nurses who bring the thermo-cautery or who lift away the tumor removed, may see any clumsy movement and correct it.

There seems further no objection to the presence of non-medical spectators at these demonstrations. Members of ambulance societies are in the habit of going to hospital, attending operations, performing dressings, and learning the principles of antiseptic surgery. Such persons may thus acquire knowledge which will be useful in the case of accidents before medical aid can be obtained.

The cinematograph could usefully be added to such a course of training, and first aid students might learn from it the duties they might later be called upon themselves to perform. And is it altogether to be regretted now, when all classes of society follow with such keen interest the progress of surgery, that the non-medical public should have other means of getting information than inaccurate descriptions? We hardly think so, and those who have seen operations as shown by the cinematograph admit that the calmness of the surgeon, the precision of his movements, the perfection of the operative technique, tend to diminish rather than increase the unknown horrors of an operation. The public will also learn this fact, that an operation as performed by one surgeon is a vastly different matter from the same operation by a different surgeon. There has been too great a tendency to believe that with the triumphs of anesthesia and antisepsis, surgery has become all but inoffensive. It is time to protest against this error. The success of an operation depends much more upon the skill of the operator than upon the antiseptic care, which every surgeon ought of course to exercise. The cinematograph, registering the details of an operation with the proper speed and perfect accuracy, will show of what mettle the surgeon is made.

If you wish to publish a new procedure, add to your description several rolls of cinematographic films. Each original procedure can thus be compared with methods already published.

Those of my operations are short, and we have heard it said that the cinematograph "went more quickly than the operation." Turn the instrument yourself and you will see upon how little knowledge this criticism is based. If you turn too slowly the movement of the surgeon and his assistants are manifestly slowed; if you turn too quickly there is a rapidity and haste of movement that at once strikes the eye. The operation is only well reproduced if you turn at the same rate as at the moment of operating. My operations, therefore, last just as long upon the screen as during their actual performance. Most of them are not complete; the toilette of the field of operation, the completion of the sutures offer little interest, and would uselessly add to the difficulty and expense

of the photographs. The projection that lasts five minutes appears extremely long. Thanks to the cinematograph, I have been able to defend myself against the reproach that I operated too quickly. Study several of the operations on the screen, and you will see that there is no haste and no useless movement, and that the operation is brief because the technique is simple and precise. Operate simply and you will operate successfully. "The more hurry the less speed," in French *hatez-vous lentement.*

The progress of surgery during the last few years has been due far more to the improvement of technique than to the observance of the laws of antisepsis. The cinematograph will prove this better than descriptions or photographs. I have devoted myself for many years to the improvement of surgical instruments, to the simplification of hemostasis and operative technique generally, and the cinematograph will make these methods known and permit colleagues abroad to judge of their value. I shall be sufficiently rewarded if I succeed in proving that operations should be simplified to the greatest possible extent, and every useless manœuvre, every tedious and lengthy procedure, as far as possible suppressed. In your hysterectomies, in your pylorectomies, in your craniectomies, adopt my technique, and you will be able to finish in a few minutes operations that by other methods will take you half an hour or hours. The loss of blood, which used to be considerable, will be trifling, the shock will be insignificant, the recovery rapid. What can the patient gain from a long operation? It would be judicious to operate slowly if slowness were one of the chief factors of success, whereas the contrary is the case. I have never sacrificed safety to speed. I operate at the same time more simply and more surely, whereas the prolongation of an operation adds to the gravity of the prognosis. Do in an hour hysterectomy that I would do in ten minutes, and in those fifty minutes you will tax the patient's strength by useless movements that may irreparably compromise the vitality of the tissues. The prolongation of the anesthesia, the increase of the loss of blood, will further injure your patients, and it is thus that operations of two or three hours' duration have such a heavy mortality. "Time is Life."

Lectures with the cinematograph should be given as follows:

1. The professor briefly describes the operation, and shows upon the screen projections of the principal instruments to be used.

2. Each step of the operation is shown in detail by fixed projections either of photographs or drawings.

3. When the technique is thoroughly understood the operation itself is shown on the cinematograph.

If the professor has films of several cases of the same operation, he demonstrates the technique and the necessary modifications in the different cases.

The students need no longer crowd the operative theatres as more or less unintelligent onlookers. They will be obliged to follow a preparatory course before they actually assist the surgeon. They

will then be able to draw profit from his lectures and from the operations themselves.

The application of the cinematograph may be considered one of the greatest improvements in the teaching of operative surgery, since it will make known throughout the world the best methods and the surest means of saving part of humanity from suffering and from death.

Intubation in Private Practice.—Dr. Castelain, of Lille, says in *La Presse Medicale*, that some physicians are afraid to perform intubation, unless an assistant can be left to take care of the patient. He claims to have done the operation many times in hospital and in private practice, and to have never had obstruction or the sudden expulsion of a tube. He favors intubation without a permanent watch being kept over the patient, because the danger from intubation is always less than that from tracheotomy. He always leaves a thread attached to the tube.

Typhoid Fever and Diphtheria in Chicago.—In the Chicago *Monthly Bulletin* for June, we notice that the influence of an excessive precipitation in Chicago is shown by comparing the deaths from typhoid fever during two periods: 296 in the wet season of 1898 and 163 in the dry season of 1899, an excess of 81.6 per cent. in the former over the latter period. The periods chosen were the first six months of 1898 and the first six months of 1899. A rainfall of more than three-fourths of an inch in twenty-four hours is sufficient to flush out the sewers discharging into Lake Michigan, and frequently to turn the current of the foul river lake-ward. This is followed by a rise of the sanitary-quality-of-the-water line into "pathogenic" spaces, more or less promptly according to the direction and velocity of the wind. This rise is followed, usually within a week, by a rise in the line of deaths from the acute intestinal diseases, and within three weeks by a rise in the typhoid fever death-line, which latter culminates in from five to seven weeks, unless fresh pollution occurs. Referring to diphtheria, Newsholme's conclusions are said to be corroborated, to wit, that an epidemic of this disease never originates or continues in a wet year (*i.e.*, a year in which the total annual rainfall is materially above the average amount), unless this wet year follows two or more dry years immediately preceding it;"—conversely, "that epidemics of diphtheria for which accurate data are available, have all originated in dry years, *i.e.*, in years in which the total annual rainfall is materially below the average amount." Newsholme attributes these results to the stage of the ground-water as affected by rainfall, low ground-water favoring and high ground-water retarding the epidemic spread of diphtheria, by favoring or retarding the "transition of the diphtheria bacillus from the saprophytic to the parasitic stage of life," and not, in any part, to an aerial convection of the contagion through a dry atmosphere.