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# Saskatchewan Medical Journal

VOL. 2

JUNE, 1910

No. 6

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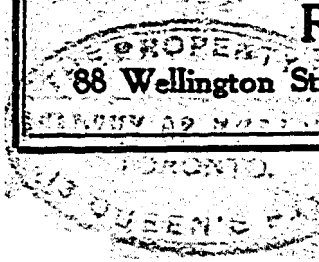
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## NOTICES

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# THE SASKATCHEWAN MEDICAL JOURNAL

VOL. 2

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## Original Memoirs

### DUODENO-CHOLEDOCHOTOMY\*

With Case Report by Jasper Halpenny, M.A., M.D., C.M. Surgeon to the  
Winnipeg General Hospital; Lecturer in Clinical Surgery  
at Manitoba Medical College.

Before McBurney first incised the duodenum to gain access to a gallstone in the second or third part of the common bile-duct, great difficulty was experienced in reaching stones in this region. This procedure, like many another, required some years to popularize. While discussing McBurney's paper (1) Briddon (2) voiced the then popular conception regarding the danger of sepsis where the continuity of the bowel is disturbed when he "agreed that in exceptional cases the operation could be better done through the duodenum, providing the operator was conversant with the details of the operation; for most general surgeons the incision of the duodenum might prove difficult." Five years before this Maurice H. Richardson (3) reported McBurney's first case and, voicing the same sentiments, said: "Operations upon the common duct by way of the duodenum may be practiced under exceptional circumstances as in McBurney's case of a gallstone impacted near the duodenum

\* Read before the surgical section of the Canadian Medical Association at Toronto, June, 1910.

(removed by incision of the duodenum and subsequent suture, with recovery)." I take it that the chief difficulty suggested would be that of avoiding infection of the peritoneum. McBurney referred to this as a "traditional fear, which dates back to a period long before intestinal surgery was understood, of opening and suturing a piece of gut." Cushing's investigations regarding the flora of the stomach and duodenum make it clear that a fair approach to an aseptic condition can be secured. There is much less danger from infection where a carefully prepared duodenum is incised than is the case with any other part of the intestine; and operations on the intestine are now done with more or less impunity. It would appear, therefore, that a gallstone in the inaccessible portion of the common bile duct should be removed through the duodenum unless some special contra-indication exists other than the danger of infection.

#### *Case Report.*

E.H., female, forty-two years of age. Born in Sweden; married at age of twenty-seven; has had nine children, of whom four are dead. Kindly referred to me by Dr. C. E. Johnson. Patient entered St. Boniface Hospital June 26, 1909, where I saw her for the first time. She was complaining of pain over the region of the gall bladder, anorexia and marked weakness; she was deeply jaundiced. At the age of twenty she had measles and says she has had "liver trouble" ever since. She has had marked constipation since that time. At the age of twenty-three she had "typho-malaria" for about four months. At the age of thirty-three she had "pneumonia" for two and a half months.

Her present illness began in June, 1907, with an attack of pain which came on very suddenly, lasted a few hours and disappeared more slowly. The pain was so intense she was completely prostrated. It was situated to the right of the median line in the upper quadrant of the abdomen, and passed through the body and shot toward the right shoulder. This attack was followed by some digestive disturbances but no jaundice. During the next two weeks she had several similar attacks, though none so severe as the first one. After this she was free from pain for about a year and a half and was in fairly good health. In April, 1909, she had another attack similar to the first except that it was more severe. She insists that she remained unconscious during the whole night. Jaundice came on gradually after this attack and deepened with each successive attack, several of which occurred during the following week. She noticed that the urine was very dark in color, while the stool became lighter. From this time marked weakness was a prominent feature and she lost about fifteen pounds in weight.

On admission to the hospital she was deeply stained with jaundice, and was somewhat emaciated, with very flabby muscles. She was so weak she could walk but little, rather requiring to recline all the while. Her tongue was heavily coated and the appetite was very poor and capricious. There was soreness and tenderness over the infra-sternal notch, but no mass could be felt. She complained a good deal of pain in the back over the region of the tenth to the twelfth dorsal vertebrae, and radiating from there to the right shoulder blade. Pelvic pain was also complained of but nothing could be found except a slight laceration of the cervix. The urine showed nothing abnormal except abundance of bile. The stool was clay-colored and pasty. A general physical examination revealed nothing else abnormal. She had no vomiting and no hunger pain; no history of blood in the stool. There was no sign of disturbed portal circulation. A diagnosis of gallstone obstruction of the common duct was made.

*Operation.* On July 2, 1909, she was operated upon. The incision was made near the outer border of the right rectus commencing just below the costal margin, and extended down about five inches. There were few and very slight adhesions. The gall bladder was somewhat shrunken, but free from adhesions. No enlarged glands or other mass could be felt pressing on any part of the bile tract. Three large gallstones could be easily felt, one in the fundus of the gall bladder, one in its neck and one in the third portion of the common duct. This latter stone in the ampulla of Vater was so large it was almost as easily felt with the finger in the foramen of Winslow as the one in the fundus of the gall bladder. The pancreas was normal, as far as one could judge. The duodenum and the third portion of the common duct were now picked up between the thumb and forefinger of the left hand and an incision one inch long made in the anterior border of the duodenum, after the usual toilet of the peritoneum had been attended to. Pressure on the gall bladder failed to force any bile into the intestine though the stone could be seen shining through the orifice of the duct. An effort was made to dilate the orifice sufficiently with a forceps so that the stone might be extracted. This was found impossible and an incision was made over the stone. It was of the bilirubin-calcium variety and its nodules were well implanted in the mucus membrane so that even now it required to be extracted with forceps. The instant it was removed, bile flowed copiously into the intestine. A probe, passed into the duct, encountered no obstacle till it reached the stone at the neck of the gall bladder. The incision in the anterior wall of the duodenum was closed with a Connell stitch reinforced by four Halsted stitches, Pagenstecher's celluloid being used for both. The gall bladder was now sutured to the peritoneum, incised, emptied of the two gallstones and then drained in the usual manner. The abdominal cavity was not drained.

For three days following the operation the patient vomited considerably. By the fourth day the vomiting had ceased, and the patient sat up in bed and was encouraged to eat solid food. The jaundice began to disappear at this time and by July 18 the skin was almost normal in color and the urine almost free from bile. On July 11, the patient was out of bed; on the 20th, the discharge of bile quit, and the tube was removed. Three days later, or seventeen days after the operation, the wound was healed and the patient left the hospital; the following day she took a journey of 400 miles to her home in Alberta. On May 1, 1910, she wrote to the effect that she has since gained in weight, has never had any attacks of pain or jaundice, and that she is in good health.

*Comments.* The use of solid food at the earliest opportunity occurred to me because of a former experience with a case where the gall bladder had been emptied of a number of stones and one had been removed by incising the first part of the common duct. The sinus remained open for about six weeks. I noticed that there was little bile on the dressing in the evening but a great deal in the morning. The patient was given a small meal of ordinary solid food every four hours night and day and the wound healed completely in four days. My partner, Dr. R. Mills Simpson, recently found equally satisfactory results follow four-hourly feeding in a case where the sinus healed slowly. In such cases it is needless to say that the continued discharge of bile could not be due to an undiscovered stone in the common duct, in which case this procedure would, it is quite clear, be useless. But in the absence of such common-duct obstruction, this improvement is quite in keeping with the known physiology of the parts.

The discharge of bile from the bile-duct into the duodenum is regulated by the passage of the acid contents of the stomach over the orifice of the biliary duct. Foster (5) points this out and adds: "Indeed, stimulation of this region of the duodenum with a dilute acid at once calls forth a flow, although alkaline fluids so applied have little or no effect." Cannon (6) has shown that, in the passage of food from the stomach, the maximum is reached in the case of carbo-hydrates in two hours, fats in three hours and proteids in four hours. Thus it is seen that with an ordinary mixed diet the maximum will be somewhere about the fourth hour and by giving a small meal every four hours the bile will not be allowed to be stored in the gall bladder at any time, nor will the orifice of the duct be closed for long at one time. Therefore, it is natural to suppose that four-hourly feeding would be most favorable to the rapid rushing forward of the bile and the early closing of a bile fistula in the absence of complete obstruction.

In this case, at no stage of the operation was the finger inserted into the foramen of Winslow to hold the structures forward, though this is recommended by McBurney in a private

communication to Hancock (7) where we read: "In all cases which are not complicated by very deep adhesions involving the common duct and descending portions of the duodenum, it is easy and very desirable after determining the presence of a calculus in the lower part of the duct to pass the left forefinger through the foramen of Winslow to a point behind the calculus. With the finger, the lower end of the common duct, the calculus, and the descending portion of the duodenum can be lifted forward so as to bring these parts nearly or quite to the level of the abdominal incision. The duodenum is then incised in its anterior wall for one inch to one inch and a half, the orifice of the duct is easily found and enlarged and the stone removed; all of this, and even the suture of the intestinal wound, should be completed without removing for a moment the left forefinger from its supporting position." This is the method recommended by Connell (8) also.

On this point the conclusions arrived at by Ranschoff (16) seem reasonable and important. In experimental work, as well as on human subjects, he found a fall of 30 mm. to 40 mm. in the blood pressure with the finger inserted into the foramen of Winslow and hooked forward. This fall he ascribes to interference with the portal vein, thus cutting off a large amount of blood from the general circulation. He insists that pressure from behind forward in the foramen of Winslow should be intermittent, and employed but little. Robson (9) prefers that "The termination of the common duct, including the duodenum, should be grasped between the thumb and finger of the left hand and the anterior wall of the gut cut through." This was the method employed by McLean (10).

When a stone is lodged in the third portion of the common duct and an incision has to be made for its removal, as in the case here reported, it is universally agreed, I think, that no sewing is required, for the continuity of the duodenum on its posterior surface is not interrupted, nor is the continuity of the common duct disturbed. What is done merely consists in widening the ordinary outlet of the duct into the duodenum. The case is entirely different, however, when the stone is lodged



in the duct before its entrance into the wall of the intestine. It is clear that in this case an incision from within the duodenum to the stone severs completely the postero-lateral wall of the duodenum and the antero-lateral wall of the common duct. A brief reference to the anatomy of the parts will assist in clearing the way for a discussion of the question of suturing the posterior wall in the trans-duodenal operation.

No part of the duodenum is entirely covered by peritoneum, though a portion of the first part is nearly so at the point where its covering is derived from the two layers of the lesser omentum. Throughout its second or descending portion it is not covered on its posterior surface by peritoneum at any point. It rests behind on the right suprarenal capsule and kidney, being in contact also with the pelvis of the latter and with the beginning of the ureter; on its left is the head of the pancreas.

The common bile-duct is the continuation of the hepatic duct. It passes downward in the gastro-hepatic omentum in front of the foramen of Winslow and then descends along the postero-inner aspect of the duodenum where it is more or less completely surrounded by the pancreas. In this position at a point from two and three-fourths to three and one-fourth inches from the pylorus, it, with the duct of Wirsung, pierces the wall of the duodenum which it traverses for a distance of one-half to three-quarters of an inch. Its lower end is usually somewhat dilated, forming the ampulla of Vater, the orifice of the latter, however, being the narrowest part of the whole duct. The duct of Wirsung may pierce the bile duct at any point after they meet, or it may empty into the ampulla of Vater by a separate opening.

It would seem then that in all but exceptional cases an incision through the posterior wall of the duodenum for the removal of a stone from the retro-duodenal portion of the common bile-duct, would lie entirely posterior to the peritoneal cavity. Therefore, if infection occurs at this point it will be extra-peritoneal, not intra-peritoneal, as is stated by Moynahan (11); and leakage will likely occur, in the absence of inflammatory union of the duct and the intestine, for along the

posterior wall of the duodenum is more or less loose, areolar tissue through which infection would naturally spread. One is therefore compelled to agree entirely with Kocher (12) and with Moynahan, who says: "Sutures must be introduced to fix the opened duct into the intestine." The only occasion in which one might safely dispense with this procedure would be in the presence of adhesions between the duct and the duodenum, in which case union of the duct and intestine has kindly occurred prior to the operation, not afterward. This is what had taken place in MacLean's (13) case "where the two walls had apparently become fused into one owing to the pressure of the stone." In his case no stitches were required.

As was stated above no appreciable pancreatitis was present in this case, though the orifice of the ampulla of Vater was completely closed. This raises the question of the causative action of the bile in pancreatitis, and in approaching this problem it is at once realized that there is an anatomical, as well as a physiological phase to the question.

With regard to the anatomy of the parts involved, one might safely follow the description given by Robson and Cambridge (14). In their classification of the different varieties of relations of the openings of the common bile-duct and the ducts from the pancreas there are the following: (1) The common bile-duct and the duct of Wirsung each terminate in the ampulla of Vater. This is the normal variety. (2) These two ducts unite before entering the wall of the duodenum and the ampulla is absent. (3) The two ducts unite in the wall of the gut but the ampulla and the valvular caruncle are absent. (4) The two ducts unite as in 3, the ampulla is absent but the caruncle is present. (5) The common bile-duct opens along with the duct of Santorini and Wirsung's duct enters the duodenum separately. (6) The pancreas has separate ducts opening into the duodenum, only one of which accompanies the common bile-duct.

Accepting this classification it will be seen that a gall-stone blocking the orifice of the diverticulum of Vater will, in the first two varieties, make it theoretically possible for the bile

to be dammed back into the pancreas; in 3 and 4 the patient may be saved from this danger; while in 5 and 6 only a small portion of the pancreas at most will be involved. In the normal case, however, if the stone is large enough to block the entrance of both ducts into the ampulla the patient will be saved from the danger of pancreatitis. This is probably what occurred in the case here reported.

It is not enough, however, to consider only the mechanical problem. One must ask is the pancreatic secretion not as likely to prove the stronger and force the bile back up the common duct rather than that the bile should force the pancreatic secretion back up the duct of Wirsung? Herring and Simpson (15) have shown that in cats, dogs and monkeys the pressure of the bile and pancreatic juice are practically equal in the same species. But, what has a practical bearing on the question in hand, they found that the curve of pancreatic pressure differs from the curve of bile pressure in the greater rapidity with which it rises and falls. "Both the rate of secretion and the rate of absorption are greater in the pancreas than they are in the liver." The total quantity of pancreatic juice secreted before the bile is secreted would not be sufficient to cause a flow in the bile-duct back to the liver. "Pancreatic secretion," they say, "is absorbed at low pressure, and it is probable that the secreting cells, when the alveolar pressure has reached a certain point, get rid of their secretion by turning it into the lymph stream." Thus the pressure of the bile being maintained for a longer time than that of the pancreatic secretion; and, given the proper anatomical conditions, it is natural to suppose that the bile will pass along the ducts into the pancreas, and will there cause an irritation of the lymphatics of the pancreas and thus cause a pancreatitis. Moreover, since the bile, when obstructed, is usually infected, it will cause an actual inflammation passing on in some cases to abscess formation.

There would thus appear to be good reason to accept the clinical view that many cases of pancreatitis are caused by gall-stone obstruction of the terminal portion of the common bile-duct. How necessary it would appear therefore in all cases

of gallstones, with obstruction to the flow of bile, to make sure that the common duct is cleared, and more particularly its terminal portion. And in the case of obstruction in the duodenal portion of the duct, as well as the retro-duodenal part, the stone can best be removed in many cases by the duodenal route.

McBurney's conclusion in his paper in 1898 would still seem timely, for the prejudice against the duodenal route still exists in certain quarters. He says: "My experience would lead me to prefer this plan for the removal of a calculus situated at almost any point from the termination of the cystic duct to the point of entrance of the common duct into the duodenum. I have found the crifice of the duct easily dilatable, and it may be freely incised for at least half an inch with perfect safety."

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## AXIOMS FOR LEARNING AND PERFECTING EVERYDAY OBSTETRICAL OPERATIONS.\*

By Dr. Hugo Sellheim, Professor at the Women's Clinic of the University  
of Tuenbingen, Germany.

The first prerequisite for any surgical measure is "to know," which means to "have the principles in one's head."

The difficulty of memorizing increases with the quantity of material to be digested and also with the degree of its impracticable presentation. To obviate both drawbacks it is necessary to separate the principal points from less relevant additions and to present the result simply and clearly.

As a starting point for memorizing (reproduction) are used main, leading conceptions we have acquired (produced). These will cause to appear in our consciousness all the secondary points necessary to complete the total picture in its logical development, and to group the same intelligently around the fundamental conception until the complete desired mental picture materializes. Rules built up on an organic foundation will always be better impressed upon the mind than doctrines offered to the memory without inherent cohesion. A memorizing mechanism thus prepared will act more reliably in proportion to the degree of adaptation it possesses to the sphere of interest of the individual. For this reason conceptions emanating from the realm of natural history are especially useful in memorizing obstetrical operations.

The first rule is: to assist the natural organism, when deficient, in order to effect a happy result of the parturient process.

*The association of the customary manipulations with the natural laws of mechanism of the three factors in the case: operator, mother and child, guarantees by the interaction of the mechanism of these three organisms, each of which represents a machine of the most variegating ability, the best possible solution of the most complex situations.*

The mechanical acts of the operator are important in so far as he has to adapt himself to the locality of the operation.

\* Reprinted by permission from the *Post-Graduate*, June, 1910.

The position of the body, the angles of his arms and hands, should be chosen in such a way that with a minimum of force the maximum of speed, safety and force of movement may be accomplished; in short, that the operator shall work "at a maximum advantage." Such a mechanical calculation excludes manipulations with twisted or crossed arms in a fatiguing, unskillful and uncomfortable position.

To fully exploit the advantages it is necessary to have the centre of the area of performance of the concurrently working hands placed in "the nuclear point of the cavity of exploration."\* The latter is at the point where both hands, the volar surfaces of the finger tips turned against each other, may touch each other in a natural, unconstrained attitude; that is before the median line of the body at about the operator's chest height.

In order to let the centre of the operating field coincide with the nuclear point of the cavity of exploration, the operator will change his position corresponding to that of the patient. He may also change the position of the patient, or that of the fetus, according to the position of the nuclear point of the cavity of exploration which is most convenient to him. A skillful obstetrician will obtain by frequently changing his position towards the field of operation about as many advantages as he would by moving the operating field through reposition of the parturient woman. From this it follows that, whenever possible, the convenience of the operator is to be subordinated to that of the patient, especially as reposition requires additional help, is liable to interfere with the anesthetic and may impair asepsis. For the fetus such considerations are dispensed with. The fetus may be placed and turned in whatever position the successful issue of the case may require.

The operator being placed between the legs of the woman, who lies across the bed, and directly facing the pelvis of the patient, the field of operation is at once in the nuclear point of the cavity of exploration, as, for instance, in the extraction of a

\* The relation of the tactile sense to gynecologic-obstetrical palpation have been described in detail in the following books of the author: "Das Auge des Geburtshelfers," Wiesbaden, 1908, J. F. Bergmann, and "Die geburtshilflich-gynakologische Untersuchung," a Guide for Students and Practitioners. Third Edition. Freiburg i.B. 1910, Speyer & Kärner.

prolapsed foot. In that case there will be no change of position. Should, however, the field of operation be laterally situated, to either side of the mother, as, for instance, in a case of version from the transverse position, then the operator will have to turn toward the field of operation. In this definite action of turning toward the field of operation a suitable distance should be maintained to assure the concurrent action of both hands; and, in order to do so, the operator, while turning, steps slightly back toward the side of the forward shoulder.

Next to the mechanical working conditions in the movements of the obstetrician, the mechanical possibilities of the mother are of importance. In the female pelvis special conditions obtain for bimanual work, one hand—the inner—being unable to advance except in one definite direction, namely, through the vagina, in order to reach the interior cavity of the pelvis and thereby the field of operation, while the other, or outer hand, in advancing to the field of operation, enjoys the usual and almost unlimited liberty of action. It being a fact that each hand can palpate and manipulate well and comfortably only with its volar surface, there follows *one* definite rule for the choice of the hand to be introduced into a given pelvic half. The pelvic cavity (as well as the growths situated within, so far as they are the object of gynecological examination) are best palpated by the finger pulps moved laterally. The convex forms of the fetus, however, which closely hug the concavity of the pelvis, are advantageously palpated by the finger pulps moved centrally. Therefore, in obstetrical work on the fetus in one pelvic half the uneven hand should always be used. In conformity with this law of working best in one pelvic half with the uneven hand, the distribution of the work upon both hands is at once apparent from the correct way of turning toward the lateral field of operation in the woman; if the field of operation lies in the left pelvic half, the operator, standing before the patient, will turn "half right about face"; if in the right half of the pelvis, he will turn "half left about face." The hand which through this change of position has been moving backward, is introduced into the vagina, taking the short direct way.

to the field of operation. Its activity there usually serves to express in a perfect and intelligent manner the possibilities of the plan of operation. It is therefore called the "main hand" (Haupthand) and carries out the main movements incidental to the plan of campaign. The other hand, moving forward, follows the exterior and longer route. It supports the work of the main hand, carries out auxiliary movements and is therefore the "auxiliary hand."

The hand operating in the interior is narrowly compressed in consideration of the restricted space available in the maternal puerperal soft parts, and made to assume a conical shape when entering the vulva and the neck of the uterus. So far as possible, the fingers should be kept closed. The longitudinal diameter of the hand should correspond with the longitudinal diameter of the vulva. Only in the upper and roomier space of the vulva and in the uterus it may assume a shape more favorable for the work in hand. In its further advance the flat closed hand should keep close to the fetus, partly in order not to injure the easily vulnerable parts of the mother. Small parts should be seized with the least possible digital movements. They are shifted as far as possible to the roomier pelvic inlet, in order to be extracted later in the direction of the prolonged axis of the pelvic brim. By supporting the uterus and pressing against it with the outer hand, the risk of tearing the vulnerable maternal soft parts will be lessened. The most favorable position, selection of the best coigns of vantage for both hands, the kind, direction, extent and speed of the operative movements depend upon the accessibility, roominess and elasticity of the uterus and parturient canal. The physician who minimizes tears, distensions and contusions causes the relatively slightest pain to the parturient woman.

From the mechanism of the fetus several noteworthy facts are apparent.

The flexibility of the fetus requires as most appropriate a turning of the "*flexion facillimum*" into the direction most suitable for the passage through the knee of the parturient canal



which demands such flexion.\* In this sense, the normal mechanism or parturition determines the artificial versions of the fetus in its passage through the knee of the parturient canal, as, for instance, turning of the back in pelvic presentations. In all movements artificially imparted not only should their restricted movability, owing to the narrowness of the uterine space, be considered, but also the direction and degree of the "physiological freedom of motion" of all parts involved. All movements of the extremities should be performed with due regard to the highest degree of physiological freedom of motion. In order to ~~use~~ the foot in breech presentations as a manubrium, it is necessary to bend the knee. As to the extremities, the thighs should be guided down the abdominal, the arms down the pectoral side of the fetus. The most suitable traction points are the foot and wrist joints. In podalic version from transverse position, it is advisable to try and get hold of the "distal" foot, in head presentations of the "ventral" foot, in order to facilitate version of the fetus.

The hand manipulating in the small fissure between the fetus and the uterine wall, which is but slightly distendable, naturally exerts some unavoidable pressure. Since this pressure is less injurious to the child than to the mother, it should be directed more toward the former, but only in the least susceptible regions. Similarly, the traction which may have to be applied in substitution for deficient natural expulsion, should be made only on such fetal parts as are but slightly susceptible. Especially the abdomen, which is but scantily protected by bones, and the umbilical cord should be guarded against pressure or traction, while the thorax may be exposed with immunity to a certain amount of pressure, and traction may be exercised on head, hands and legs. The thorax exhibits the least dangerous compressibility, owing to its elastic cartilaginous *frontal* wall, from which, in connection with the greatest physiological freedom of motion of the arms toward the chest, the rule is de-

\* The author's opinion on the mechanism of birth will be found in the following publications: "*Die Beziehungen des Geburtskanals und des Geburtsobjektes zur Geburtsmechanik.*" Leipzig, 1906, Georg Thieme, and "*Die Mechanik der Geburt.*" Samml. klin. Vorträge, von Volkman, 1906, No. 421.

duced that the arms should, as a matter of principle, be liberated away from the chest.

In consequence of these three mechanisms doing conjoint service in obstetrical operations, a certain purpose can be effected in three different ways. Again, the accomplishment of a certain purpose attempted in one principal way, may be facilitated by the simultaneous employment of one or the other, or of both auxiliary ways.

The movements which may assist in the accomplishment of operative purposes may emanate either from the operator, mother or child.

The movements of the operator are active, as, for instance, in seizing and extracting the fetus by the legs or arms.

On the part of the mother, movements are made which serve to facilitate the extraction or other manipulations on the part of the operator. They are carried out in the sense and at the instigation of the operator; they may be active or passive, according to whether the mother assumes a favorable position at the request of the physician, or whether she is placed in a required position, as might happen under anesthesia. The changed position will allow the operator to advance his hand more conveniently toward the field of operation, as for instance, posture on the side of the feet, in order to make the foot more accessible in difficult podalic version from the transverse position, or posture on the side of an arm which it is difficult or impossible to reach in any other way.

The fetus cannot move its parts actively toward the hand of the operator. The movements calculated to facilitate the operation must be imparted. One method of effecting this consists in changing its balance by changing the centre of gravity to a point of support, which may be done by a suitable change in the position of the mother. In this way the fetal parts sought for will meet the exploring hand. The advantage of the approaching fetal parts is usually associated with their improved accessibility owing to the positional change of the mother, as, for instance, in podalic version from the transverse position and in difficult liberation of the arms. The chief advantage derived

from the change in the mother's position is the change in the position of the fetus. The movement of parts which it is desired to bring into better reach of the operator, is thus imparted by the latter; in the second place, the inner hand will be able to draw the desired fetal parts toward the operator by appropriate manipulation. If the further advance is impeded, he will be able, while leaving his hand in place, to reach by digital "climbing movement" a further position of an extremity which may be suitable for traction: reaching, for instance, in difficult arm liberations the wrist joint via the brachium, elbow and lower arm; or in difficult podalic version reaching the ankle joint via the thigh, knee and leg.

The same object is generally attained more easily if the outer hand pushes the desired fetal parts toward the inner one (Compare hands working conjointly in combined version or in version with internal manipulations; also in the removal of abortive ova and placenta, where the accommodating pressure of the parts is supported by the outer hand, this combination plays an important role.)

Although in these operative movements both mother and child may participate, the physician is the only originator and conductor of the same.

Each operative plan has its soul or leading thought. This is carried into practice by both hands of the operator, one being usually not sufficient for the purpose. In case of need he will have recourse to changing the position of the patient. Although both hands usually contribute to the success of the work, the inner one will—as is the case in most bimanual operations—become the leader, as it may clearly incorporate the soul of the plan. Its movements serve as a guide to the outer or auxiliary hand in order to allow the latter to enter into successful action at the critical moment. The former may thus very well be called the main hand, and the movements executed by it the main movements.

As auxiliary movements in an extended sense may be regarded the changes in the position of the fetus produced by the auxiliary hand, the reposition of the mother, and finally her assistance in the way of pressure.

The fact of the operator turning to the field of action is a preparation for the work in hand. From the point of view of valuation, the movements necessary for the success of the operation are classified as follows: (1) preparatory; (2) main movements with the main hand; (3) auxiliary movements upon mother and fetus. The classification of the various movements, one of which follows directly from the other, according to their valuation, the movements necessary for the success of the operation are the best means for their reliable memorizing and for having them present in mind at the crucial moment.

As a guide for the ordinary manipulations the following Table of Survey will be found useful.

#### NOTES.

NOTE I.—Should the forceps not occupy the position in which it should be according to its construction, in order to exert the most favorable effect (*i.e.*, with the head standing rotated on the pelvic floor, the cephalic curvature extending beyond the lateral sides of the head, and the pelvic curvature coinciding with the curvature of the knee in the parturient canal—in short in the adaptation optimum of the head and the adaptation optimum of the pelvis) this rule is subject to an exception.\*

If the head rests obliquely or transversely on the pelvic floor, the instrument can still be applied to a certain extent in the "adaptation optimum of the head," but in a reversed position as against the pelvis, namely, in the oblique pelvic diameter. In that case the instruments are as follows: The forceps' blade belongs into the pelvic side of the part of the head which is to be rotated forward (*i.e.*, of the occiput in occipital presentation; of the tracheal region in face presentation) is guided toward the region of the incisura ischiadica, and the forceps' blade belonging into the pelvic side of that part of the head which is to be rotated backward is guided toward the region of the foramen obturatum. The latter blade should be introduced toward the

\* See Sellheim, "Altes und Neues über die Grundlagen der Zangenentbindung." Praktische Ergebnisse der Geb. u. Gyn. von Franz & Veit, I. Jahrg. I. Abt.

Operation	Preparatory movements	Main movements	Auxiliary movements
Introduction	Turning toward the side of the pelvis into which the blade of the forceps is to be introduced; first to the left (for external versions see Note I). Seizing of the forceps' handle with the hand moved forward in turning.	Introduction of the hand moving backward in turning, to direct the forceps blade seized by the other hand.	The hand moved forward in turning assists by seizing the blade of the forceps and carrying out the intended movements of the blade. Having seized the handle of the blade, it attempts to adapt the movement of the blade to the guidance of the introducing hand.
Extraction	Assuming position directly facing the pelvis.	The right hand, being the stronger, acts as the main hand, in this case the traction hand, Traced from above over the lock like a fork it carries the traction out as indicated by the direction of the handles, until the extraction is complete; then it removes the forceps.	The left is the auxiliary hand. It prevents catching of soft parts; it is applied between head and traction hand for a "test traction," assists in pulling at the handle, continuously controls the movements of the head, cares for the protection of the perineum.
By the foot (podalic) from transverse position and head presentation by combined internal manipulations.	Turning toward that side of the mother where the feet lie. In head presentations this is the side toward which the fetal abdominal points with its feet.	The hand moved backward in turning advances with two fingers (combined version) or, if possible, with the entire hand (internal version) into the uterine cavity seizes one foot (in transverse position preferably the "distal" foot, in head presentation preferably the "ventral" foot), and extracts it.	The outer hand moved forward in turning distends the labia for the introduction of the inner hand, supports the uterus while the inner hand advances, pushes the feet forward and assists in the version of the fetus by pushing the head upward. (For difficult cases compare Note II). For combined podalic version from the transverse position the distribution of the work over both hands follows at once from the correct turning toward that maternal side where the head lies).
Liberations to the scapula angle	Assuming, if possible, a position which will enable the operator to be "behind the fetus."	Extraction by the existing or procured points of traction by means of such manual position as will conveniently result from the correct manipulation of the parts.	Pressure of the parturient woman as an aid. Pressure from above upon the uterus by an assistant; in cases of need by the operator, who will disengage his hands for this purpose, as he can now do it for purposes of extraction.

Forceps

Forceps

Manual extraction with simultaneous expression

<p>Liberation of arms</p>	<p>Alternate turning to the side in which it is intended to work.</p>	<p>Advancement of the hand moved backward in turning (its volar surface toward the fetal chest in a convenient attitude) on the pectoral side via the shoulder, brachium, elbow and lower arm toward the wrist joint; extraction of the arm seized properly at the wrist via thorax, in the sense of physiologic freedom of motion.</p>	<p>The best auxiliary movement for the liberation of the arms is expression either by itself or in conjunction with simultaneous extraction during the preceding stage of labor, as this will nearly positively prevent the arms sliding up and therefore dispense with an actual liberation of the arms. Should the arms lie close to the trunk, they can be easily stripped down with the two fingers held on the thorax for diagnostic purposes, in case they should not come down by themselves. Should it become necessary to liberate the arms and to make room for the advancing hand, at the same time pushing the arm to be liberated forward by manoeuvring, the fetus will be pushed and dragged away from the region in which the hand advances, by the action of the "forward" hand which has seized the foot of the fetus. (For difficult cases see Note III).</p>
<p>Liberation of head</p>	<p>Assuming posture opposite the pelvis.</p>	<p>The hand, with volar surface toward chin, exerts traction on the hand facing nape of neck, makes traction on that part.</p>	<p>With a narrow pelvis auxiliary movements may become necessary and will vary according to the shape of the pelvis. When there is a flat pelvis, the hand at nape of neck continues traction, while the hand at the chin leaves its position and presses from above upon the occiput. In a pelvis of generally narrow structure the chin hand continues traction, while the neck hand leaves its place in order to exert pressure on the forehead.</p>

region of the incisura ischiadica and from there be allowed to "wander" in the pelvis anteriorly to the region of the foramen obturatum. On account of this difficulty this particular blade should always be introduced first, although it may thereby become necessary to cross the handles of the forceps in order to lock it.

When there is high and transverse head presentation, the forceps should be applied neither in the adaptation optimum of the head nor in that of the pelvis. An attempt should be made to turn the instrument to the best possible account by introducing it across the face and occiput more deeply into the pelvis.

NOTE II.—Further auxiliary movements to be imparted to the fetus in difficult cases of version. In the case of a practically inaccessible foot, owing to tension of the uterine wall: extraction of the foot by "climbing movements in situ" by means of the inner hand (the advance of which is impeded) via thigh, knee, leg to the ankle joint. (Climbing movements can be successfully executed only in this way, that the extremity on which the climbing is to be done, is supported by the fingers on several sides and thus being "in splints" is protected from breaking).

In cases of difficult accessibility of the uterine cavity the outer hand displacing the advancing parts of the fetus along the fingers of the invading hand until the latter can seize a foot and assist in pushing the foot through a uterine outlet which would admit of the simultaneous passage of the foot plus two fingers. Turning the mother over to the side where the feet lie (taking care that the hand in the uterus is kept at rest) facilitates access to the feet and allows them to meet the searching hand half way.

NOTE III.—If both arms are turned upward toward the face, always liberate first the one lying toward the sacrum in the "liberation optimum," that is, simultaneously toward the face and sacrum. An arm bent up toward the symphysis and at the same time toward the face is only then liberated, if such liberation is presumably easy or if the other arm is in a still worse position, namely, toward the nape of the neck and the

sacrum. An arm lying in the facial-pubic position is brought into the liberation optimum by half a rotation of the fetus which has been seized with both hands at the sides of the thorax or at the liberated arm and back in a way opposed to the "physiological liberty of motion of the arm still to be liberated" always preserving its facial aspect. An arm lying in the nape-pubic position is brought by half a rotation, and one in the nape-sacral position by an entire rotation, into the liberation optimum in a way opposed to the physiological liberty of motion of the arm to be liberated. Only when both arms are bent up toward the nape is it impossible to commence with liberation of the arms away from the chest. Then the hand, with its volar surface turned to the fetal back, starts from the back (pushing the trunk away to the opposite side) and pushes the nape-sacral arm past the promontory in a facio-sacral position, in order to liberate it in the liberation optimum while changing hands. Energetic extraction of a liberated arm facilitates the liberation of the other. Finally, a change in the posture of the mother to the side of the unmanageable arm may facilitate access thereto and also the possibility of its meeting the liberating hand half way.

Should there be difficulties in advancing to the wrist joint, liberation is frequently rendered possible by "climbing movements in place" of the hand, the advance of which is impeded, via the shoulder, brachium, elbow, to the lower arm, or possibly to the wrist joint.

The auxiliary movements follow by themselves after the main movement as soon as the latter shall have become an integral part of the operator's conceptions; and by resorting to the same they will frequently be found a helper in distress, where failure was imminent owing to some accidental neglect of a momentary advantage.

Generally available instructions for operations should condense all that is worth knowing and emphasize merely routine measures. Whoever attempts to produce a piece of art in this connection by establishing exhaustive rules for all conceivable variations and deviations from the ordinary, is guilty of hair



splitting which can find no place in a compendious treatment of the subject. By doing so the rules are obscured and their benefits detracted from; such an author does not write in the service of art, but of artificiality.

Art—ability—is derived from being able (“Kunst” derived from “können”). Instructions are compatible with art only in so far as they form the basis for future and ever increased perfection. This can be achieved, provided the individual is so gifted, by continued exercise. The physician should, therefore, make it his business to attempt solving a problem again and again in ever increasing perfection. By doing so, he will build up the principles which underly the routine measures and by which operating attains to the highest degree of habitual and self-evident performances in their physiological appropriateness and fulfilment of requirements. The approximation up to which this goal may be reached depends upon personal gift and exercise.

Improvement by the technique is attained under the influence of the rules of the art and under the supervision of the instructor, or by self-criticism in personal practice. The school has a double object to serve: (1) To contribute to the dexterity in the application of the art and (2) to awaken and promote severe self-criticism. Both objects are attained by educating the tactile sense which is capable of converting the routine measures into performances of art. The remainder is so much more in place as every student imagines himself to possess more than sufficient preliminary education in this branch of learning. The educational programmes of the schools unfortunately tend only too often to the fostering of such imaginary ideas.\*

A model of the human body is the first, best and simplest opportunity for achieving perfection in art-technical exercise, because it enables the student to approach his goal in an ever improved manner though under rather constant conditions on the part of the operator, the model pelvis and the fetal cadaver.

\* See the author's writings on this subject in the following publications: “Aufgaben der Hand in der geburtshilflich-gynäkologischen Diagnostik.” “Natürliche Benützung der Hand.” “Schulung der Hand für die Aufgaben der Geburtshilfe und Gynäkologie” in der “geburtshilflich-gynäkologischen Untersuchung” Freiburg, i. B., 1910, Speyer & Karner.

Any further alternation or higher use will not be afforded by the model. Whoever thinks it does, runs the risk either of balancing himself on the edge of the ridiculous or of producing results in direct contradiction to natural conditions.

In the next stage of these exercises, † namely operations upon parturient women under the supervision of an instructor it is absolutely necessary to apply self-criticism, because the control of the instructor can follow the hand that invades the uterus only in so far as the measure of success will allow of conclusions to be drawn as to the technique applied. An inflexible method of training the incipient physician, which is to hold good for all cases of obstetrical practice while attending high school, is an unprofitable dream of weaklings upon whom nature has never bestowed the ambition of self-reliance, and also of those who have allowed the golden opportunity of learning to stand on their own feet to escape unheeded in their university career.

Art-technical exercises bear real fruit only in personal practice, provided that increased responsibility incites increased and more exacting self-criticism, because in the domain of art-technical ability, after a certain stage of development has been reached, the attainment of any further improvement is possible only by self-imposed exertion. To those thoroughly matured in this respect, the school can render no further service except inciting them to the emulation of the best.

The chaos of new and modern material endangers medical elementary and post-graduate education, because too frequently mediocre productions, clothed with a mantle of spurious science, increase the difficulty of unveiling their true nature, and, until their true colors have been unmasked, they unblushingly claim to be ranked side by side with what is acknowledged to be good and true.

Whoever has neglected to acquire a preliminary education of the tactile sense or a reliable knowledge of its nature and requirements; whoever is unable to redirect things into their

† "*Verwöhnung und Anpassung in der Geburtshilfe.*" Med. Klinik, 1908, 32. furthermore the chapter on, "*Praxis und Schule der geburtshilflichen Untersuchungen*" in the "*geburtshilflich-gynatologischen Untersuchung.*" Freiburg i. B., 1910, Speyer & Karner.

proper channel in case of any unforeseen derailing; whoever in the stress of circumstances must resort for information to his stealthily consulted vade mecum to act as questionable adviser in his cases, has considerable gaps to fill in his medical "knowledge." Here the neglected opportunities may be retrieved in various ways; the volume of knowledge requisite for every obstetrician may be explained in unvarnished terms; or in the more flattering terms of awakened ambition the highest aims may be pointed out which will be reached only by the ever-continued building up of the foundation that has been laid. Mature for incessantly continued post-graduate education and its usufruct, based upon the personal power of the individual is only the truly educated physician, because only he will ever remember that standing still means going backward, and because in the absence of that consciousness any one will be the most implacable and dangerous enemy to self-contentedness. Progressing on the golden middle road, which leads up to the steep altitudes of perfection, between luxurious proliferations of ill-judged new productions on one side and unprejudiced tenacious clinging to old and tried methods on the other, he will develop the qualities of the coming master. To him medical practice will become an inexhaustible source of warm-hearted, vigorous activity and the cradle of scientific progress.

He that acquires perfection from inborn power and own capacity will always be pervaded by the conviction that there is no other road leading to perfection in the technicalities of the art but that of sternest self-discipline. In this consciousness the practitioner who chisels out his own post-graduate education, will be upheld by being shown the red thread of logical development, as it has been and will continue to be spun, in the face of all kinds of variegating instructions. He will be conscious of the fact that it is not the number or extent of operations, but the clarity of his dispositions that will constitute the successful obstetrical artist.

## LABORATORY METHODS FOR THE GENERAL PRACTITIONER

### FIFTH PAPER

In this, the fifth paper on "Laboratory Methods," we may be allowed to digress, and give a short biography, and also as a mark of respect to the memory of the famous bacteriologist, Professor Robert Koch, who died at Baden-Baden on the 28th of May in his 67th year.

Robert Koch was born at Klausthal, in Hanover, on December 11, 1843, and so had not completed his 67th year. He graduated in medicine and commenced practice at Wallstein, in Hanover, entering into a partnership there which afforded him sufficient leisure to engage in the pursuit of the then infant science of bacteriology; and so early as in 1876 he obtained a pure culture of the bacillus of anthrax. The Prussian Government then offered him an appointment in the public sanitary service of such a kind that he was left free to pursue his researches. In 1882 he was able to announce the isolation and identification of the tubercle bacillus, afterwards to be inseparably associated with his name. At the beginning of 1890 the name of Professor Koch, previously familiar chiefly to men of science, was suddenly brought into a wider publicity. It was announced that his researches into the life history of the tubercle bacillus had led him to the discovery of a preparation which would be curative against its ravages. There was a rush from every country to obtain supplies of the precious antidote, and large numbers of persons suffering from tuberculosis in any of its varied forms underwent inoculations, from which they hoped to obtain a cure. The results were not only disappointing, but disastrous. In Germany the illustrious Virchow condemned the procedure absolutely, alleging that the injections had frequently produced fresh centres of tuberculous disease in parts of the body which were previously exempt; and

a commission of Parisian hospital physicians, sent to Berlin to study the question, although they bore tribute to the marvellous dexterity and skill of Professor Koch as a bacteriological observer, were quite unable to confirm his claims as a practitioner. They declared that his fluid had not been shown to produce a single cure, and that its employment had frequently been attended by disastrous consequences. In this country it was never very largely employed, and the few inoculations which were made with it were, generally speaking, as disappointing as those made on the Continent. It is by no means improbable, however, that he may be shown ultimately to have erred chiefly in method, and in having permitted, under conditions perhaps not without excuse, the premature publication of his hopes.

#### BOVINE AND HUMAN TUBERCULOSIS.

In 1901 Professor Koch electrified the International Conference on Tuberculosis held that year in London, by the new and wholly unexpected announcement that the bacillus which occasions tuberculosis in cattle was a different organism from that which occasions what is apparently the same disease in human beings, and, that consequently, mankind were not liable to contract tubercle from the flesh or milk of bovine animals. He drew a broad distinction between "bovine" and "human" tuberculosis; and condemned as unnecessary the precautions about the consumption of tuberculosis flesh and milk which all English students of the question had for some years been endeavoring to force upon the public. As the address went on a feeling not far removed from consternation became manifest among the audience; and, the committee of management of the conference hastily asked Lord Lister to reply, and to say that observers in this country were not prepared to accept the Professor's conclusions without a very close scrutiny of the facts upon which they were founded. The questions involved were of such vast pecuniary importance that an authoritative settlement of them became imperative. A movement was already on foot for the destruction of tuberculous cattle on a large scale,

and for the rejection of their milk; and herdsmen and dairy farmers were at once on the alert to deny the necessity for such proceedings, and to agitate against the adoption of precautions the necessity for which they had begun unwillingly to admit.

The result was the appointment of the Royal Commission on Tuberculosis, and there could be no greater tribute to Professor Koch's scientific eminence than the fact that his mere assertion led to a temporary arrest of projected legislation. The Royal Commission showed conclusively that human tuberculosis could be inoculated upon bovine animals with speedily fatal effects, and that, although what might be described as the typical form of human bacillus differed in some respects from the typical form of bovine bacillus, the two were separated by intermediate forms, and that the variations were rather the products of environment than of any specific or essential difference. Professor Koch for a time stoutly held his ground, but his assaults upon the methods and conclusions of the Commission gradually died out in face of the practical unanimity with which they were supported by bacteriologists generally, alike in Europe and in America.

#### VALUE OF HIS WORK.

It has been well said that the man who makes no mistakes will never make anything; and the fact that Professor Koch on two important occasions has been led or forced into announcements which time did not confirm need scarcely detract from the greatness of his reputation. To whatever extent he may have erred, it has been largely to his own work that other inquirers have been indebted for the power of detecting his errors. He found the science of bacteriology in the hands of a few observers, painfully struggling towards the light, and he so improved its methods and organized its resources as to place it in a position of the first eminence and importance among the branches of human research.

In his too short life Koch had no reason to complain of want of appreciation. Germany was proud of him, and his merits were universally recognized elsewhere. He was a Fellow

of the English Royal Society, and he had been decorated by the Government of almost every civilized country except Great Britain. He retired from his position as Director of the Berlin Sanitary Institute in 1904, and in 1906 he received from the Kaiser the title of Excellency and the star of the Prussian Order of Merit. His death seems to have been due to a general break-up, probably caused in some measure by excessive work, and partly, perhaps, by the effects of the tropical climates in which so much of that work was carried on. In private life the Professor was one of the most genial of men, with a complete capacity for the enjoyment of its pleasures. He married somewhat late, and leaves a widow and one daughter.—Times, London, June 3, 1910.

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In our last issue, we pointed out that it was time that the practitioners of Saskatchewan received a detailed report from the Council of the College of Physicians and Surgeons as to money? who has it? how much is in the treasury? how is it being spent? and all about it. The law requires that the details must be published. We suggested that, at the meeting of the Saskatchewan Medical Association to be held on or about the Sixth of July, the matter might be taken up while this body was in session.

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The meeting of the Saskatchewan Medical Association, which was to have been held on or about the Sixth of July, has been indefinitely postponed.

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Dr. J. D. Lafferty, of Calgary, is being held responsible for the blocking of the Dominion Registration scheme going through this year. "The Western Canada Medical Journal" has this to say: "The question of Dominion Registration came up at the Conference, but owing to the severe criticism of Dr. Lafferty, of Calgary, nothing was accomplished, it being evident that the members were anything but satisfied that the individual provincial rights had been safeguarded in the amended bill brought up for their acceptance."

# THE SASKATCHEWAN MEDICAL JOURNAL

HARRY MORELL, M.D., C.M., *Chairman of Publication Committee*

All communications relating to this publication should be sent to the Saskatchewan  
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Box 1106.

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## Editorial Notes

**Knee-Joint  
Surgery** Last April before the Chicago Surgical Society, Dr. E. Wyllys Andrews presented a paper, entitled "Laparotomies upon the Knee-joint for Fractured Patella, and a New Method of After-Treatment." The term used, "Laparotomy," as applied to this region, is rather unique, but it is just what the author of the paper intended that it should be. The operative measures advised by Dr. Andrews are not new, it has been advised by other operators, and consists of suturing the various structures overlaying the bone. In fact, instead of uniting the boney tissue direct, the method of suturing is not the all important consideration of this subject, it is the after-treatment, and as the author says: "Passive motion should be tried lightly on the table and daily thereafter. In this way the tedious course of massage and movements needed after removing the usual splints is avoided. This daily movement is not as dangerous as it has seemed to some of my colleagues, who were quite shocked and very skeptical when I described it."

Dr. Andrews is to be congratulated on his paper, which will do much to advance knee-joint surgery. Those interested on this subject will find a case report in our last issue, and in which is referred a classical memoir by Benjamin Tenney, M.D., of Boston, in the *Annals of Surgery*, November, 1909.



## News Items

At a meeting of the Board of Governors of the Regina General Hospital held June 7th, the by-laws were again considered, and an important provision was made in regard to the engaging of private nurses in the hospital. It was decided that hereafter patients who desired private nurses in the building would be allowed to have them, although the entire expense of such private nursing would have to be borne by the patient. Other matters of detail in connection with the management of the hospital were also taken up. Mr. Justice Johnstone, chairman of the Board of Governors, presided.

June 6 was a notable day at McGill University, Montreal, for on that day Miss Maude E. Abbott, a member of the University, received the degree of M.D. (*honoris causa*), in convocation. Dr. Abbott was associated with Dr. Osler in pathological work, and has been a Fellow Lecturer in the University. She is the first woman to receive an honorary degree in Canada.

At the recent examinations held in Regina to obtain the license for the Province of Saskatchewan, fifty-three candidates were examined by the Council of the College of Physicians and Surgeons. The names of the successful candidates will be known in about three weeks.

The plans of Storey & Van Egmond, of Regina, for the isolation hospital, Regina, were accepted by the city council June 21. The plans of the architects were accepted with the understanding that should the tenders which should be received for the work exceed the amount stipulated, *i.e.*, \$16,000, no remuneration would be given to the architects for their services.

At Edmonton, Alberta, the amount of one hundred and seventy-five thousand dollars was voted upon by the citizens and carried for hospital construction.

## Personals

Dr. J. C. Black, of Regina, has returned home from a visit East after an absence of a couple of weeks.

Drs. Gorrell and Coles, of Regina, attended the spring mobilization of militia held at Brandon this year.

Dr. E. E. Meek, of Regina Canadian Army Medical Corps, was assigned to duty with the 95th Rifles, who are in camp at Long Lake, Saskatchewan.

Mr. A. A. Morrow, of Vancouver, one of the representatives of Messrs. Charles E. Frosst, of Montreal, was in Regina in June. Mr. Morrow is meeting with many of the Saskatchewan practitioners and reports that in this and the Western Provinces everything is prospering.

Dr. Labrecque, of Prince Albert, who has been spending the winter and spring in Europe, was a visitor in Regina for a few days on his way home.

Dr. Lee Patten and bride were in Regina a short time ago en route to their home at Armstrong, B.C. Dr. Patten has just graduated from McGill University. He stopped to see his uncle, Mr. Patten, of Smith Street. He will take up practice in British Columbia.

Dr. B. E. Hawke, of Toronto, was recently arrested, charged with performing a criminal operation upon one, Florence Matson, of Orillia. We hope that the doctor will clear himself, as he has always borne an excellent reputation.

Dr. J. W. Pennington, of Moose Jaw, has gone west on a holiday. The doctor will return in a couple of weeks.

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## Book Notices

EMERGENCIES OF GENERAL PRACTICE. By *Sargent & Russell* (Percy Sargent, M.B., B.C., F.R.C.S., Surgeon to Out-Patients St. Thomas' Hospital; Surgeon to the National Hospital for the Paralyzed and Epileptic, Queen's Square—and,

Alfred E. Russell, M.D., B.S., F.R.C.P., Physician to Out-Patients St. Thomas' Hospital). London: Oxford Medical Publications; Toronto: D. T. McAinsh & Co. 364 pages, illustrated. Price: \$4.50.

DISEASES OF THE GENITO-URINARY ORGANS by *Edward L. Keyes, Jr., M.D., Ph. D.*, Clinical Professor of G. U. Surgery in the New York Polyclinic Medical School; Surgeon to St. Vincent's Hospital; Lecturer on Surgery, Cornell University Medical School. 975 pages, illustrated. Price \$6.00. New York: D. Appleton & Co.

PRACTICAL DIETETICS by *W. Gilman Thompson, M.D.*, Professor of Medicine in the Cornell University Medical College in New York City, and Visiting Physician to the Presbyterian and Bellevue Hospitals. 4th edition, illustrated, enlarged and completely rewritten. 928 pages. Price \$6.00. New York: D. Appleton & Co.

EMERGENCY SURGERY FOR THE GENERAL PRACTITIONER. By *John W. Sluss*, Professor of Anatomy, Indiana University School of Medicine, etc. Second edition, revised and enlarged, with 605 illustrations, some of which are in colors. Bound in limp leather. P. Blakiston's Son & Co., Philadelphia. Price \$3.50. The demand for a second edition of this book is, of course, an index of its popularity. The author says in the preface to the first edition: "This is a surgery for the general practitioner, written not to instruct his leisure hour, but in the hope some time to serve as a guide out of uncertainty in a time of stress."

Our opinion is that Dr Sluss has done his work well. The technique of the various operations is well described and illustrated, and we have not seen any work recently which adheres to its title as closely as the one before us. The mechanical make-up could not be improved upon. We strongly recommend it, not only for the general practitioner, but it should form part of every surgical chest for emergency field work either civil or military.

HARRY MORELL.