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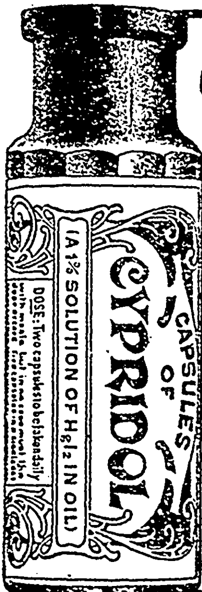

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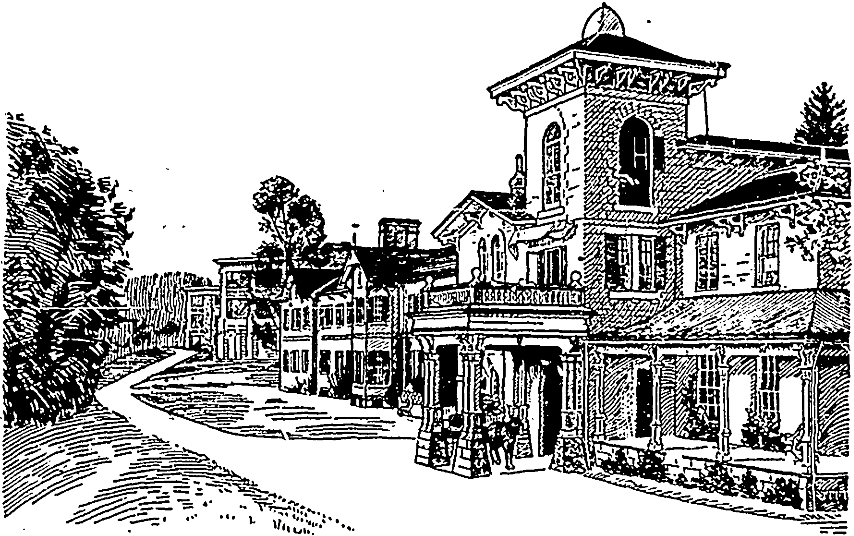

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WESTERN CANADA MEDICAL JOURNAL

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ORIGINAL COMMUNICATIONS.

PERFORATING WOUNDS OF THE UTERUS, INFLICTED DURING THE COURSE OF INTRA-UTERINE INSTRUMENTATION

BY

AIME PAUL CKHEINE

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, ILL.CHICAGO

A.General Consideration—As to natur;e nas to cause; predisposing exciting.

*B, An alysis of all the cases published in the American, English, French and German literature from 1895—1908 inclusive.**

C. Conclusions.

GENERAL CONSIDERATION.

Perforations of the uterus can and do occur with the most startling ease. It is difficult to determine the frequency of this accident. Operators, as a rule, are unwilling to give publicity to such an occurrence happening in their intra-uterine instrumentations. There is probably no gynecologist in the world of large experience, who has not met with this accident perhaps several times in his work. (Baldwin I.) In

*All the literature to which I have had access.

the reports 3,172 consecutive autopsies held between February 1898 to February 1908 at the Cook County Hospital, not one case of perforated uterus is recorded. In all the cases of abortion and in all the cases of pregnancy, treated at the same institution during the years 1903-1907 inclusive (5 years) 495 abortions, 2,343 pregnancies, only three perforations of the uterus occurred, 2 died (autopsy denied), one, treated expectantly, recovered. By diligently searching the American, English, French and German literature from the year 1895 to 1907 inclusive, I have been able to collect 160 cases of uterine perforations due to perforating wounds, inflicted during the course of intra-uterine instrumentation. In Hebreyend's Thèse, (Paris, 1901, Les Plaies perforantes de l'utérus), will be found some cases not included in our table. They do not in any way impair our conclusions. So as to more intelligently discuss perforations of the uterus, it is convenient to classify them into True and False perforations.

(a) True perforations may be spontaneous; that is, they may occur without the aid of violence; may be secondary or consecutive, that is, they may follow an insult to the uterine tissues, be that insult chemical, thermic, bacterial, or traumatic in nature. (2. a. b.) The perforation may follow the insult immediately, or only become established after an interval of time. All uterine perforations due to perforating wounds are true perforations.

(b) False, or pseudo-uterine perforations are not perforations in fact. (3 a. b. c. d.) We will briefly discuss these pseudo-perforations, and then eliminate them from the paper. They have caused diagnostic errors, followed by such operative mistakes, as needless laparotomies, as removal of intact uteri, The term pseudo-perforation is used, to designate a condition capable of conveying to the operator the impression that he has perforated the uterine wall, when in fact this mishap has not occurred. What then, has occurred?

1. The uterine sound or other instrument may have slipped into a double uterus (uterus didelphys). (4.) It may have entered a uterus unicornis.

2. The instrument may have slipped into the dilated uterine end of a Fallopian (5 a. b. c. d. e.) tube (very rare) or

into a bicornuate uterus. Watkins (5 b.) after opening the abdomen found that what he had diagnosed the passage of the curettee into the peritoneal cavity, was the passing of the curette into the Fallopian tube. In Hind's case the uterine sound was introduced in the uterus before incising the abdominal wall; after opening the abdominal cavity, it was seen that the sound had threaded the whole length of the Fallopian tube. It was presenting at abdominal orifice of the tube. In Floeckinger's case (5 a.) laparotomy showed that the uterine sound was in the oviduct. In Thorn's case (5 d.) one uterus was myomatous, the other was latero-flexed and latero-verted. In the case of myoma of the uterus, the uterine sound was introduced 14 cm., suddenly there was a lack of resistance, hasty removal of the sound followed upon this. On opening the abdomen, it was seen that the sound had penetrated for a distance of 3 cm. into the Fallopian tube. Ahlfeld (5 e.) also reports a case in which after laparotomy, it was seen, that the left oviduct had been entered by a sound, introduced into the uterus. Nevertheless, this occurrence, the introduction, by way of the uterus, of any instrument into the Fallopian tubes is very infrequent, so infrequent that its possibility has been denied by competent observers, because:

1st. Under natural conditions, the lumen of the uterine end of the oviduct is so small that it is only with difficulty that one can introduce a bristle into it.

2nd. Under normal conditions the broad ligaments and also the ovarian ligaments maintain the Fallopian tubes in a transverse position in the pelvis.

Lawson Tait was never able on the cadavar to sound the tubes through the uterus. He maintained that under normal conditions, it is impossible to introduce by way of the uterine canal an instrument into the normal Fallopian tubes. Catherization of the tubes is more liable to occur in the presence of such pathological conditions, as uterine latero-version and latero-flexions, after interstitial gravity, after haematometra, etc., etc.

3rd. The instrument may have slipped into a small cavity, which has developed in the interior of a uterine fibromyoma.

4th. The sudden ballooning or relaxation (3 a. b. c. d.) of the uterus may also convey to the operator the impression, that he has perforated the uterine wall. There is such a condition as atony of the uterus. The fact, that at all periods of sexual life, the uterus has the property of alternate contractions and relaxations, is regarded as proved by all physiologists. Contraction and relaxation are properties inherent to all muscular tissues, and the uterine muscularis is not an exception to the general rule. Keiffer's experiments, bimanual examinations, etc., point to a more or less periodic variation in the tone of the myometrium.

During curettage one often notices a uterine lengthening of 1, 2 or 3 cm. It is no longer claimed, just because the curette in these cases is not kept in constant contact with the uterine wall, that these uterine lengthenings are instances of perforations of the uterus. They are evidences of uterine relaxation. The system of uterine blood vessels is adapted to expansions and contractions. R. De Bevis (3 a.) in La Semaine Medicale, Paris, 1906, Vol. 26, p. 253, has an excellent and exhaustive article on pseudo-perforations of the uterus.

Though this condition, pseudo-perforation, is infrequent, its existence can no longer be denied. In Craig's case, (6), the operator, supposing that he had perforated the uterus, opened the abdomen; he then found the uterus to be uninjured absolutely. In the case reported by N. Gheorghiu (7) the removed uterus showed no trace of perforation. Kosman (3 b.) bears witness to similar facts.

Perforating wounds of the uterus, especially of the pregnant uterus can be inflicted from above (8), can occur during the course of a laparotomy, can be associated with penetrating wounds (gunshot wounds, stab-wounds and similar injuries) of the abdominal wall, of the gluteal (9) and other regions; can occur during the course of delivery. Wounds so inflicted, though they involve the same organ, though they also extend through the entire thickness of the uterine wall. demand, owing to their method of infliction, owing to their portal of entrance, owing to their almost invariable association with serious visceral or other injuries, to be considered

separately from the perforating wounds of the uterus that form of the subject matter of this paper.

We will consider in this article only such perforating wounds of the uterus as are due to violence, inflicted from within the uterine canal; that is, only those perforating wounds in which the vulnerating agent has either been introduced through, or has traversed the uterine cervical canal, before perforating the uterine wall. The element of trauma is essential, is indispensable to the accurate conception of these perforations.

In the course of intra-uterine instrumentations, diseased and healthy (10) uteri (cases a, b, c, d, e, f, etc.) have been perforated and most disastrous results have ensued. Wounds of the uterus, like wounds of other organs or tissues, are solutions of continuity of tissue. They are always of sudden occurrence and are always due to the direct application of mechanical violence.

To avoid misunderstanding, a distinction must be made between penetrating and perforating wounds of the uterus. The former only enter the uterine wall; the latter, traverse its entire thickness. Therefore, the distinctive characteristic of perforating wounds of the uterus is, that they involve the entire thickness of the uterine wall. All the coats, or rather layers of the wall of the uterus, are interested, the mucosa, the muscularis, and the serosa, (in those portions of the uterus that are covered by the peritoneum.)

The uterine perforations discussed in this article were always consecutive to some intra-uterine maneuvre and always immediately so. In this class of uterine wounds, the vulnerating agent establishes a direct communication between the uterine and some adjacent cavity; the peritoneal cavity (11) most always; rarely the vaginal (12—cases a, b, c) or the vesical cavity (13, case a); still more infrequently, the lumen of the gut. In other cases, the perforating instrument, after having pierced, completely through, a portion of the uterine wall not covered with peritoneum, enters the peri-uterine connective tissues, penetrating between the folds of the broad ligaments (parametrium) (14, cases a, b, c). If the violence still continues to act, the vulnerating instrument may perfor-

ate one or both layers of this ligament and thereby also enter the peritoneal cavity (15, cases a, b). The perforating instrument may enter the vesico-uterine space (16, case a), may enter and lodge in the space of Retzius (17, case a), may enter and lodge in the Douglas' cul-de-sac (18, case a).

Traumatic perforation can involve any portion of the uterine wall. In my two cases (19) the perforation, as is usual, as is almost always the case, involved the posterior wall; in Van Ripper's case (11), the rent was in the anterior wall; it extended from the fundus uteri to near the vaginal vault. In Harris' and Whitney's case (20) the anterior wall showed a transverse rent, about 1-1.2 inches in length. In case 21, the uterus was perforated from horn to horn and the perforation was filled with omentum. In case 14 b, the perforation was situated at the anterior and left lateral surfaces of the supra-vaginal portion of the cervix. In case 22, the perforation was also in the anterior wall.

The perforation may be in the cervix uteri as cases 23, 12, a, b, c; may be in the corpus uteri or may involve both; may be single, may be multiple (they are, most usually, single): may be small, may be large, as in case 24, in which the midwife produced a uterine rent 20 cm. long. In Ullmann's case (25) there were two perforations. In Schenk's case (26), there were three. In Werelius' case (27) the uterus contained seven punctures. The perforation may be barely visible, in one of my cases, merely a sub-peritoneal ecchymosis was present; may be large enough to permit the escape of a large portion of the omentum and of intestines through the rent, as in Hessert's case (28), in which four feet of gut had been pulled through the uterine rent; as in Holmes' case (29) in which intestines was found between the woman's legs; as in Congdon's case (30) in which the operator, after pulling out 40 1.2 cm. of intestines into the vagina, twisted them off. As in Davis' case (89), during the course of intra-uterine maneuvres, the anterior wall of the uterus was perforated and the intestines damaged to such an extent that over fifteen feet had to be removed. In case 31 the operator kept on pulling intestines until he had drawn out 6 feet of bowel which he cut off. This case terminated fatally. All the other cases mentioned above

recovered. The perforation may be large enough to allow the escape of the foetal head into the peritoneal cavity, case 32, may allow the escape of the foetus into the peritoneal cavity, as in Whitney's case (20). In Tait's case (33) nine months after the date of infliction of the perforation, the track of the curette could still be seen. The size and shape of the opening are to some extent dependent upon the size and shape of the vulnerating instrument.

The perforation may lead to the formation of permanent abnormal channels of communication between the uterine and adjacent cavity, as in Dr. Lobdell's case (13) in which the perforation of the uterus took place directly into the bladder, and a permanent versico-uterine fistula resulted; may lead to the permanent prolapse of a portion of the omentum into the uterine cavity (cases 34, a and b). Usually, after the infliction of the injury, the vulnerating agent is removed. In some of the reported cases, exceptional cases, I admit, it was abandoned in place, and was either expelled per vagina or eliminated by the aid of a slowly ulcerative, suppurative or other pathological process through newly created avenues. The perforating body may be eliminated through the rupture of a near or of a distant abscess, or may be removed at an operation, cases 35, 14 a, or at autopsy, case 36. In one of Treub's cases (17), the bougie was imbedded in a retro-uterine abscess. In his other case (17), he removed by an incision the perforating catheter from the space of Retzius. In Johnson's case (37), the patient was laparotomized and the bougie, cause of the perforation, was found to be almost entirely folded in and covered by the omentum, an evidence of the effect of nature to repair the damage and to prevent injury of the abdominal viscera. In Thorn's case (18) the perforation bougie, after the patient had been laparotomized, was found lying obliquely in Douglas' cul-de-sac. In Talmey's case (10 f), the perforation bougie was found lying in front of the proximal edge of the right kidney. In Bullard's case (38), the crochet hook was discharged through the anterior abdominal wall. It did not interfere with the continuance of gestation. In Perl's case (24), the needle or trocar that had perforated the uterus, was removed, sometime after, from an

abscess in the right inguinal region where it had become encysted after its passage through the uterine wall. In Fairchild's case (39), at laparotomy, the hairpin was found, high up, in the abdominal cavity, near the diaphragm. In Patru's case (14 a), the perforating catheter was found imbedded in an abscess palpable through the anterior rectal wall. By means of an incision made in the anterior rectal wall, all the pus was evacuated and the bougie removed. In Morchand's case (40) a Hegar's metallic dilating bougie No. XII perforated the uterus and was abandoned in the patient's body. After about a year of invalidism, she was laparotomized, and the sound was found between two folds of mesentery. It was removed, recovery ensued.

Any instrument that can be used or misused in the uterine cavity is capable of perforating the uterine wall. All forms of uterine sounds, of uterine dilators, of curettes (the St. Cyr Augur (41 a and b) curette included) can be incriminated. In the case No. 41 b thirty-one inches of gut had been torn away by the augur curette. In the cases reported during the last ten years, it is stated in unmistakable terms, that the vulnerating instrument was

1. Uterine douche tube, irrigator, catheter.....12 cases
2. Uterine bougie, uterine sound..............17 "
3. Uterine dilators ....31 "
4. Uterine curette ....44 "
5. Miscellaneous agents ....50 "

In other cases the offending agent is either not stated or happened to be either a probe, case 38, a wire (case 39), a meat skewer (case 15 b), an electrode (case 18).

Perforating wounds of the uterus are always of accidental occurrence, Nowadays, they are never intentionally inflicted. They have occurred in the hands of the most dextrous, of the most clever operators. The accident has occurred to Lawson Tait (case 33), Auvard (Paris) (42) had one perforation in 270 uterine curettements. It cannot always be stated that they are due to ignorance, to incompetence, to carelessness. But it can be said that in the hands of a novice, in the hands of the careless, in the hands of the surgically unclean, all intra-uterine instruments are dangerous. It can also be stated

that in most of the cases in which death has followed upon uterine perforation, the perforating instrument had been introduced for criminal purposes.

In 26 of the cases analysed in the preparation of this article, the perforating instrument was introduced to end an undesired pregnancy. In some of the fatal cases where the perforating instrument was not introduced for criminal purposes, it had been guided by unclean hands.

In 1873, L. E. Dupuy (43) said: "I have found reported 17 cases in which the uterine wall has been perforated from within. In some of these cases, the uterus had been perforated at more than one point. All these patients made eventful recoveries, in none were any measures taken either before or after the accident, to prevent the development of complications." In 1878, Carle Liebman (44), in reporting two cases of uterine perforations, treated expectantly and terminating in recovery, reviewed the subject quite exhaustively. In his article, Liebman makes the following statement: "In not one of the cases reported in medical literature, and they exceed thirty in number, was the perforation of the uterine wall followed by alarming symptoms." Liebman compares the accident to paracentesis, to exploratory punctures of organs, procedures which are generally considered harmless. Lenoir (45) says: "These perforations have proved interesting to us, not only on account of their frequency, but also on account of their innocuousness."

Lawson Tait (33) had never seen any ill results follow perforations of the uterus by uterine sound. In not one of the reported cases, in which the perforating instrument was sound, did death occur. The sound is a much less dangerous instrument than the curette. It makes a smooth hole, while that of the curette is apt to be ragged. The afore mentioned authors conclude from their study of the literature and from their personal experience that perforating wounds of the uterus are relatively benign, are unattended with danger. Their opinion is erroneous and is completely disproved by the study of the literature of the subject that has been published during the last twelve years.

The dangers of perforating wounds of the uterus are

manifold. Independent of the danger of shock, there is the danger of haemorrhage into the pelvic and general peritoneal cavities, into the pelvic connective tissues, of injuries to the peritoneum, of injuries of the intra-abdominal organs, etc. In twenty-three of the fatal cases, it is definitely stated that a diffuse suppurative peritonitis was present. There is danger of traumatizing the omentum, of traumatizing the intestines. In 35 cases it is stated that positive injury was inflicted to the intestines or to the omentum. Any of these dangers can prove fatal. In Donald McCrae's case (10 b) the patient bled to death. She died three hours after the infliction of the perforation. The uterus, in this case, showed practically no pathology. Several months before, patient had had a miscarriage. At the time of the perforation, twenty-eight inches of intestines were pulled out through the perforation and twisted off by actual force. Shock, haemorrhage, visceral injuries and infection may be associated in the same individual case. If a larger tear has been made in the uterus, there is danger of a loop of intestines or of a part of the omentum slipping into the rent and becoming strangulated (cases 11, 20). The gut may only be incarcerated, not strangulated in the rent (case 46). In Kustner's cases (34 a and b) the omentum escaped into the uterine cavity. Following these two (Kustner's) unrecognized cases, prolonged and irregular uterine bleeding occurred. Eventually vaginal hysterectomy was done in both cases, and on section, each uterus was found to contain grape-like pieces of omentum. The omentum may plug the uterine perforation (21, 47). In cases of perforation of the posterior wall of the uterus, near the fundus, if the omentum hangs low into the pelvic cavity, it is very liable to become entangled in the curette and drawn through the perforation into the uterine cavity, even into the vagina. If the patient recover from the perforation, the site of the cicatrix, apparently, does not interfere with subsequent development of pregnancy, as evidenced by cases 22, 27, 28, 47, 48, 49, 50. In one case (27) though the uterus had been perforated at seven different places, patient subsequently became pregnant and was delivered of a living child. In one case (47) the site of perforation was sought at the time of delivery of a subsequent preg-

nancy. No trace of it could be found. Henck's case (5) is the only case reported, in which the perforation is said to have enlarged at a subsequent pregnancy and to have complicated delivery.

How can the frequency of these perforations be lessened? How can the morbidity and the mortality, incident to their occurrence, be lessened?

A. By the non-employment of inappropriate or defective instruments.

B. By never entering the uterine cavity in the absence of indications.

C. By never entering the cavity of the uterus in the presence of contra-indications, such as pus in the tubes, the ovaries or around the uterus. In acute gonorrhoeal endometritis, in acute septic endometritis, etc. The existence of an extra-uterine pregnancy is a contra-indication to curettage.

D. By perfecting our surgical technique.

E. By familiarizing ourselves with the conditions that predispose to the occurrence of uterine perforation. For instance, in removing pedunculated uterine submucus fibroids; the peritoneal cavity is liable to be opened as in some cases (46, 52 a and b).

In a few words, by keeping in mind in connection with intra-uterine work, that there are

Dangerous instruments,

Dangerous uteri,

Dangerous maneuvres,

The use in the uterus by inexperienced hands of placental forceps is always dangerous. It is needless, as the finger can do more effective work. Even the finger has difficulty, at times, i differentiating between placental tissues, blood clot, and intestines. The uterine sound or hysterometer is an instrument of very little usefulness. In most cases, the size, mobility, and position of the uterus can be better and more safely determined by bimanual vagina abdominal examination. Laminaria tents should be always as long as the uterus; otherwise, the lower end of the laminaria, instead of projecting a little below the external os, is liable to slip into the uterine cavity. Should then the long axis of the laminaria

not remain exactly in that of the uterine cavity, the lower end of the tent becomes impinged against the uterine wall. The uterine contractions may drive that end partly or entirely through the uterine wall. The use of laminaria tents produces a more gradual dilation of the cervical canal. This is an advantage, which, in our opinion, is counterbalanced by the fact that the patient has 16 or 24 hours of pain. We believe that tupelo tents can, with advantage, be banished from the gynecologist's armamentarium. The danger of infection from the use of tents is great. (Dudley, Chicago; Kelly, Baltimore).

The three-bladed steel dilator is considered dangerous. It has been nicknamed "the perforating dilator" (case 53). Its use is to be discouraged. Hegar's graduated metallic dilating bougies are serviceable instruments. They should not be introduced much beyond the external os. Their function is to dilate the cavity of the cervix uteri, not that of the corpus uteri. It would be advisable that they be marked off in centimeters, so that the operator would know at all times how deeply they are introduced. Whenever the fundus uteri is perforated by a Hegar's dilator, the operator is to blame.

As to uterine curettes, there does not seem to be any pattern which cannot, suitable conditions being present, determine a perforation of the uterus. The blunt and the sharp, the fenestrated and the non-fenestrated, the even-margined and the sinuous-margined curettes are each reported as having perforated the uterine wall. It is better to use a curette, the shank of which may be bent like a probe, so as to be made to conform the direction of the uterine canal. A curette which is pliable and curved and broad above is less liable to cause perforation, than one which has a narrow upper end and which is rigid and straight. Some models of fenestrated curettes are very apt to catch muscular tissues.

The introduction into the uterus of the finger or of instruments should not be regarded lightly. With but few exceptions, all these perforations have occurred during the operations of dilatation of the cervical canal or during that of curettement of the uterine cavity. These two operations, cervical dilatation and uterine curettage, when performed

with due precautions as to asepsis, as to pro-operative preparation of the patient, such as emptying of the lower bowel and catherization of the urinary bladder, are, relatively, of great simplicity of technique, of great benignancy and of great efficiency. Following their performance, judicious after-treatment is of great importance and should not be overlooked. These two operations should not be performed in the absence of positive indications. They are better performed with the aid of an assistant.

The indications for dilatation of the cervical canal are:

1. As a preliminary measure to (a) intra-uterine exploration; (b) uterine curettage and other intra-uterine maneuvres.

2. As a therapeutic measure in dysmenorrhoea.

Dilatation or divulsion alone is not to be considered a specific for dysmenorrhoea. A considerable number of cases of dysmenorrhoea are not in the slightest degree benefited by this operative procedure. In marked dysmenorrhoea, at times, associated with uterine anteflexion, Dudley's operation will be found very serviceable. In dysmenorrhoea, due to stenosis of the external os, Pozzi's operation is valuable. Dilatation alone, is valueless in the treatment of dysmenorrhoea due to any of the various malpositions of the uterus. We must treat the cause or the causes which determine the occurrence of the symptom: dysmenorrhoea.

The indications for uterine curettage are:

1. To remove placental debris, etc. In this connection, let us state that in the opinion of such men as Coe, Pinard, etc., the aseptic finger, is the best instrument to introduce into the puerperal uterus for the purpose of removing decidual remnants and blood clots. Pinard, for the post-abortum or post-partum removal of placental debris, rejects the use of the curette and teaches that in all cases of retained secondines, the finger should be employed for their removal. He considers it safer and more thorough. There are limits, however, to the power of the human digits and, at times, the curette will be found a valuable auxiliary to the finger. For the exploration of the uterine cavity, the finger, by virtue of its tactile sensibility, is far superior to any instrument. The curette is a blind agent (Le Page, Pinard, Budin).

2. As an aid to diagnosis. In decidual endometritis, uterine tuberculosis, carcinoma, chorion-epithelioma and other intra-uterine inflammatory or neoplastic processes, the use of the curette as a diagnostic aid is a recognized and sanctioned procedure.

Where carcinoma of the corpus uteri is suspected, the curette must be used with great precaution and only to remove small pieces for diagnosis. Again, in those cases, where curettage has been previously performed, great care, great gentleness is necessary, because it sometimes happens, that the uterine wall has been previously too deeply scraped, and then the danger of perforating the organ is imminent (54, 55 a and b).

3. To remove abnormal endometrium, causing dysmenorrhoea and sterility to induce involution of the uterus. As to whether it is wise to curette an empty septic uterus following on labor or abortion, clinicians differ. Naturally, if the uterus contains retained placental tissue, this must be removed. If the curette is used, venous sinuses and lymphatic channels are opened and the protecting barrier of leucocytes is interfered with and possibly removed in places. Further, the Fallopian tube may thus also become infected.

4. To remove the remains of a mole pregnancy.

5. In the treatment of inoperable carcinoma of the cervix. In this condition septic absorption is one of the common causes of immediate distress. Curetting the fungating mass and subsequent treatment of the raw surface with strong formalin, frequently does away with sepsis, haemorrhage and pain.

C. What are some of the contra-indications to utero-cervical dilatation or to uterine curettage?

(a) The absence of a positive indication.

(b) The presence of a suppurative process, either in the uterus, in the uterine adnexae, in the parametrium, or in any other pelvic organ or structure.

(c) The presence of such conditions as phlegmasia alba dolens, of uterine or peri-uterine thrombo-phlebitis. The curette is liable to disturb the thrombi in the uterine veins, at

the placental site, or in the plexus pampiniformis (Byron Robinson), (56).

D. By perfecting our surgical technique, the occurrence of this accident, perforation of the uterus, will become a rarity.

Before undertaking any intra-uterine maneuvre, determine:

(a) By vaginal examination.

(b) By bi-manual, vagino-abdominal examination.

1. The presence or absence of adnexial or peri-adnexial disease. Curettement has determined the rupture of tubal, peri-tubal, ovarian, peri-ovarian and peri-uterine pus collections. Even the pulling down of the cervix by tenacula has ruptured pus collections.

2. The size, the shape, the mobility and the consistency of the uterus. If the uterus be bound down or immobile as a result of adhesions due to previous pelvic inflammatory processes, it is far more liable to be perforated. Under such conditions, it does not yield to the impact of the uterine instrument, it does not accommodate itself to the pressure exerted by the sound, curette, etc.

3. The presence or absence of tumors upon or within the uterus.

4. Some operators further recommend, that the depth and direction of the uterine cavity be determined by the careful use of the graduated uterine sound or by the hysterometer and that any deviation from the normal be noted. The use of the uterine sound as means of ascertaining the depth and direction of the uterine cavity is condemned by most operators. They rightly claim that the same information can be more safely determined by bi-manual vagino-abdominal examination. In case 57 the uterus was anteflexed; in cases 12 c, 57 and 58 a and b, it was retro-flexed. In case 59 it was retroverted, in case 45 it was anteverted, in case 60 latero-flexed. All malpositions, congenital or acquired, of the uterus, if recognized, predispose to perforation during the course of perforated opposite the p .nt of angulation. The nutrition of the uterine tissues being impaired at the point of flexure intra-uterine maneuvres. Malposed uteri are most frequently explains the not uncommon occurrence of perforation at this

point. In a retro-flexed uterus, it is the anterior wall which is more liable to be perforated; in an anteflexed uterus, the posterior wall.

5. Get a mental picture, as clear as possible, of the pelvic organs. Having a definite mind picture of the pelvic conditions existing in the individual case, if a uterine perforation occurs, it is more easily recognized and one desists from intra-uterine instrumentation. For instance, suppose that in a given case, the uterus has, by examination, been determined to be normal in size, in volume, and in position, and that during the introduction of the uterine instrument, the latter slips much to one side of the median line and to a depth greater than that of the uterine cavity, perforation will then immediately be diagnosed.

6. Observe the most rigid asepsis during the course of the operation and see that from the standpoint of asepsis and antisepsis, the patient has been prepared as carefully as though you were going to perform a laparotomy. A complication, necessitating a laparotomy, may suddenly arise. In uterine wounds, be they inflicted by the sound, by the uterine dilator, or by the curette, you must minimize, you must avoid the liability of implantation of infection. Not much can be done to cure existing infection. Much can be done to prevent the occurrence of infection. The endometrium sits directly on the myometrium without an intervening sub-mucosa, to check endometrial infectious invasion.

Chief amongst the pathological states that predispose to the occurrence of perforating wounds of the uterus are the following:

(a) The changes (hyperaemia, softening, etc.) present in menstruation, in pregnant, in puerperal and in post abortum uteri. Perforation is favored by the peculiar state of the muscular tissues of the puerperal uterus. In curetting congested, softened uteri, such as are met after abortion and after childbirth, no attempt should be made to elicit the uterine "dry" (le cri utérin), (61), that is, the peculiar creaking noise, due to the forcible scraping of the uterine wall by the curette. In these cases, owing to the softness and friability of the uterine wall, this sound is not obtainable.

Perusal of the reported cases, the bibliography of which appears at the close of this article, discloses that 14 puerperal uteri were perforated, 7 deaths resulting, that either in the attempts at abortion, or in efforts to overcome some of the accidents following on an abortion, sixty-five uteri were performed, 25 deaths resulting. After delivery at term, the thickness of the muscular wall, according to Tarnier, is from 2 to 5 mm. (62).

(b) Atrophy of the uterus (63). All the different forms of uterine atrophy, of themselves cause a weakening of the uterine wall and therefore can be looked upon as conditions predisposing to uterine perforation. Atrophy of the uterus has been observed in some chronic diseases: as in pulmonary tuberculosis, occasionally in diabetes, in leukemia, in chlorosis, in pernicious anaemia, in Addison's disease, in Basedow's disease, etc. It is stated that also in certain acute infectious diseases, such as typhoid fever, a marked atrophy of the muscular tissues is noted.

Foot note: There are other unusual pathological states of the muscular uterine wall that predispose to perforation, such as, for instance, existed in Halban's case (64) and in others. Lack of space forbids us to discuss them here.

We will enumerate the main histro-anatomical changes that have been noticed in senile atrophy of the uterus, and those found by Emil Ries (Chicago), in some cases of marked atrophy following puerperal infection.

The changes found in senile uteri are:

(a) Atrophy of the mucosa and of the muscle fibres.

(b) The relation, in amount, normally existing between the connective tissue and the muscular tissue is altered considerably at the expense of the latter.

(c) Vessels are sclerosed. Case 33 was a senile uterus. It was also the seat of myomata.

Emil Ries, Chicago, in some cases of extensive atrophy of the uterus, following puerperal infections, found:

(a) Absence of mucosa.

(b) Hyaline degeneration and thrombosis of the vessels.

(c) Degeneration and necrosis of the muscularis.

Malignant neoplastic diseases of the uterus are numer-

ous. The cases of a carcinoma or a sarcoma of the uterus, in which perforation of the uterus has resulted from slight mechanical stress, are numerous. Efforts in the presence of malignant disease of the uterus to obtain material for microscopic examinations, if brutal, may prove disastrous. Malignant disease of the uterus may give rise to spontaneous perforations (65).

(d) Inflammatory processes of the uterine tissues may be localized, may be diffuse. Like inflammatory processes elsewhere, they are destructive in nature. Whatever be the nature of the inflammation, acute, or chronic, or the site, be it located in the mucosa, in the muscularis or in the connective tissues, it invariably weakens the resistence of the uterine wall. Case 66 was a case of myometritis oedematosa; case 67, a case of endometritis fungosa. In case 68, sutures from a previous operation, were suppurating their way through the uterine wall.

Prolonged septic processes predispose to uterine perforation. Tubercular uterine inflammation by leading to abscess to cavity formation, can of itself cause uterine perforation.

Inflammation of the uterus may terminate in resolution, in ulceration, in suppuration, or in gangrene. We will briefly consider abscess (69, a, b, c, d) of the uterus and also gangrene of this organ, as several instances will be found in our Table where these conditions, either together or separately, were present. The occurence of abscess of the uterus is no longer contested, as many of the cases reported have been amply verified (70, a, b, c). Uterine abscesses may be acute, sub-acute or chronic; may be primary or secondary; in the primary form, the pus collection has its starting point as such in the uterine tissues; in the secondary form, the suppurative process starts in neighboring tissues and invades the uterus by extension through continuity of tissues. In the first form, at the beginning, if not throughout its entire course, the pus collection is entirely circumscribed by uterine tissue; in the secondary form, it is partly surrounded by the uterine tissue, partly by other tissue.

In number, these abscesses may be single, may be mul-

tiple. In location, they are either sub-mucus, intra-muscular or interstitial, or sub-peritoneal. Their site may be in the anterior wall (70, c); may be in the posterior wall (70, b). Uterine abscesses are always due to infection; a pathological, surgical, or traumatic solution of surface continuity of the uterine mucosa serving most frequently as the portal of infection. Any pyogenic organism, facultatively or habitually so, can be the causative germ. Tubercular abscesses have been reported. In Menge's case (69 b), gonococci were detected in the pus. Nevertheless, the ordinary pyogenic cocci are the most frequent offenders. The germs are either implanted in the uterine tissues by a vulnerating instrument, or may be conveyed to the site of the abscess development by the lymphatic vessels. Rarely the abscess is embolic. The abscess may be secondary by contiguity of tissues to an infective uterine thrombo-phlebitis (infective thrombo-phlebitis, suppurative peri-thrombo-phlebitis, abscess). The liability to the latter (septic thrombo-phlebitis) occurrence during the post-abortum period is well known.

All uterine abscesses impair the solidity of the uterine wall. They predispose to traumatic perforations, as the abscess-site forms a circumscribed area of lessened resistance. They may rupture spontaneously into the rectum (Bird's case, Schroeder's case), into the bladder, (Berrut's), into the uterine cavity, into the peritoneal cavity, etc. They may give rise to spontaneous perforations, as, when the abscess ruptures both into the uterine cavity and into an adjacent cavity or space. We have in the case reported by Porak (70 a) an instance of spontaneous uterine perforation due to an abscess. This was a case of puerperal sepsis. The uterus contained several abscesses, one of which had both ruptured into the uterine and into the peritoneal cavities. In one of Mauclaire's cases (71), at the seat of perforation, there was an abscess, which extended nearly to the peritoneal coat.

Another possible termination of uterine inflammation, which predisposes to perforation, is gangrene. Uterine gangrene may be circumscribed, may be general, may involve the entire thickness of the uterine wall, may only involve a part of its thickness; may be due to traumatic. inflammatory,

neoplastic, or to chemical causes. It may be secondary to criminal or other intra-uterine maneuvres; it may be spontaneous. Gottschalk (28) reports a case of gangrene of the uterus (puerperal sepsis) in which the necrotic tissue represented the whole uterine mucus membrane and a portion of the muscular walls. He thinks that in this case the gangrene was due to intra-uterine injections of 60 per cent. alcohol. Cases of gangrene, due to contact of caustice with the uterine wall, are reported.

Gangrenous metritis, is a condition which predisposes to traumatic uterine perforation; which may result in spontaneous perforation, (Beckman, St. Petersburg, noted this grave complication six times in forty cases of metritis dissecans). Metritis dissecans is the condition which we now designate as gangrenous uteri puerperalis. It may be partial, it may be total, it may be perforating.

On examining the organ, it is at times difficult to determine if the perforation is secondary to the gangrene, or, if the gangrene is secondary to an inflammation, started by an instrument which has penetrated the uterine wall (73). In Winter's case (74) the gangrene was secondary to a perforation. It was located on the posterior wall; there was a marked predominance of saprophytic germs. The inflammatory gangrene enlarges the traumatic lesion and may lead one to think, that the perforation is spontaneous in origin. Maygrier (75) reports two cases of post-abortum gangrene. Each had led to a uterine perforation. Trauma as a factor was absent in both. K. Schmidlechner reports a case of gangrenae uteri puerperalis, involving the entire cervical wall and the lower half of the muscular wall of the body of the uterus.

CONCLUSIONS.

1. Pseudo-perforation of the uterus, though of exceptional occurrence, is a condition that occasionally confronts the surgeon.

2. Spontaneous perforations of the uterus, due to preexisting pathological conditions of this organ, can and do occur.

3. Perforating wounds of the uterus, be they intra-peri-

toneal, be they extra-peritoneal, have a morbidity, have a mortality. This morbidity, this mortality, increases in direct ratio with the inexperience, the carelessness, the surgical uncleanliness of the operator. The expert recognizes at once the making of a false passage and institutes proper treatment. High surgical skill may convert (as a consultation of the articles enumerated at the close of this article amply demonstartes) an apparently hopeless case into a recovery. In the 154 reported cases, there were 42 deaths, 108 recoveries. The result is not stated in four cases. Expectant treatment was pursued in 66 cases. There were 21 deaths in this series. Laparotomy, including what intra-abdominal repair work appeared necessary to the operator, was performed 72 times. There were 52 recoveries, 17 deaths, and 3 unstated results in this series. Vaginal hysterectomy was done 15 times. There resulted 10 recoveries, 4 deaths, and one result not stated.

4. Dilatation of the cervical canal, and instrumental curettage of the uterine cavity are, owing to their associated dangers, not office operations. During the performance of either of these two apparently danger-free operations, the operator may be confronted by accidents, the meeting of which requires the highest surgical skill. In their performance, if an anaesthetic be available, the employment of general anaesthesia (in the absence of contra-indications) is highly desirable, in fact, the rule should be:

(a) No uterine curettage without general surgical anaesthesia. It is easy to conceive how an unanaesthetized patient can, by injudicious jerk or movements, perforate her own uterus, by impaling it, by spiking it upon the intra-uterine instrument. Anaesthesia permits the operator to depress the abdominal wall, to locate, to fix, if necessary, the fundus uteri.

(b) No curettage without ample cervical dilatation. A non-dilated cervical canal interferes with the tactile sense and thereby with the proper maneuvering of intra-uterine instruments. Steady the cervix, before beginning the dilatation of the canal.

6. Intra-uterine instrumental maneuvres should only be attempted by those:

(a) Who are thoroughly conversant with modern surgical asepsis and antisepsis. The absence of bacteria on the perforating instrument minimizes very much the dangers of perforation. Infection has immediate, has late dangers. In an uncomplicated perforating wound of the uterus, the traumatism of the uterus plays but a secondary role; the pre-existence, or the implantation, at the time of perforation or subsequently, of infection commands the situation.

(b) Who are capable of recognizing malpositions of the uterus as well as pathological conditions of that and of neighboring organs. Even the bringing of the cervix to the vulva and outlet may disturb peritoneal adhesions, may rupture pus pockets.

(c) Who are acquainted with the dangers incident to the successive steps of the intra-uterine operation, which they are performing. The steel dilator is an instrument of too much power, and the curette is too dangerous a weapon to be used by the novice, by the inexperienced.

7. Once the uterus is perforated, all further instrumentation must be suspended. If it be imperative that the contents of the uterine cavity be removed, this must be done by digital curettage, or it may be done with a curette, whilst the uterus is being watched from above, through a laparotomy incision.

8. A perforated uterus should never be mopped or swabbed with caustics or irritating antiseptics. It is needless, it is dangerous. In two cases (38, 77), it is distinctly stated that the uterine cavity was swabbed. Both cases died. In each, carbolic acid was the agent used.

9. A perforated uterus should never be irrigated. In 17 cases in which it is stated that the uterus was irrigated during the course of perforation or afterwards, there were 6 recoveries, cases 17, 49, 57, 78, 79, and 11 deaths, cases 22, 47, 63, 80, 81, 82, 83. In two of the recoveries (cases 39 and 57), convalescence was delayed by mercurial poisoning, due to the sublimate solution that had been used for uterine irrigation. In case 78, one ounce of one per cent. aqueous solution of creolin entered the peritoneal cavity. Brothers, in his report of case 22, in which the perforated uterus was irri-

gated, states: "I have never seen a case of greater physical suffering in my life." The great danger attending intra-uterine irrigation in these cases is the conveyance, the diffusion by the irrigating fluid of septic material from the uterine into the peritoneal cavity or other space. Owing to the great absorptive power of the peritoneum, the danger of chemical intoxication is also present. Every case, in which it is definitely stated that the perforated uterus was not irrigated, recovered (10 a, 12 c, 19, 22, 29, 31, 33, 47, 67, 71, 85, 86 a).

10. Vaginal hysterectemy is an operation not to be performed in the treatment of perforating wounds of the uterus. It calls:

1. For the sacrifice of an organ which may not be perforated.

2. For the sacrifice of an organ, which, though perforated, most always can, with little difficulty to the operator and with much advantage to the patient, be saved.

3. It does not enable the operator to either exactly determine the presence or absence of other co-existing intra-abdominal vascular, visceral or other lesions, nor does it enable him to repair them.

11. If the perforated wound has been inflicted upon a non-septic uterus during the course of an aseptic intra-uterine maneuvre, in the absence of complicating abdominal lesions, recovery is the rule.

12. The treatment of perforating wounds of the uterus is determined largely by the following conditions:

1. The septicity or asepticity of the uterus and its contents.

2. The septicity or asepticity of the perforating instrument.

3. The presence or absence of co-existing vascular, omental or intestinal lesions.

The size and the number of perforations. A piece of omentum may prolapse through a large rent. A coil of gut may become incarcerated or strangulated in a large perforation.

13. Treatment.

(a) If the uterus is non-septic, if the perforating instru-

ment be aseptic and if it can also be reasonably assumed that there is an absence of omental or intestinal or important vascular lesions, the treatment to be followed is one of "armed expectancy." The patient must be confied to bed and immobilization enjoined for at least three days. The patient's pulse, temperature, facies and abdomen must be carefully watched. A suppurative cellulitis, signs of internal haemorrhage, etc., call for intervention. A wick of gauze may be inserted into the uterus but it should not be introduced much beyond the internal os.

(b) In all cases in which there has been a prolapse of the omentum, or of intestines into the uterine cavity; in all cases in which associated injuries to the intestines or omentum co-exist, or in which there are reasons to fear a significant internal haemorrhage, laparotomy is urgent.

(c) Once the abdominal wall has been opened, the visceral lesion must be repaired. The uterine puncture, if small, need not be sutured. If large (when the perforation is large you cannot depend upon the contractibility of the uterine muscle, to entirely occlude it), if of the nature of a tear, of a laceration, it is better that it be sutured. One or two layers of sutures may be used. Whether small or large, if the perforation be the seat of haemorrhage, suturing is indicated. In the following cases, the operators deemed it wise to suture the perforation: Cases 10 a, 14 c, 20, 22, 31, 47, 50, 84, 87, 88; 89 a, 89 b.

All these cases recovered, excepting cases 10 a, 20 and 89 a. Complicating intestinal lesions, necessitating resection of gut and enterorrhaphy were present in each of these three fatal cases. Some operators as Jarman, (case 84) made use of both superficial and deep sutures. Some clinicians teach that every perforating wound of the uterus calls for a laparotomy. They base their teaching upon the following considerations:

(a) That the exact size of the perforation is not known.

(b) That haemorrhage may be taking place from the peritoneal surface of the wound.

(c) That in the absence of a laparotomy can never tell with certainty whether any intra-abdominal organ is injured.

14. A healed perforation of the uterus apparently does not interfere with the normal development and the normal termination of a subsequent pregnancy.

1 Baldwin, J. B.—Lancet-Clinic, Cincinnati, Apr. 4, 1908.

2 (a) Cullen, Thos. S.—Journ. of Ar. M. A., Chicago, Vol. XLVIII; p. 1491.
(b) Garrigues, H. J.—Medical Record, New York, Vol. XXII; p. 413.

3 (a) Bevis, Les Pseudo-perforations—La Semaine Médicale, Paris, 1906, Vol. XXVI, p. 253.
(b) Kossman, R.—Allgemein Gynaek, Berlin, 1903, p. 315, 429; also Muench. Med. Wochens., 1900, March 6.
(c) Van Tussenbroek, Catherine—Centralblatt fuer Gynaek., 1905, p. 1054.
(d) Asch, Robert—Die Erschlaffung des nicht schwangeren Uterus. Central. fuer Gynaek., 1905, p. 1250.

4 Blondel—Un cas d'utérus bi-partitus ayant donné l'illusion d'une perforation an cours d'un curettage. Annales de Gynécologie, 1898, Vol. 50, p. 157.

5 (a) Floeckinger, F. C.—Ein positiver Fall von Sondierung der Fallopischen Tuben. Centralblatt fuer Gynaek., Leipzig, Aug. 27, 1898.
(b) Watkins—Am. Journ. of Obst., 1905, Vol. 51, p. 217.
(c) Hind, G. W.—On passage of the uterine sound into a Fallopian tube. Brit. Med. Journ., London, 1898, Vol. II, p. 1489.
(d) Thorn—Tuben Sondierung und Uterus Perforation, Centralb. fuer Gynaek., 1904, Vol. XXVIII, p. 1072.
(e) Ahlfeld, F.—Centralblatt fuer Gynaek., Bonn, 1902, p. 1072.

6 Craig, Dan. H.—New York Med. Journ., 1904, March 10.

7 Gheorghiu, I.—Thése de Paris, 1900, p. 43.

8 Rebreyend—Les perforations chirurgicales de l'uterus, en dehors de l'hysterométrie et du curettage. Revue de Gynécologie, Paris, 1901, Vol. V, p. 203.

9 Guelliot—Coup de couteauayant pénétré à travers l'échancrure socitique jusqua l'utérus gravide et jusqu au foetus. Bulletinet Mém. de la Société de Chirurgie de Paris, 1896, n. s. XII, p. 337.

10 (a)Browd, E. E.—Med. Record, N. Y., 1905, Vol. 67, p. 131
(b) McCrae, Donald—Western Surgical and Gynecological Transactions, 1903, p 57.
(c) Patru—Revue Méd. de la Suisse Romande, March 4, 1896.
(d) Hall, Rufus B.—Am. Jr. of Obstetrics, 1906, Vol. 54, p. 640.
(e) Thorn—Centralblatt fuer Gynaek., 1904, Vol. 28, p. 1072.
(f) Talmey, B. S.—New York State Journal of Medicine, 1907, Vol. VII, p. 319.

11 Van Riper, C. S.—Med. News, 1896, Vol. LXIX, p. 205.

12 (a) Jeanne—La Gynécol. Par. 1904, Vol. IX, p. 276.
(b) L Masson—Ann. de Gynéc. Paris, 1906, Vol. III, 2nd Ser., p. 406.
(c) Kuntsch—Centralblatt fuer Gynaek., 1907, p. 1500.

13 Dr. Effie Lobdell—Amer. Journ. Obstet., 1905, Vol. 512, p. 127.

14 (a) Patru—Rev. Méd. de la Swisse Romande, Mars 4, 1896.
(b) Hivet—Bull. et mém. de la Soc. d'Obstét. et de Gynécol. de Paris, 1898, p. 75.
(c) Kuntsch—Centralblatt fuer Gynaek., 1007, p. 1590.

15 (a) Kelly, H. A.—Operative Gynecol., N. Y., 1901, p. 482.
(b) F. T. Andrews—Am. Journ. Obst., 1903, Vol. 51, p. 127.
16 Ludwig—Centralblatt fuer Gynaek., 1907, p. 1482.
17 Treub—Centralblatt fuer Gynaek., 1906, No. 28, Vol. XXX, p. 802.
18 Thorn—Centralblatt fuer Gynaek., 1904, Vol. 28, p. 1072.
19 Heineck, A. P.—Surg. Gynec. & Obst., Chicago, 1908.
20 Francis A. Harris and W. S. Whitney—Boston Med. & Surg. Journ., 1906, Vol. CLV, p. 729.
21 Hall, Rufus D.—Amer. Journ. Obst., 1906. Vol. LIV, p. 640.
22 Brothers, A.—Amer. Gynec., New York, 1903, Vol. II, p. 323.
23 Caruso—Centralblatt fuer Gynaek., 1902, p. 1349.
24 Perl—Centralblatt fuer Gynaek., 1904, No. 50, Vol. XXVIII, p. 1568.
25 Ullman—Rev. de Gynéc. et de Chir. Abdom., Paris, 1903, Vol. VII p. 1083.
26 (a) Schultze-Vellinghausen—Centralbl. fuer Gynaek., 1902, p. 725.
(b) Schenk, F.—Muench. Med. Wochens., No. XXII, 1901, p. 888.
27 Alex. Werelius—Journ. Am. Med. Assn., 1907, Vol. XLVIII, p. 945.
28 Hessert—Am. Journ. Obstet., 1905, Vol. 51, p. 26.
29 Holmes, Rudolph W.—Am. Journ. Obset., 1905, Vol. 51, p. 127.
30 Congdon, C. E.—Am. Journ. Obstet., 1906, Vol. LIV, p. 618.
31 Mann, Matthew D.—Am. Journ. Obst., N. Y., 1895, Vol. XXXI; p. 605.
32 Brouardal—L'Avortemént, Paris, 1901, p. 344.
33 Tait, Lawson—Lancet, London, 1895, Vol. 2, p. 326.
34 Kuestner (a & b)—Monat fuer Geburt und Gynaek. Berlin, 1903, Vol. 18, Heft 2, p. 246. Einheilen von Netzpartien in die Uterushoehle nach Perforation mit der Curette.
35 Braun, Fernwald—Centralb. fuer Gynaek., 1904, Vol. 28, p. 1096. Zur instrumentellen Beendigung des Abortus.
36 Cullen, T. S.—Johns Hopkins Hosp. Reports, 1897, Vol. VI.
37 Johnson, Jos. Taber—Am. Journ. Obstet., 1903, Vol. XLV., p. 453.
38 Bullard, M.—West Surg. & Gyn. Trans., Chicago, 1903, p. 60.
39 Fairchild—Journ. Amer. Med. Assn., 1904, Vol. XLII, p. 944.
40 Marchand—Bull. et Mém. de la Soc, de Chir. Paris, 1897, Vol. XXIII, p. 535.
41 (a) Schultz, N. H.—Med. Brief, St. Louis, 1904. Vol. XXXII, p. 518.
(b) Walker, Edwin—Am. Journ. Obst., 1906, Vol. 54, p. 639.
42 Auvard—Arch. de Tocologie et de Gynécol., Paris, 1894, Vol. XXI, p. 581.
43 Dupuy—De la perforation des parois utérus par l'hysterométre. Prog. Med., Paris, 1873, p. 109, 134, 171, 195.
44 Liebman, Carlo—Arch. de Tocologie, Paris, 1878, Vol. p. 740.
45 Lencir, Oliver—Les perforations utérines dans les opérations pratiquées par la voie vaginale. Thése de Paris, 1898.
46 Frederick, C. C.—Am. Journ. Obst., 1901, Vol. 44. p. 684.
47 Morlet, Andre—Thése, Paris, 1905, Perforations de l'utérus puerpéral post partum et post abortum.

48 Dudley, A. Palmer—Trans. Am. Gynecol. Soc., Phila., 1905, Vol. XXX, p. 22.
49 Roberts, Hubert—Lancet, London, 1896, Vol. II, p. 1784.
50 Grimstead—St. Louis, Clinique, 1907, Vol. XX, p. 39.
51 Hoenck, B.—Muench. Med. Wochenschrift, 194, p. 88.
52 (a) Machenrodt—Zeitschrift f. Geburt und Gynaek., 1896, Apr. 24.
53 Merklen—Prosper, et Jacomet. A. Bull. de la Soc. Anat. de Paris, 1898, Vol. XII, p. 181.
54 Von Guerard—Centralblatt fuer Gynaek., Vol. XXV, p. 1138.
55 (a) Schiller—Centralbl. fuer Gynaek., 1905, Vol. XVIII, p. 795.
(b) Krecke—Monats. f. Geb. u. Gynaek., 1898, Vol. VIII, p. 419.
56 ByronRobinson—N. Y. Med. Journ., 1906, Vol. 83, p. 127.
57 Beuttner, Oscar—Centralbl. fuer Gynaek., 1897, Vol. XXI, p. 1271.
58 (a) Queisner—Zur instrumentellen Perforation des Uterus, Centralblatt fuer Gynaek., 1898, Vol. XXII, p. 712.
(b) Rosenfeld, E.—Centralbl. fuer Gynaek., 1898, No. 11, p. 278.
59 Oldenbrecht, Ernst—Centralbl. fuer Gynaek., 1897, Vol. XXI, No. 40, p. 1442.
60 Pichevin—Semaine Gynécologique, Paris, Avril 7, 1902.
61 Jeannin—l'Obstétrique, Paris, 1906, Mai.
62 Tarnier et Chantreuil—Traite d'accouchement, Paris, p. 492.
63 Bacon and Herzog—Necrosis and Eccentric atrophy of the Uterus. American Journal of Obstetrics, 1899, Vol. XL, p. 752.
64 Halban—Centralblatt fuer Gynaek., 1904, Vol. XXVIII, p. 1412.
65 Picquet et Clays—Perforation de l'utérus per un cancer du col. Bull. et Mém. de la Sociéte Anatomique de Paris, 1905, Vol. VII, p. 911.
66 Kentmann, Hans—Monatsschr. fuer Geb. u. Gyn., 1898, Vol. VIII, p. 333.
67 Theilhaber—Monatsschr. fuer Geb. u. Gynaek., 1898, Vol. VIII, p. 419.
68 Polak, Jno. A.—Medical News, N. Y., 1899, Vol. LXXXIV, p. 555.
69 (a) Bird, Frederick—Lancet, London, 1842-43. p. 645.
(b) Salva Mercadé—Les Azcés de l'Utérus. Annales de Gynécologie et d'Obstétrique, Paris, 1907, Vol. IV, 2 iemè sèrie, p. 29.
(c) Von Franqué—Centralbl. fuer Gynaek., 1902, No. XX. p, 544.
70 (a) Porak—Bull. et Mém. de la Sociéte l'Obstetrique et de Gynaek. de Paris, 1895, Vol. V, p. 503.
(b) Lea, Arnold—Journ. of Obstetrics and Gynecology of the British Empire, 1906, Vol. X, p. 159.
(c) De Chegoin, Havez—Gazette Hebdomadaire de médecine et de Chirurgie, Paris, 1868, Vol. V., p. 811.
71 Mauclaire—Annales de Gynécol., 1903, Vol. 59, p. 122.
72 Gottschalk—(Berlin Med. Society) Am. Journ. Obst., 1900, Vol. XLI, p. 127.
73 Richardière, H.—Des perforations utérines avec gangrène localisée. Annales d'hygiene publique, Paris, 1887, Vol. XVII-XVIII, p. 127.
74 Winter—Centralblatt fuer Gynaek., Berlin, 1886.
75 Maygrier—Bull. et Mém. de la Société d'Obstétrique, Paris, 1901, Vol. IV, p. 363.

76 Schmidlecher, K.—L'Obstètrique, Paris, 1906, No. IV, p. 362.
77 Taylor, Howard C.—Am. Journ. of Obst., 1907, Vol. 55, p. 669.
78 Hickman, J. W.—Medical News, N. Y. 1895, Vol. 66, p. 242.
79 Jahreiss—Centralbl. fuer Gynaek., 1898, Vol. XXII, p. 137.
80 Fieux et Lafond—Revue Mens. de Gyn. d'obstét. et de Pédiatrie, 1902, No. 6, p. 242.
81 Polak, J. A.—Brooklyn Med. Journ., 1903, Vol. 17, p. 376.
82 Flandrin, J.—Thése de Paris. De la perforation de l'utérus par la sondt an cours de l'irrigation continue, 1895.
83 Schwab.—Bull. et Mém. de la Société d'Obstét. et de Gyn. de Paris. 1895, p. 495.
84 Jarman, Geo. W.—Gynecol. Trans., Phila., 1905, Vol. XXX, p. 15.
85 Elder—Med. Press and Circ., London, 1899, Vol. XVIII, New Series 67, p. 3.
86 Stoner, A. P.—Journ. for Amer. Med. Assn., 1904, Vol. XLII, p. 1620.
87 Dienst—Centralbl fuer Gynaek., 1905, p. 65.
88 Gouilloud—Revue de Chirurgie, Paris, 1907, Vol. 27, No. 7, p. 138.
88 (a) Vincent—Soc. Nat. de Med. de Lyons, 6 Juillet, 1896.
(b) Topfer—Centralbl. fuer Gynaek., 1905, p. 28.
89 W. J. Nixon Davis, M.D.—"Perforations of Uterus during Curettage, excision of fifteen feet and a few inches of intestine, with recovery." Ill. Med. Journ., 1908, Vol. XIV, p. 455.

THE TREATMENT OF INEBRITY BY THE GENERAL PRCATITIONER.

BY

DR. MANCHESTER

NEW WESTMINSTER, B.C.

Mr. President and Members of the British Columbia Medical Association, Ladies and Gentlemen:—

The general theme for this paper suggested itself to me almost at once when invited to contribute to the programme of this convention, through circumstances, which I feel must be frequently encountered by each and all of you who are engaged in general practice, especially by those laboring in towns where liquor is freely offered for sale.

The matter was forced upon my attention at the time referred to, through the unusual difficulties encountered in trying to help some rather urgent cases of inebriety, cases which seemed to have reached a crisis where something medical had to be done, and in that something I think that the physician had his part to play.

A few months ago a clergyman of our city, called me up early one morning, to attend a man in whom he was deeply interested, because that five months previously this man, having experienced religious conversion, had given up entirely the use of alcohol, after having been a steady and heavy drinker for seventeen years, in fact, he had lived in a chronic state of intoxication. This outbreak having been set going by a most trivial circumstance, easily avoided if it had been recognized in time, it was the sincere hope that the slip would be overcome, and the struggle yet end in complete victory.

I found that he was a Welshman, aged 40, single, a marine engineer, and not long in this country. He was lying in bed presenting all the well known symptoms to be found in one who has had just recently passed through a drinking bout, and on the verge of delirium tremens, a condition which he

had experienced more than once, of which he stood in great dread, and from which he begged me to save him.

It is a remarkable fact that inebriates rarely ever appeal to physicians for help, unless intoxicated, or in the remorseful period recovering from the toxic effects. The moderate drinker never considers that he needs medical help; whereas the periodic drinker may seek advice upon the eve of an outbreak, but never after until the storm is over, and he is suffering from the effects of excess.

In this case I brought to bear at once those therapeutic measures with which we are all familiar in such instances, with the result that in a couple of days I was able to permit outdoor exercise in company with an attendant. In spite of precautions he managed to slip away and procure a fresh supply of whiskey, with which he soon undid all that had been done for him. This savors distinctly of the dipsomaniac which he really was.

Having betrayed the confidence so utterly of the kind folk with whom he had found a home, he was now ordered out, and I was forced to place him in hospital, where, by the way, because he was merely an inebriate, the sisters refused him admission until I had guaranteed his expenses, a pledge I afterwards had to make good.

After ten days there he was again well enough to resume work, and seemed to have braced himself square for the struggle, which he very stoutly maintained for a short time; but the influence of inebriate companions was again his undoing, and one afternoon he came reeling into my office very much under the influence of liquor, and began to beg me most vehemently and for God's sake to save him from the craze for drink.

My first impression, after that of disappointment and disgust had abated, was one of utter helplessness, the futility of going over the same ground covered before being apparent, while no new measures presented themselves.

I had also discovered upon fuller investigation, that he had received similar treatment times without number, in as many different ports of the world; while he showed great familiarity with the names of the drugs usually exhibited in

these conditions, as well as with the names of many physicians under whose hands he had undoubtedly passed.

Since he had first come under my care I had reviewed the subject of inebriety in all the textbooks and journals within reach, including a symposium contributed to by many authors, and published by the Journal of the A.M.A. early last year. I also wrote Dr. Crothers, the veteran specialist in this department of medicine, who had been dealing with inebriates exclusively since 1875 in his retreat at Hartford, Conn. He kindly forwared what literature he had at hand dealing with the subject from the standpoint of the general practitioner; but yet through it all there was no satisfactory treatment suggested apart from that to be had only in a special institution, entailing long periods of confinement with attendant expense; or by elaborate psychic methods entirely out of the line of the average general practitioner as trained by the medical schools of the day.

According to my humble opinion, what the conditions existing in the case before me really called for, was a form of treatment, which could be undertaken with a preliminary hospital stay for general toning upbuilding, to restore nutrition to the starved tissues; to be followed by further office treatment and supervision, extending over whatever time each individual case might call for, but which would not cause the patient too great a loss of time and money, or make him a burden to others. I mean that work should be resumed so that the patient may be brought into a state of total abstainance amidst those surroundings in which he afterwards has to maintain it.

This would be meeting every indication while overcoming every objection. But I could not find it in the books.

All authorities, however, were agreed on one point, namely that all forms of gold treatment were anathema, and that principally for two reasons; the first, that the methods employed were all secret, and used for commercial purposes entirely by men of no reputation or conscience, and secondly, that for their success they relied entirely upon the credulity of the patient, since gold had no therapeutic powers.

However, they admitted a degree of success, and the

question arose in my mind at once as to what was the degree of success met with. Was it 10%, 25% or 75% of those treated? I could not find out. It seemed to be settled with these writers that as gold was incapable, the results were due to the exercise of the patients' credulity. Why not faith? The two words do not mean the same. By using the word credulity an effort is intended to throw discredit upon any such use of the psychic powers. Not that psychic treatment alone applied in the most scientific manner was objected to, not at all, for Dr. Mason, of Brooklyn, claims that in selected cases psychic treatment is the most efficient of all; but to combine the use of gold in any form with the conscious or unconscious use of the patient's faith is not to be allowed.

I cannot see that the objection is any stronger than that of the expert masseur, who condemns the methods of his opponent, because the latter uses a cream to facilitate his less skillful manipulations.

I hold no brief for gold in the treatment of inebriates; but I wish to say in general terms that where a physician feels, that to accomplish the good results sought, he must stimulate the patient's faith (or credulity if you will) in order to arouse his slumbering will, and yet is not a trained psychiartist, he is fully justified in calling in the assistance of any physical agent which will do the patient no harm if it does him no good. For to apply the psychic treatment alone would imply a special training upon the part of every general practitioner, which falls to the lot of few, and would be as useless to expect as to look for a special inebriate institution in every city.

I must not here be understood as minimizing the usefulness of the special institution, very far from it, and hope that the day is not too far distant when we may have here in B.C. just such a hospital as that conducted by Dr. Crothers; or the better condition, the entire absence of any need for it through the operation of a prohibitory law. On the other hand I maintain, that for us, lacking these facilities, to abandon the inebriate to his fate and to the quack institutes is unwarrantable.

Just at this juncture another clergyman brought into my

office a most pitiful looking object, a Scotchman, aged about 35, single, son of a Liverpool physician. When about 18 years of age he had been sent to Edinburgh to take up the study of medicine much against his own wishes, with the result that he did not study but lived riotously until driven from home and shipped to Canada. He certainly did not look worth pulling out of the gutter as he sat in my office, crying all the time in an idiotic manner, and making attempts to catch my hand in order to get my undivided attention while he begged to be saved from the power of drink.

The clergyman asked if I thought I could do anything for him as he had been kicked out of the hotel where he had been staying, and the police had gathered him in, but even they did not know what to do with him. I told of my experience with the other case and discussed the situation generally, while firmly determined that I was not to be inveigled into going good for another case in the hospital.

I was asked as to my knowledge and experience with the gold cure so called, to which I replied that I knew absolutely nothing about it, seeing that all the methods used were proprietary, and altogether under the ban. He, however, assured me that he knew a most rejutable physician, graduate of one of the leading Canadian medical colleges, who had been for many years employing with abundant success, gold in the treatment of inebriates, that he personally knew many of the cases relieved and that there was no delusion regarding results. He intimated that I would certainly be supplied with full detailed information if I would write to Dr. O. C. Edwards, MacLeod, Alberta, which I agreed to do.

In response to my letter, Dr. Edwards very promptly and very courteously furnished me a copy of his monograph entitled "On the Treatment of Inebriety by Gold," which he had read in 1896 before the Montreal Medico-Chirurgical and Ottawa Medical Societies, in which he gives full reports of 34 cases, showing satisfactory results.

In his personal letter to me at the same time, he assured me of his continued success with the same methods in hundreds of added cases. However, he emphasized the fact that special conditions were requisite to insure good results, some

of which applied to the selection of suitable cases, and some to their after conduct.

In his monograph he clearly contends for the modern view that inebriety is a distinct nervous disorder, implying a physical basis of causation, which would in every case be sought for and remedied with appropriate measures; but for the removal of the one chief and most distressing symptom, namely the indescribable craving for alcohol, he recommends the chlorides of gold and sodium in the nature of a specific.

I shall briefly epitomize the monograph.

Dr. Edwards deals first with the matter of selection of suitable cases, by simply laying stress upon the absolute necessity of sincerity of desire for relief, upon the part of the patient. With this there can be no dispute; and yet it is a condition not easy to pass upon, since even the patient may not be aware himself of his true frame of mind. Dr. Crothers remarks that "the inebriate is always a complex mixture of sanity and insanity. living on the border lines, and the public are not able to determine upon which side to place him. When he is intoxicated and delirious there is no doubt; when he is sober his mental weakness is not always clear."

But admitting entire sincerity of purpose, and a not already too damaged brain, Dr. Edwards claims for this method of treatment the absolute certainty of annulling the desire for drink. Mark you, not an induced disability to swallow intoxicating liquors, but simply an indifference, or possibly a repugnance, toward them such as will afford the tempted victim the unbiased ability to refuse them.

It is not claimed to be the whole cure, but only a good beginning—the rest to be slowly and patiently worked out by the assistance of the family physician.

The practice is as follows: The patient is placed in bed in hospital and undergoes a thorough physical examination, after which rest and appropriate methods of restoring nutrition are adopted. The chloride of gold and sodium is administered hypodermically in 1-10 gr. doses after each meal, and in some cases again before sleep. From 75 to 100 injections are used altogether. Tablets containing Quinine, Strychnine, Zinc Oxide, Capsicum, Arsenic and reduced iron are

given after meals by the mouth and these are continued for a term of two weeks or more after the injections cease. They also contain chloride of gold and sodium.

After a few days the patient is allowed up and within a week or two, according to circumstances, he is allowed to return home and resume work, while reporting daily at the office for injections until the full complement has been given, after which he reports less often until it can be felt that he is safely over his chief difficulty. The good effects are to be maintained by periodic visits and occasional administration of a few doses if considered called for.

It is claimed that the overmastering desire is conquered by this treatment on an average in less than three days, while the other nervous manifestations, such as tremor and depression, are speedily eliminated or entirely avoided.

After the treatment the patient is given to understand, and in case he should forget, is supplied with a printed letter stating, that for the remainder of his life he may not under any circumstances, socially, medically or sacredly (in communion) allow alcohol in any form to pass his lips, lest he completely relapse.

He is also encouraged to make a confidant of his physician and to unhesitatingly seek his advice if any suspicion of returning desire should show itself.

In view of these strong affirmations by a general practitioner from our own ranks, supported by such clinical evidence, coupled with my conviction that the treatment was at least harmless, I decided to accede to the expressed desire of those interested and administer it. It promised a valuable experience and an opportunity to study the inebriate at close range, as well as a chance to confirm the tonic affects said to be early in evidence.

While treating the two cases already on hand, three others turned up, the first of whom tried to throw himself in the Fraser, while intoxicated and was taken up by the police. The fourth came also into the hands of the police, while the last came himself at the urgent solicitation of friends.

All were single men, from 35 to 50 years of age, wage-earners, but penniless from their incessant drinking. The

two oldest were both damaged mentally and permanently, and in these the family histories were hard to get, but there was some evidence of nervous predisposition.

All received the preliminary hospital treatment except the first case, whose sincerity I positively doubted. He was a case in which nothing short of prolonged institutional treatment was of any use. The other four seemed to respond to the treatment in varying degrees. In the second case the tremor and depression disappeared at once, and the patient volunteered the statement that for many years, when recovering from the effects of his periodic debauches, he suffered so intensely from depression that suicide was often contemplated, but that upon this occasion he was actually the reverse of depressed.

All four declared themselves absolutely free from any desire from alcohol within a week, while two said that the idea of drinking was nauseous to them.

All were dismissed from hospital within two weeks and work resumed with daily visits to my office according to circumstances; some came three times daily and some only twice until the course was finished.

On the day of leaving the hospital one patient had to go to the hotel where he had previously been boarding to get his clothes. He found the proprietor in the bar, and attempted to wait there while the latter went to bring his grips, but turned so sick to his stomach with the beery smell of the place that he had to rush out into the fresh air.

Another had to go into a bar to finish a job of painting which he had left to go to the hospital, but the smell was too much for him and he had to quit it.

From last reports this nauseous influence persists.

The results stand to-day as follows: The first case, the one who gave so much trouble from the start, completely relapsed and drifted away, and from last reports was as bad as ever. The other four are total abstainers and steady workers, claiming to have no desire for alcoholic stimulants whatever. In two of the cases the results seem to be everything that is satisfactory.

I realize that the time which has elapsed is all too short,

to permit of any very definite conclusions being drawn as to the permanency of the effects of this treatment in these cases; and that the number dealt with does not warrant one in judging fully as to the ultimate usefulness of the method; but I submit that results have been achieved which were worth while, and which were not to be achieved in any other way in these particular cases, or in hundreds of similar cases, where loss of time and expenditure of means were so extremely limited in possibility.

Personally, I feel encouraged to go on with the experiment until I have seen enough to convince me of the value or otherwise, of so simple an expedient for ousting the worst symptom standing in the way of the office treatment of the inebriate; and further, I hope that sufficient interest will be aroused in this matter by this feeble effort to lead some of you who have similar opportunities to investigate upon your own account, free from prejudice, so that notes may be compared at some later time.

I feel convinced of this, however, that, whereas it has often been claimed that in case of a relapse in those who had undergone the "Gold Treatment" in the Keeley Institutes, a worse condition resulted, that the nervous system was shattered, the kidneys ruined, etc., no such effects can be induced by Edwards' method.

While inebriety has been known since the world began and is said to exist even amongst the animals and insects, the medical study of it has scarcely begun. But half a century ago, Dr. Turner startled the profession by urging that inebriety is a disease, and not merely a moral condition and half-vice as generally held.

The trouble is that the great mass of the profession accept the statement of the victim, that he is in full possession of himself, and can stop at any moment, and that this trouble is only loss of will power. The efforts to treat these people as diseased are regarded with suspicion. But through all the years of confusional studies, there has been a growing conviction that inebriety must have a physical basis of causation, and that the moral theories do not explain the fact.

Inebriety is a modern disease in one ense, and in another

it is a very old one; but the conditions which it presents in our modern life demand study and treatment as much as typhoid fever, or any other well marked disease. There is no theory about the degeneration of the inebriate, there should be no sentiment in his medical study and care. The same causes and the same effects exist here as elsewhere. We have now to come to a point in medical history when the phenomena of brain and nerve disorder can be studied and measured with comparative exactness, and it is our duty to recognize its physical character and study it, not as a theory, but as a condition, which will give way to proper means and measures.

Everyone who uses spirits to excess is literally a neurotic and is suffering from some form of psychosis. His nervous system is both functionally and organically diseased and deranged. His brain is impaired and defective; the neuronic vitality and power of control are lowered. He is on the road to pronounced stages of insanity, meaning mental disease in its most prominent forms. How far he has gone down this road is a very interesting question, which can only be determined by prolonged clinical and laboratory methods of investigation.

Thus the man who drinks continuously for years has narcotized and depressed his vital forces, broken up normal nutrition and started a train of degeneration which may or may not be very prominent, but nevertheless exists.

The man who drinks at intervals to great excess, who is called a periodic drinker, has been shocking his brain at these intervals up to the verge of unconsciousness and death, and because he apparently recovers without any marked symptoms, believes that he is not injured. In reality, intoxication manifested by delirium and stupor is as serious a condition as sunstroke or concussion; and its repetition leaves most serious lesions. Both of these classes are diseased, no matter what their appearance may be, or how far they retain their position in society.

We may go even farther, and deal with a most prominent class who use spirits continuously "in moderation." The terms "moderation" describes a wide variation of opinions, ranging all the way from beer and wine at meals, to strong

spirits taken every two or three hours during the day; and it means very little, unless described by the person in exact terms.

"The common opinion that wine or beer at the table only is a harmless drink, to be compared with tea and coffee, does not prove to be true in our American civilization," says Dr. Crothers, and the same applies on this side of the line. "Experience shows that drinking at meals in this country is very quickly followed by the excessive use of spirits at other times during the day, and that it is impossible for Americans to confine the use of wines and beer to the table only. Therefore, moderate drinking, in the sense of using only a limited amount of spirits at stated intervals is practically impossible for any length of time. While there are exceptions to this rule, the so-called moderate and steady drinker is literally the most degenerate and seriously diseased of all inebriates.

My time is about gone and I must go with it, but before doing so I want to suggest that the general practitioner has another relation to the inebriate, when as the family physician, lodge doctor or even as public health officer, consciously or unconsciously, willingly or unwillingly, he sets an example of living to all. What is the use of teaching our children in the schools the dangers of alcohol, when they observe that the family physician ignores it?

It lends a pathetic coloring to the whole subject to see physicians, who with all their training and knowledge of physiological and psychological laws, and its application in practical life fall victims to this disease, without realizing their condition. Of course, there is profound ignorance at the start, with a great variety of favoring conditions, diseased impulses, and lessening of the power of resistence. Medical colleges are often responsible for this and the elaborate teaching and studies of drugs and narcotics often contain little or no warning of their possible danger, except in the most informal and uncertain way. The result is the graduate is forced to learn by experience what he should have been taught in the classroom. When appealed to in private practice to help these poor victims, he can do little more than the clergyman, and it is this failure of both the recent graduate as well as the older physician to afford substantial aid and treatment, that drives the poor victim into the merciless clutches of the quack.

Finally it must be said that the physician who defends the moderate use of spirits as a beverege and puts in practice his theory, has lost his way as a medical man, and is sadly belated in the march of science.

EDITORIAL NOTES

Need of a Western Medical Association

The necessity for the Medical Men to combine to form a Western Canada Medical Association as the Maritime Provinces have done is obvious to all progressive men. Any who study western conditions cannot fail to acknowledge that every business undertaking is finding there must be a central office in the West, if the western interests are to be successfully managed. One firm which discontinued its Western Headquarters is already acknowledging the mistake. The medical profession has much to lose if its western identity is submerged in that of the East and older established centres. To be guided on many points by their greater experience is one thing, but to be controlled is quite another. What is the meaning of the springing up of new Universities in the West? Simply, that since the young man is told to "go West," so must provision be made for his intellectual as well as his material needs. Many of the men practicing in the West have qualified at the best schools and have spent several years at the European hospitals. Western men, as our personal columns show, to keep up with the latest work in science, are constantly going to the States and Europe for post-graduate courses. Provincial and local meetings have been notably well attended this year, and the papers read at the meetings compare well with those read elsewhere. All of which shows the enthusiastic interest taken in medical work.

Objects

Our objects are (1) One Register for Western Canada. (2) A National Register. (3) Proper return of Vital Statistics in the West. (This lack of proper return of Vital Statistics has a very bad effect on our standing in the world's eye—and the attempt to send rosy accounts or none shows there is room for progress). (4) To note if our Councils are faithful stewards of our interests.

Letter from B.C.

The letter we published from B. C. gives the impression that the B. C. Council is unable to compel respect for its laws or to get justice and protection for its members. Note the difference in the case of Dr. Dyas in the Maritime Provinces (no doubt due to their combination) and the good result of their Council's determined persistency in enforcing its laws and refusing to have the standard lowered. After a hard fight, victory was theirs and their example might be followed elsewhere. But why should it be remarkable to record such a victory—because they are not usual. Why? Because we lack in the West what a paper says is greatly lacking in the East—

Leaders Wanted

Leaders—strong leaders—leaders whose proficiency shall make them authorities and men of such independence of character that they will be capable of giving disinterested and unbiased testimony on any medical question arising — not men afraid to speak out the truth, but men who can shoulder their responsibilities and refuse to allow injustice and political over-ruling. Political over-ruling is absolutely illegal and can always be sucessfully contested by a strong disinterested leader.

When our Western Association is formed—the need for officers will bring forth the right leaders if carefully and independently chosen—if each member of the profession considers well before he votes and votes for the man not the school or policy.

First Unity at Home

The Montreal Medical Journal says "upon professional grounds as well as on the wider ground of political expediency it is desirable that all should be done which may be done to develop community of sentiment and interest between East and West." True.—Therefore, let us hasten to get united in the West and if the East is united, the sections on each side of the Great Lakes can join and fight for recognition as a powerful factor in the welfare of the State.

The Public and the Profession

The co-operation of the public with the medical profession is greatly needed. This can only be obtained by educating the public. Dr. McCormack, in his address to the A.M.A., draws attention to the need for the organization of a committee on education of the public in preventive medicine. This is done occasionally but not systematically. The States can not need such an organization more than Western Canada where quackery is rampant. Newspaper articles and reports should always be scientifically accurate which frequently they are not. If we had a medical press censor in every town as the Christian Scientists have, it would be a good step. Note that the Emmanual Movement is organizing lectures and newspaper articles in the West. The medical profession practically remains silent. This is neither just to the public nor to the profession, but is probably due to the fact that those who could do this work are the busy men. Still, organization would do away with that difficulty.

In a Police Court in the West the other day it was ruled that conversation between doctor and patient was not private. Another fallacy.

Medical Men and Their Dues

Whether the action of Dr. Rose in summoning 150 men for non-payment of yearly dues was wise cannot be easily decided. That the Council (if it legally has a right to collect such dues) has been very lax in the performance of its duty all these years is very obvious. If the dues are legal, let them be collected in a business-like manner and after due notice the defaulters should be marked off.

LETTER TO OUR SUBSCRIBERS

The Western Canada Medical Journal soon enters its third year. The end of a year makes us wonder whether we have done what we promised. In our first number we said our great aim was to show there was good medical material in the West. Proof sufficient has been given of this by the records of work from month to month of the societies and the papers of Western men which we have published. We also promised occasional papers from leading members of the profession in other parts of the world as an incentive for our men to endeavor to do likewise. This also by the kindness of several of the well-known men we have been able to do. The interest of these leaders in our progress and their practical help has been greatly appreciated. We are, indeed, glad that we have been able to keep faith with our subscribers thus far. That we are far from our ideal and have many shortcomings, we are fully conscious. However, measured by the usual standard of such enterprises, we have been successful materially and ethically.

Few publications, not only of this kind but of any kind in the West, survive the first hard year. That the Western Canada Medical Journal managed to make headway through the hard times is most encouraging for the future, especially as we strictly adhered to our promise that we would not give write-ups or take any advertisement not strictly ethical. Material gain is not our leading object—if it were we could easily do very well but not by being strictly ethical in our advertisements. It is only fair to say that if the Journal did not pay after getting a chance, we should discontinue. This is only self-respecting.

Occasionally we receive encouraging letters. To the writers of these we are very grateful. Appreciation of work is a great help to improvement. Some have shown their appreciation practically by obtaining for us subscribers and advertising support. This is a great help. Not only the management, but the subscribers also appreciate greatly

the kindness of the well-known men who, during the year, have found time to send us a contribution. An Advisory Committee is to be appointed next year to co-operate in the production of this Journal. This should mean great improvement.

Next year will be a very busy one—so many Conferences in the West as well as that of the British Society at Winnipeg. There will be much to record and great good should spring from the many opportunities Western men will have of making the personal acquaintance of their medical brethren as well as those from other parts. The result should be greater unity from the better understanding. Those who, by their appreciation, advice and practical help have been doing all in their power to aid us in reaching our goal, we most heartily thank, and may the year 1909 for all be indeed "A good New Year."

SPECIAL NOTICE

The Canadian Medical Association meets at Winnipeg August 23rd, 24th and 25th. Dr Blanchard, the President, has appointed the following Committees, the first two names in each Committee are Chairman and Secretary respectively:

Executive:—Drs. Chown, Smith, Blanchard, Divine, Milroy, McLean, J. R. Jones, Halpenny, Vincent and Hughes.

Medicine:—Drs. J. R. Jones, Hunter, McDonnell, Bjornson, E. W. Montgomery, Chestnut and McCalman.

Surgery:—Drs. Nichols, McLean, Blanchard, Todd, Lehmann, Galloway, D. S. MacKay and McKenty.

Ophthalomology and Otology:—Drs. Provse, Turnbull, Harvey-Smith, Good, Raymond, Brown and Williams.

Pathology:—Drs. Gordon Bell, Pierce, Vrooman, Webster and Leeming.

Credentials:—Drs. S. Campbell, Kenny and Mitchell.

Finance:—rDs. Patterson, Simpson, Pope, Brandson, Popham, Moody and Douglas.

Entertainment:—Drs. Rogers, Field, Devine, Milroy, Young and Fletcher.

Transportation:—Drs. Blanchard, Vrooman, Chas. Mackenzie, Moorhead, Rogers and Leney.

Exhibit and Accommodation:—Drs. Munroe, Coulter, Davidson, W. G. Campbell, A. M. Campbell, Hiebert, DeBuc and Burridge.

Advertising and Publication Committee:—Drs. Hugh MacKay, Hughes, D. Stewart and D. MacDonald.

PROCEEDINGS OF THE WINNIPEG CLINICAL SOCIETY

The Winnipeg Clinical Society met on Tuesday, November 16th, with the President, Dr. Nichols, in the chair. The minutes were read and adopted.

Dr. Kenny showed a heart case. The patient, age 18 years, good habits, cross-country runner, first suffered from palpitation a year ago. History of two attacks bronchitis ten years ago, one very severe; attack of rheumatism in hand during present year, but no other rheumatic history. Father died aged 51, heart disease; grandfather, alcoholic. Examination showed only circulatory system to be involved; over the aortic cartilage extending up to the neck, a systolic murmur was found. The question was whether this was a heart case now, or would develop into such. Such a murmur might be due to Aortic Stenosis, dilatation of the Aorta, Aortitis, or might be haemic in character.

Dr. Rorke—I didn't hear the murmur distinctly.

Dr. Hunter—I thought that the heart seemed to be a shade enlarged to the left, and one heard a harsh systolic murmur over aortic area going up to neck, second aortic sound just heard, and rather accentuated pulmonic second, and also a systolic mitral murmur accompanying the first sound. I consider there is some little muscular insufficiency of mitral valve, with accompanying systolic murmur, and with avoidance of over-exertion, I consider prognosis good. I wouldn't expect that to develop into any definite lesion.

Dr. Kenny—If there is a murmur of the mitral valve the case is simpler than at first. I couldn't get that, but it would throw light on the palpitation, but explanation of murmur at the aortic cartilage transmitted upwards is not clear in my mind. Supposing there is a slight degree of endocarditis involving the mitral valve, what light does that throw on the murmur? The anaemic murmur is due to blood conditions for which there is no adequate explanation. Anaemic symptoms are usually present when we get these symptoms, say in chlorosis, but in this case we have no such symptoms to record this as an anaemic murmur. The murmur at the apex would explain the palpitation.

Dr. Hunter—I think you lay too much stress on murmurs per se. I advocate taking heart cases broadly on general investigation and on general feelings of the patient, the subjective symptoms of the patient. In this case where there is little or no enlargement of the heart, no marked signs of accentuated second; a murmur per se, over any valve is not any proof of valvular disease, with the exception of the definite pre-systolic mitral, which would be an indication in every case of some stenosis of the mitral valve. State of pulse throws no light on this case. It was good and full and regular, and, allowing for natural nervousness here, was not out of proportion in rate.

Dr. Nichols thought pulse seemed small and weak.

Dr. Kenny did not think so.

Dr. Lachance showed some specimens of stones removed while performing cholecystectomy. The stones were interesting for their size.

Dr. Dorman showed a young man, 26 years, born and lived in Manchester until a year ago. been fairly well until onset of present trouble. Two years ago he had an accident to knee, and since then has had pain and swelling in knee, and about same time patient developed a cough which hasn't been getting better. No severe pain or swelling, but bothers patient off and on. Cough is present most of the time; occasionally sweats at night. Family history, brother and sister died of consumption.

Dr. Kenny thought, from history, one would expect to find tubercular lesion, and patient has the local indications of tubercuiar lesion of joint and lungs.

Dr. McKenty thought knee joint and lung lesion would go hand in hand for better or worse. Treatment for one will go with the other, excepting rest is indicated for inflamed joint. Rest and open air treatment, together with Bier's hyperaemia were recommended. Use of knife or injections were not favored.

Dr. Whyte recommended injections, citing cases he had seen the Mayos treating in Rochester, with iodoform injection with glycerine, and application of Bier's hyperaemia. They claimed wonderful results in a number of cases.

Dr. Rorke showed a case of a boy, age 10, suffering with chronic diarrhoea. The first two months of his life, his mother nursed him, and after that he was fed on one cow's milk, sometimes boiled, and more frequently not, and mixed with water, boiled water, usually. From that time on until the present he has had a diarrhoea. The bowels have been so loose that sometimes child is not able to control them, and sometimes soils his clothes before he can reach the closet, and once in a while, of late, the passages have been streaked with blood, or at least a reddish color. He has some trouble with urine, not an incontinence but an urgency, often soiling his clothes. Patient was not very well developed, does not talk a great deal, is very wilful.

Heart and lungs give nothing. Abdomen, a mass in the right iliac region, and that is the reason I have brought him here. He has attacks of pain at times in the abdomen. It is hard to say how long the tumor has been present: I have only noticed it a week. No constitutional symptoms found. Father died of dropsy, particularly oedema of feet and limbs.

I examined him pretty thoroughly and mother said in the morning he passed considerable blood, with the stool.

Dr. McKenty said he felt the mass after Dr. Rorke pointed it out. He thought it was in the pelvis and possibly attached to the pubic bone and in any case quite low down. He didn't think it tubercular; the tubercular cecum has a tendency eo draw up towards the ribs. An examination under an anaestheic was advisable.

Dr. Rorke thought that owing to the continuance of diarrhoea and the fact that he was fed on one cow's milk, there might be some tubercular lesion. The mass is too elastic and it is too even and rounded to give me the idea it is a tubercular lesion in or about the cecum. and it is too low down for that.

Another thing I thought of was a chronic intassusception in that region, but that, again, would be inclined to reach a higher position in the abdomen. Then so near the inlet of the pelvis, one would think it would be inclined to follow up the ascending colon. In the examination of the feces I couldn't satisfy myself that there was any great quantity of mucus. Itwas streaked with what appeared to be blood, but very little.

Dr. Kenny asked if the testicles were in their normal position.

Dr. Rorke on further examination reported that no normally developed testicles are present in the scrotum which is fairly well developed and contains a couple of small bodies of the size of an ordinary pea. No external abdominal ring can be felt.

Dr. B. Brown presented a number of cases of strabismus and illustrated his cases be means of a blackboard chart given herewith. Case No. 4 was a little boy who had been run over by a horse and kicked in the eye. About a year later the right eye began to diverge, this fundus is very interesting because it shows an atrophy and the

sight of an old haemorrhage partly covering the disc. There is only one vessel left in the fundus, his vision is gone in that eye, and he has some mystagmus. Case No. 6 is a little girl who has been wearing her glasses two months, and is improving, she is wearing plus 6 diopters on each eye; she had forty degrees of squint and has improved fifty per cent. Cases No. 7 and 8 are brother and sister, they are not so favorable, both full convergent squint, one right and the other left; the mother also has squint of one eye; both these children are wearing very strong glasses, the boy 9 diopters on one eye, the young lady plus 3-¼ on each eye. These are cases for treatment by atropine in the fixing eye. Case No. 11 is a young man who has sqint in the left eye upward and outward; he sees double when you correct his myopia; he sees singly now because he does not use his left eye; he is suppressing the image in the left eye, an 8 diopter minus brings up vision and makes him see double. I think a three prism base at thirty degrees gives him single vision for distance and a five prism base at thirty degrees gives him single vision for reading.

Dr. Brown in his remarks on strabismus said that strabismus was a condition where the visual axis of both eyes do not meet the same object at the same time. A patient with strabismus must either see double or suppress the image in the weaker eye. The cause of convergent squint in three-fourths of all cases is long-sightedness or hypermetropia. I call your attention to case No. 1 on the chart, who is wearing over 8 diopters plus on each eye; this is about the same as would be placed on a patient who has had both lenses removed for cataract. The boy was wearing a plus 3 sphere and a plus 2 cylinder with no improvement. I put on him a plus 5.25 sphere with a plus 3 cylinder and got a cure in sixty days, which showes you how carefully we must go into these cases. Two-thirds of the cases of divergent squint are caused by short-sightedness or myopia, for the other third we are not given any definite cause; we might name certain opacities of the cornea, blindness from any cause, prolonged bandaging, heredity, paralysis, and so forth, and so forth. Thus in three-fourths our cases of convergent squint and two-thirds our cases divergent sqint, the cause is explained by the association phenomenon.

Accommodation and convergence are associated actions. The normal eye accommodates 4½ diopters for near subjects, so a child, as case 1, who accommodates 8 diopters for distance, must accommodate 12½ diopters for near objects. He must, therefore, put a special effort on his third nerve to bring that lense to a more convex shape; this causes special convergence, and hypertrophy of the internal recti muscles. When convergence becomes extreme the patient sees double, as soon as the patient begins to see double, he begins to learn how to suppress one image, and he learns very quickly to suppress the image in the weaker, and as soon as he learns to suppress it atrophy of the fundus begins from that moment. It is an atrophy of disuse. Likewise, we will attempt to explain our divergent squint cases that are myopic. Here there is no accommodation, not even for near subjects, hence no stimulation to converge, and a weakening or atrophy of the internal recti muscles, with a resulting divergent squint.

The treatment. There are just five things to do, first, correct the refraction and correct it right; second to cover the fixing eye with a shield; third, atropine in the fixing eye, which must be kept up for weeks; fourth, training of the fusion sense by use of the amblyoscope; fifth, is operation, and this generally is the last procedure to be tried after the foregoing methods have failed.

With regard to the treatment, first, I want to emphasize very strongly the use of a cycloplegic in every case. Second, the absolute dependence upon the use of the retinoscope or skioscope. Most of these cases are children, who cannot read, and every oculist shold be so proficient with his skioscope as to be able quickly to detect errors of refraction as small as twelve one-hundrdths on a diopter. Third, I want to call your attention specially to the lenticular lense; the refractive portion of which is a small wafer in the centre of the glass. Fourth, the oculist must get these cases early, if they are to be cured by non-operative methods. The youngest case I have here is three years, and it is by far the easiest case to correct. When we get these cases early, say between the first and second year of life, the atrophy has not markedly progressed. Fifth, the fallacy of sending these cases to the jeweler and the quack spectacle man. Many of these children see twenty-twentieths with an eye that is 4 diopters hypermetropic, and if a cycloplegic is not used he will never be corrected right.

Dr. Nichols asked what error of refraction could be discerned with a retinoscope, and Dr. Brown thought we must be able to detect between twelve-hundredths and twenty-five-hundredths of one diopter. In every case of refraction the occulist should get the axis of his cylinder with the retinoscope. We must never depend on our chart tests.

Dr. Whyte asked if full corrections should be made in advanced cases. Dr. Brown cited Dr. Fuchs as one of the highest authorities, who does not recommend the full correction. But such men as Savage and DeSweinitz, do recommend a full correction. In these cases I have corrected them to the full limit of their error. Trouble will be found for distant vision, but with a little persistence, this will soon be overcome.

Dr. McKenty asked the cause of atrophy of the internal rectus in one case, and hypertrophy in the other. Dr. Brown said he did not know, and asked why we got hypertrophy of the biceps when we carry a load on the arm or why a milkman should have hypertrophy of his forearm. He thought the true cause of the hypertrophy was increased innervation or increased use of that muscle· the atrophy would be due to lack of innervation and lack of use.

Dr. Hunter asked if in a well marked case of squint taken at the age of one or two, could you fully correct it, and as time goes on, be able to lessen your correction.

Dr. Brown—Many of these cases are congenital so far as the error or refraction is concerned. I think it would be necessary for them to wear glasses as long as they have more than one degree of error. In these cases of error of high degree the patients are doomed to wear glasses for life.

Dr. McKenty—I understand there is a plan for training the visual centres to associate images, to use the amblyoscope.

Dr. Brown—We never accomplished anything with such instruments in eye clinic where I have worked. It seems to me it would take much patience and pains on the part of both operator and patient to accomplish anything with Worth's instrument. Of course, in many cases we try the exercise prisms, but I cannot say that I have any good result therefrom.

GENERAL MEDICAL NEWS

At the last meeting of the Provincial Board of Health, Manitoba, the following resolution was adopted: "That the erection of numerous apartment and tenement houses in Winnipeg presents a danger of congestion in living space, and of inadequate ventilation and light and other agencies detrimental to public health and renders it imperative in the opinion of the board that appropriate action be taken by the civic authorities to prevent or overcome the evil stated"...

Also "That it is highly important and desirable that the Vital Statistics Act be amended by placing the administration thereof and the complication of statistics under the Board and requiring more frequent returns and a better classification of the causes of death in the province.

The Emmanuel Movement is to be started at Minneapolis A series of twelve lectures are to be given by Dr. Worcester and his associates.

Fifteen candidates sat for the examinations for registration in Saskatchewan.

A Crêche is soon to be opened in Edmonton. A suitable house has been taken and a matron is to be appointed. For a few cents a day a poor woman will be able to place her little one in safe keeping. These institutions have done inestimable good in many large cities. Yearly subscriptions of $5 each are being secured for the up-keep of the establishment.

The Paris Medical Society is considering a proposal that physicians should wear a certain badge so that they might be recognized in the streets and public places in cases of emergency.

The General Hospital Board of Calgary has received word from the Interior Department that 15 acres of ground fronting the new hospital will be given if the city will close the street between the blocks offered. The land is worth about $50,000.

The bazaar and sale of work recently held in aid of the proposed Children's Hospital in Winnipeg was a great success.

Construction of a new Royal Columbia Hospital at New Westminster will probably start early next year.

A demand is being made for increased medical service in connection with the G.T.P. construction along the Skeena River. The present service provided by the contractors, who collect a dollar a month from every man on their pay-roll, is said to be most inadequate.

Dr. Kennedy, at the monthly meeting of the Montreal Dental Club, read a paper on "The Instruction of the Public and School Children in Oral Hygiene." He advocated periodical examination of the teeth of the children in all schools.

At the last meeting of the University Council of Saskatchewan a resolution was passed and is to be submitted to the senate, in which it is proposed to begin work in Arts, Science and Agriculture next Fall.

The Annual Meeting of the Victorian Order of Nurses was held Nov. 25th at Government House. The report showed 2,075 calls, an increase of 452—243 patients had been nursed. The receipts for the year amounted to $1,964, which added to the former balance gave an income of $2,721. Mrs. Bryce in her address said the time might come when a civic or provincial grant would be a necessity if the work waiting for them was to be touched. The society would soon become a local association instead of a district and would then be able to seek incorporation. Miss McKenzie said she hoped to see another nurse at work soon and ultimately a training school established.

Dr. Rose of the Ontario Medical Council summoned to the Police Court of Toronto a number of medical men for non-payment of medical fees due for the past twenty years. Dr. Rose declared there were 150 men behind in their dues—about 50 in Toronto. He said that technically they were quacks as they were practicing with licenses which can only be secured on payment of the annual dues.

PERSONALS

Dr. W. H. Lang, who has practiced in Taber, Sask., for the past four years, passed successfully the examination held in October for license to practice in B. C. Dr. Lang graduated from Manitoba Medical College in 1903 and spent one year as house surgeon in the Winnipeg General Hospital previous to going West.

Dr. McLeod, of Stonewall, we regret to report, has had an accident.

Dr. Speechly of Pilot Mound is visiting St. Paul.

Dr. Carson of Lauder, Man., will spend the winter in Victoria.

We regret to report that Dr. J. C. Davie of Victoria, B.C., is suffering from hemorrhage of the brain.

Dr. Proudfoot, who recently passed the B. C. examinations for registration, will devote his practice to diseases of the eye, ear, nose and throat. Dr. Proudfoot is a graduate of McGill and first practiced in Montreal and then in Chicago.

Dr. Baker of Edmonton has been visiting Vancouver.

Dr. W. T. Hynes of Lacombe has been visiting Calgary.

Dr. and Mrs. Lehmann have arrived from their three months' visit to Europe.

Dr. Harvey Smith, Winnipeg, has gone for a month to New York to visit the hospitals.

Dr. M. G. Archibald, Kamloops, B. C., has been visiting Vancouver.

Dr. J. A. L. McAlpine and Mrs. McAlpine of Vancouver are visiting the city of Mexico and intend visiting many of the southern and coast cities before their return.

Dr. Chas. Freeman of Moose Jaw intends to devote his practice to diseases of the eye, ear, nose and throat. Dr. Freeman is a graduate of McGill and has taken a long post-graduate course on these subjects in the hospitals of New York and Boston.

Dr. C. M. Rolston of Duncans has been visiting Vancouver.

BORN

McEWEN—At Vancouver, Nov. 2nd, the wife of Dr. McEwen, Cloverdale, of a son.

COLES—Nov. 17th, the wife of Dr. Coles, of Regina, of a daughter.

BOOK REVIEWS

"International Clinics," Vol. III. Eighteenth Series, 1908. Edited by W. T. Longcope, M.D., Philadelphia. Published by J. P. Lippincott Co., Philadelphia and Montreal.

One can always count on finding something of interest in this Quarterly, and the present volume is fully up to the average. A careful analysis by I. A. Scott of 110 cases of Perforation of the Intestine in Typhoid Fever occurring in the Pennsylvania Hospital, Philadelphia, in the last 8 years, is of special value to Western readers. Symptomatology and differential diagnosis are considered in detail, and the article is well worth careful study.

Guisez of Paris in a very readable article puts in a plea for the use of the Oesophagoscope and gives his personal experiences. Of interest is the fact which he emphasizes that the oesophagus, in life, is not a tube of more or less even calibre, but a spindle-shaped cavty, whose walls can be examined by the instrument without risk.

Corier of St. Thomas' Hospital, in a thoughtful article, thinks there is a growing field for the wiring of fractured bones in certain positions, where the usual splint or plaster gives unsatisfactory results. Such fractures are those of the shafts of bones, particularly if surrounded by thick muscles, as the femur, 2nd, those in the neighborhood of joints, as the knees, and lastly fractures of the neck of the humerus or femur.

Clogg of Charing Cross Hospital has a most interesting article on "Pericolic Inflammation." Much light is throw on those obscure cases of thickening, tumor formation and abscess around the pelvic colon. These are shown to be sometimes connected with tiny diverticula of the colon, often inflammatory products around the colon, secondary to lesions of the mucus membrane, the result of chronic constipation or dysenteric-like disease and sometimes of tubercular or cancerous origin.

Knox of Johns Hopkins gives a resume on the Diarrhoeal Disorders of infants, Gibbon of Philadelphia writes on Melanotic Neoplasms, while Warren Walker has a good article, illustrated by photographs on "Myositis Ossificans Progressiva."

The most finished and attractive article in the volume is by Joseph Jastrow, Professor of Psychology in the University of Wisconsin. Jastrow gives, in his "On the Trail to the Subconscious," a masterly analysis of the Subconscious in health an disease. The literary charm of the article carries the medical reader along over the difficulties of unfamiliar pharseology and thought.

Morrison Ray has a good article on "Adenoid Vegetations," while Surgeons especially will find it worth their while to read Sherren's article on "The Diagnosis of Injuries of the Peripheral Nerves from those of the Spinal Cord." —C.H.

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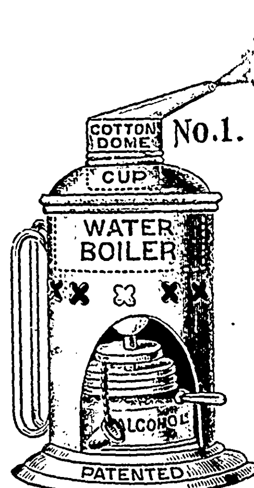

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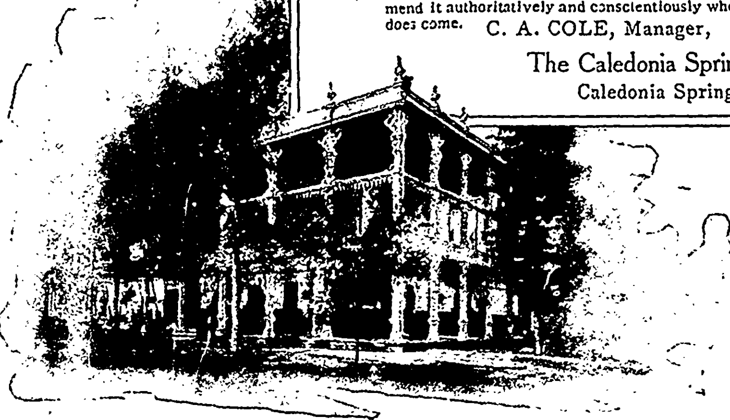

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Synopsis of Canadian North-West Homestead Regulations

Any even numbered section of Dominion lands in Manitoba, Saskatchewan and Alberta, excepting 8 and 26, not reserved, may be homesteaded by any person who is the sole head of a family, or any male over 18 years of age, to the extent of one-quarter section of 160 acres, more or less.

Application for entry must be made in person by the applicant at a Dominion Lands Agency or Sub-Agency for the district in which the land is situate. Entry by proxy, may, however, be made at an Agency on certain conditions by the father, mother, son, daughter, brother or sister of an intending homesteader.

DUTIES:

(1) At least six months' residence upon and cultivation of the land in each year for three years.

(2) A homesteader may, if he so desires, perform the required residence duties by living on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of his homestead. Joint ownership in land will not meet this requirement.

(3) A homesteader intending to perform his residence duties in accordance with the above while living with parents or on farming land owned by himself must notify the Agent for the district of such intention.

Six months' notice in writing must be given to the Commissioner of Dominion Lands at Ottawa, of intention to apply for patent.

W. W. CORY,

Deputy of the Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be paid for.

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NOTICE

ODD-NUMBERED SECTIONS

As already publicly announced, odd numbered sections remaining vacant and undisposed of will become available for homestead entry on the coming into force of the Dominion Lands Act on Sept. 1, next.

As the records of only the even numbered sections have hitherto been kept in the books of the various land agencies in the western provinces and the time having been very limited since the passing of the act within which to transfer the records of all odd numbered sections from the head office at Ottawa to the local offices, it is possible that the transfer of records in some cases may not have been absolutely completed by the 1st September. In any case where the record of any quarter section has not been transferred, application will be accepted but will have to be forwarded to head office to be dealt with.

As it has been found impossible as yet to furnish sub-agencies with copies of the records of the odd numbered sections and in view of the large probable demand for entries, all applicants for entry upon odd numbered sections are strongly advised to make their applications in person at the office of the Dominion Lands Agent and not through a Sub Land Agent. Applications for even numbered sections may be dealt with through the Sub-Land Agent as before if desired.

J. W. GREENWAY,

Commissioner of Dominion Lands,
Winnipeg, August 22, 1908.

ADVERTISERS

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