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THE
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—OF—

MEDICAL AND SURGICAL SCIENCE,

CRITICISM AND NEWS.

EDITED BY

J. FULTON, M.D., M.R.C.S. ENG., L.R.C.P., LOND.

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Original Communications.

FIBRINOUS POLYPOID UTERINE TUMOUR—SECONDARY HEMORRHAGE REMOVAL OF TUMOUR.*

BY A. D. LEITH-NAPIER, M.D. ETC., DUNBAR.

NARRATION OF CASE.—Mrs. M., wife of an actor, æt. 22, pale, little, blonde; secundipara; was easily and naturally delivered of a healthy female child on 30th May, 1881. The placenta came easily and was entire; the membranes untorn; in size the placenta seemed rather small, but appeared quite healthy. Mrs. M. originally a weak, fragile woman, of nervous temperament, had been confined of her first child sixteen months prior to the second delivery. She nursed her first baby nine months. Lochia lost colour on fourth day; mother nursed child; milk sufficient; pulse and temperature normal, average 80 and 98°. In consequence of her husband's pecuniary embarrassment at time of her confinement, she had no regular nurse, and possibly exerted herself more than was prudent from the very first. However, she did exceedingly well up to 9th June, (the eleventh day); she rose on that day, but did no house work. In the evening she carried her little boy across the room, and thoroughly washed him; she felt very tired after doing so. Between three and four hours after this bleeding began. I was sent for about 11.30 p.m. On visiting I found my patient reclining in an arm chair, in a profound faint; no pulse at wrist; face pallid as death. The quantity of blood lost was very great; but as she had been sitting up, fully dressed, when hemorrhage commenced, it was impossible to estimate how much, even approximately. The whole of her clothing from below the waist was saturated; the chair, covered with leather cloth, contained a large pool, and from it the blood had streamed over the floor. The faint lasted for

several minutes after my arrival, although on my seeing her she was immediately placed flat on the floor, with her head low. Upon recovering consciousness, the clothing was removed, and she was gently lifted into bed. On examination the vagina was filled with clots, as was also the lower uterine cavity; two fingers could be easily introduced within the os. The uterus felt about the size of a foetal head. By external and internal manipulation many clots were removed, the uterus contracted, and was fixed by a pad and roller. The following was prescribed—

R Ext. Ergotæ fl. ʒi
Tr. Hamamelis ʒss.
Aq. ad. ʒij.—M.

Sig. Two teaspoonfuls at once, and one teaspoonful every two or three hours. Cold water cloths were applied to the vulva for an hour and half. After remaining an hour I felt satisfied that bleeding was checked and left. During the night, and next day, several small clots were passed, and about six or eight napkins used. On 11th June two or three cloths were required; on the day following the discharge ceased. Mrs. M. continued to nurse her baby, but was strictly enjoined to maintain the recumbent position in bed. On 13th June, about 2 p.m. I was again sent for. I found the patient sitting up in bed. She was very nervous; bleeding recommenced with much severity about half an hour before. Fully twenty napkins were used; half of the number perfectly soaked. The vagina was cleared of all clots; two fingers introduced *in utero* and some clots, half the size of a hen's egg, removed. The uterus was not nearly so large as on the former occasion. I learned she had only taken her mixture for 48 hours. She had been wholly in bed; but had been "obliged to sit up frequently to attend to baby, as she was fretful." A full dose of ergot was given, and the former mixture ordered to be taken every four hours, also whiskey frequently.

14th June—Clots passed in early morning; discharge very moderate. As her strength was seriously impaired, she was advised to wean her baby.

15th and 16th June—Color of discharge brownish, only one napkin in the twenty-four hours.

17th—Lochia brighter; two napkins through day. 19th—Color almost gone; one napkin in twenty four hours. 22nd—Small quantity of "slimy discharge." 24th—Feeling well; rose; no

*Read before the Obstetrical Society, Edinburgh, May, 1884.

discharge. 25th—Very slight discharge. 26th—Rose about noon; up two hours; bleeding began necessitating two or three napkins; went to bed, but bleeding continued profusely; after a time it gradually ceased; there was then “a very free clear watery discharge; about 8 p.m. a large blood clot was passed.” I visited about 10 p.m., by this time the bleeding had almost ceased. P.V. examination; after removal of some clots, a pyramidal fixed mass fully occupied the cervix; the uterine tissue was soft, and it was possible to introduce two fingers within the os. The surface of the mass felt rough. The uterus could not be felt distinctly in the hypogastrium. In consequence of the feeble state of the patient, a prolonged examination was deemed inadvisable. The vagina was plugged; full doses of ergot and witchhazel ordered. The handling of the tumour caused little pain; patient stated she “had severe pain in the belly to-day, before and after the bleeding.”

27th—Feeling pretty well. To ascertain the exact nature of the tumour, a sound was used; it passed two and-a-half inches within the uterus. The diagnosis being clear; the tumour was fixed by forceps, and twisted off, with little difficulty. The growth was, roughly, the size of a hen’s egg, and was encapsuled in a distinct membrane.

2nd July—Patient exceedingly agitated, on account of a drunken row in lodging-house, but no recurrence of hæmorrhage. The subsequent history contains nothing of note; in fact, from the removal of the tumour she progressed most satisfactorily. On the 13th July she was able to take a longish walk.

REMARKS—The whole subject, and especially the pathology of fibrinous uterine tumours requires so much consideration that I sent the tumour for minute examination to Dr. Woodhead, who after careful observation reported as follows:—“The tumour appears to consist of two factors, a piece of placenta and large masses of coagulated blood. Near the surface of the tumour is an appearance somewhat like that very roughly washed in on the other side. The pink being the placental structure in which are a number of connective tissue, and it appears to me, muscular fibres. The villi are covered with a layer of flattened epithelium and are cut in various directions. In some parts of the section there are numerous cells apparently from the wall of the uterus which are undergoing the

coagulation necrosis, *i. e.* are with the fibrine forming a coarse net work, the coarse strands being formed by fibrin and the periphery of the cell, whilst in the centre of the mesh is frequently seen the nucleus with a small quantity of granular protoplasm. This cannot be accidental, as it occurs at several points and in every specimen I have examined. It is very like the net-work formed in diphtheria. The remainder of the tumour consists simply of coagulated blood which has been thrown out at different times, for in some cases the coagula are much more distinctly seen than in others. Delicate bands of fibrin, form a net work more or less dense and perfect, in which lie the coloured and a few colourless blood corpuscles.” Dr. Woodhead, who was most kind in thoroughly examining the tumor, wrote me further that he considered the cells to be “epithelial, not muscular, in character,” “those lining the uterus and probably some of the glands.” I was most anxious to have the opinion of an expert microscopist, as I have found very great confusion in literature regarding the variety to which some of these tumours should be referred.

On macroscopical examination the tumour which was fully as large as a hen’s egg, appeared to me more like a small fibro-cystic growth than a fibrinous polyp. I noted that what seemed to have been a cyst was for the most part occupied by a reddish bloody stratum, this stratum evidently having been formed from extravasation of blood within the cyst; the membrane forming the cyst wall was well developed. There had evidently been discharge of part of the contents of the cyst, as the dense coagulated blood and fibrinous appearance, together constituting the main part of the tumour, did not wholly occupy the investing membrane. My rough microscopical examination, before proper hardening, shewed bands of tissue somewhat like fibro-muscular structure, but this has been more exactly described in Dr. Woodhead’s report.

Having determined the morbid anatomy of the growth, its pathogenesis next demands notice. The most natural theory is that a growth shewing evidences of placental structure is more or less a product of the placenta. It is well known that poly-poid formations are a frequent result of one or more pieces of placenta having been left *in utero*. It is also equally well known, that at times portions

of retained placenta may sustain existence for a considerable time ; not only existing *in utero* but, so to speak persisting in vitality. For example, in one case a lady was sent to the seaside for the recovery of her health and the stoppage of hemorrhage, some weeks after abortion. A more severe attack of bleeding led to an examination ; when a piece of placenta fully the size of a walnut was found lightly held in the cervix ; on its removal bleeding ceased. But in the above case we have more than simple placental structure ; a distinct evidence of cell formation, which cells were evidently derived from the uterus, and also some muscular fibre. The presence of smooth muscular fibres in the placenta has been described by Ecker and Kamenew ; but denied by subsequent inquirers. Stricker states that his own researches demonstrate their presence to be constant in the external layer in the placenta uterina. I think it probable that the muscular fibres here described were uterine. In addition to the placental, there was the aforementioned hemorrhagic portion encapsuled in a distinct membrane. We may assume that the interpretation of the "coagulation necrosis," which Dr. Woodhead remarks on as notable, is, that post-partum the vitality of the growth was checked, and that nature was preparing for its expulsion. So that we may premise that the tumour had an ante-partum existence distinct from the foetal placenta. Small fibrinous coagula intimately blended with the projecting thrombi at the placental insertion, are quite commonly found in the bodies of puerperal women. But larger coagula also, the result of repeated hemorrhages, the size of a walnut, either of a round shape, or flat and lobulated, which may also project into the uterine cavity like a cockscomb, are by no means rare. These cases only are very rare where large fibrinous coagula of a polypoid shape are seated at the normal placental insertion and project with their obtuse end into the cervix or vagina. A fibrinous polypoid of that kind—the free polypus hæmatoma of the uterus (Virchow)—consists of coagulated fibrin including a nucleus of coagulated blood. Polypoid formations, from retained placenta, may undergo further modifications. Upon the pieces of placenta blood may be deposited in the way just mentioned, and a fibrinous polypus is formed with a pedicle of placental tissue, or the retained cotyledon may become bloodless, firm and hard,

and assume a shape corresponding to the uterine cavity. This forms the so called placental polypus.

A few words regarding the changes in effused blood. It may remain liquid for some time, or quickly coagulate. Formation of cysts may take place, not so much in the effused blood as in the surrounding parts. Those which are at first ragged and torn, undergo more or less of inflammation, which ends in the formation of a solidifying blastema ; this fibrillates and passes into the state of more or less perfect fibrous or areolar tissue, and thus forms a capsule or cyst enclosing the now more or less altered blood. Rokitsky describes the later appearance of the lining as like a delicate serous membrane—Hæmatoma. The effused blood may undergo a different kind of change, in consequence of absorption of its watery parts, and become in this way a kind of tumour, termed an hæmatoma, classed with new growth ; but there is no doubt that it is a simple result of hæmorrhage, and this for three reasons—(1) that it presents no higher structure than that of fibrine ; (2) that it is generally devoid of vessels ; (3) that it does not appear to increase by growth in the proper sense of the term. The inner parts ultimately undergo some form of degeneration, while the outer form a fibrous investment. An hæmatoma thus formed (*i. e.* in the substance of new tissues, etc.,) being essentially a fibrinous mass, may undergo certain other changes—cretification, melanic pigmentation, perhaps ossification—(Jones and Sieveking). Some consider it doubtful whether such changes as bone formation, etc., can take place from blood effusion. Without expressing an opinion on this point, I conceive it might be well to retain the name 'hæmatoma' to bloody tumours in loose tissues *e. g.* the vagina, vulva or scalp. As a mere question of pathology the so-called polypoid uterine hæmatoma is diverse from the condition found as a result of rupture of vessels and effusion into sub-mucous connective tissues as found in the one, and beneath the aponeurotic or pericranial layers in the other. No authority, so far as I know, has however observed distinct characteristic cell formation similar to the above described appearances, in a simple hæmatoma. That the tumour was in great measure of this nature is true, but, I think it would be erroneous to regard it as simply a hæmatoma ; and while it is plain that the growth was partly placental, it seems to me equally evident that its de-

velopment was inconsistent with the theory that it was derived from a portion of the main placenta. I think, if we believe in its formation from a placenta succenturiata, which some considerable time before labor had become wholly uterine in its connection, and at one time or other had undergone certain structural changes already referred to, we may best realize the genesis of the polyp. Twenty years ago Professor Hodge, of Pennsylvania, in his "Principles and Practice of Obstetrics," fully described the nature of placenta succenturiata. Dr. Eastlake has also (Obstet. Transact. Lon.) written regarding this anomaly. Schröder writes "sometimes the placenta is divided even in simple pregnancy. Two or more, even seven placenta have been observed; and at the side of a larger, several placenta succenturiata occur. These formations can easily be explained from the development of the membranes—some of the villi of the chorion not inserted at the place of the decidua serotina retain their vessels and enter into vascular communication with the decidua vera. If this does not take place the enlarged villi form the so-called placenta sparia."

POINTS OF PATHOLOGY are here also of interest. Unlike certain allied tumours, no special blood vessels supplied it; this was unnecessary as the growth had been, at first, in the same relation to the uterine circulation as the placenta normally is; but afterwards received a more direct blood supply from a uterine vessel or vessels. In connection with this, the grave bleedings which occurred when the tumour became partially detached can be understood more clearly. Generally the formation resembled that of an aneurismal clot, in which laminæ are formed by the variations in the rate of the coagulation or succession of coagulations, and in the paler portions the definite formation of fibrine gave rise to similar microscopical characters. But the existence of an internal cyst containing clear fluid requires notice. We know, that in not a few cases, cysts of various size are formed on the concave side of the placenta; the connective tissues between the chorion and amnion are raised cyst-like, and are lined by flat epithelium, whilst the placental portion assumes a rough, shaggy appearance, and is covered by fibrinous deposits. These cysts are thin transparent vesicles containing a yellow, or reddish-opaque, thin fluid. It is supposed that they are formed from apoplectic cen-

tres. One writer describing the "fleshy" species of polypi says: "they sometimes contain a cavity filled with fluid resembling mucous or lymph. This variety is however a most likely one to be absorbed during pregnancy." Paget's description of the formation of cysts in loose-textured fibrous tumours is also apposite: "they may be due to a local softening and liquefaction of part of the tumour, with effusion of fluid, or an accumulation of fluid, in the interspaces of the intersecting bands, but in other cases it is more than probable that their production depends on a process of cyst formation." Returning to the present case, it is probable the cyst was adventitious, that is the walls were formed by the condensation of the connective tissue of the part; it is also likely that the cystic fluid may have been serous, derived from the effused blood. If so the external investing membrane must have been, as we would expect, of earlier formation than the small internal cyst. The minute examination of the tumour shows that the different "probable sources" for the formation of uterine polypi, viz.: the connective tissue of the uterus, placental growths, and blood coagula, were all involved; and, as is remarked above, as a consequence of pathological changes in loosely bound together fibro-muscular tissue (?) a cyst may be formed. In further illustration of the benefit of sometimes "thinking twice before you speak once," or in other words making out the morbid anatomy ere you settle your ideas of a case, I may mention that various considerations caused me to regard the polyp as of post-partum formation on the one hand, and as possibly an ante-partum fibro-cystic growth on the other. The theory of post-partum development was suggested by the clinical facts that the placenta was removed with the greatest ease and seemed perfectly entire, there was neither uterine flaccidity nor hemorrhage post-partum; it seemed probable, if the tumour had existed in a condition of latency, it would either have been expelled with the secundines or have given rise to smart bleeding. On the contrary the uterus contracted well, and no symptoms of a growth were then noted. The puerperium was normal; involution seemed natural, the patient having "slimy discharges" for four days antecedent to the first mentioned bleeding. The post-partum formation of the body from a retained blood-clot seemed borne out by the symptoms. As has been already mentioned, poly-

roid growths are not infrequently observed when parts of the placenta are left behind. Schröder perspicuously points out the time at which hæmorrhage is likely to occur—"it may be early, sometimes not till after the first week, more often after the second or third." But the placenta appeared to be wholly removed. I have paid some attention to secondary hemorrhages, and judged the first bleeding to be due to the cause I have described as "imperfect thrombosis," (*Obstetrical Journal*, No. xlvii. Feb. 1877). The patient had unduly exerted herself on the 11th day after delivery, involution having seemed normal previously; it was believed, that as a consequence of the exertion, one of the imperfectly thrombosed veins became partially open, and we might with fair grounds assume the formation of an hæmatoma as a result; theoretically, this having a well established uterine connection might become encapsuled in a layer of fibrinous connective tissue. It is evident that some thrombotic dislodgement actually did occur as shewn by the enormous bleeding. The remedies employed favoured vascular contraction; yet on the 15th day hemorrhage recurred; it was considered probable that the thrombus then became freed, and the separated polypus developed. From this time to the 28th day the blood-oozing was like that of sub-involution, or like surface bleeding of a polyp. The first, and only needful argument against this theory is the morbid anatomy; further, in accepting it, it would be necessary to believe that a polyp with such anatomy could be formed from blood clot in thirteen days. The other theory, viz.: submucous fibroid or fibro-cystic, was based on the ground that while fibrinous polyps are rare, and if present during pregnancy likely to cause abortion, or become absorbed, yet the existence of such has been recorded. Cystic growths are mostly cervical; and developed from the Nabothian glands or utricular follicles. But these follicles also exist near the openings of the Fallopian tubes, in the fundus, and upper part of the body; and granting an abnormal condition of the mucous lining, and a soft dilatable condition of the uterine walls, as was highly probable from the personal history of the patient, it was not impossible to conceive the tumor's formation in one or other of these ways. The examination of the growth put both theories quite out of court. The polypus was antepartum; but the post-partum influences, and the

enlargement it received from secondary hæmorrhage demand attention. I do not think unless there had been undue exertion that the hæmorrhage would have been so serious; in saying so I would point out the existence of the dual causes of bleeding, secondary hemorrhage from the site of the polypus, and also from the imperfect thrombosis of an adjacent vein. To recapitulate, bleeding occurred on the 15th day, I conceive *not* from the vessel which was covered by the tumour, or at any rate from it only partly, most from a neighbouring vein. On the 28th day, when the polypus became loosened, blood gushed from the vein it had previously pressed on, and by covering, plugged; this bleeding was most profuse. The expulsion of the tumour from the uterine cavity was preceded by the discharge of clear watery fluid. After the partial detachment of the growth from the body of the uterus, a large recent blood-clot was expelled; this probably was the result of bleeding from the site of polypoid insertion. A practical point is, that a firm blood-clot acts as an intra-uterine irritant assists in the production of contractions, and hence aids involution. An ordinary experience in cases of miscarriage of twins at separated periods, is the formation of such a clot. After one foetus has been parted with it is not impossible that the other may reach full term. But this is very unusual; irregular involution or partial uterine atrophy takes place; thrombi are separated from certain veins; large bleedings occur. If appropriate treatment is employed a clot may form and bleeding cease, the uterus enlarges perceptibly thereafter; the same process of hemorrhage, decrease in size, clot formation and increase, may be repeated again and again, until the second foetus is naturally or artificially dislodged. In the case under notice, the large blood clot was probably formed on the 26th June. It is to be observed, that after the escape of this clot, and the descent of the tumour within the cervix, bleeding ceased externally; the cervix was plugged by the polyp; nor was there evident internal hæmorrhage, neither collapse nor increased size of the uterus being experienced. We must recollect that the personal and parturient history of the patient favoured uterine weakness; she was a very pale, fragile, anæmic, little woman, frequently insufficiently nourished; she had barely sixteen months between her confinements, had nursed her first child fully nine months, so that she continued

to nurse two months after she became pregnant. Altogether apart from the polyp, she was a most likely subject for secondary hæmorrhage or subinvolution. With the history given, we may readily suppose how easy it was, with an original abnormality, for the tumour to develope.

THE DIFFERENTIAL DIAGNOSIS is very interesting, as, if my view is correct, we have here a combination of sub-involution, secondary hæmorrhage from irregular or imperfect thrombosis, and a polypoid tumour of placental origin. The early diagnosis pointed to secondary hæmorrhage, as the early puerperium was one of evidently good involution; the lochia lost colour on the 4th day; she was permitted to rise on the 9th day; and it was only after unusual exertion on the 11th day that bleeding began. Yet despite the foregoing observations, there must have been sub-involution, as it was possible to introduce two fingers within the os on the 11th day; the bleeding could not have caused such relaxation; had involution been normal, the os would have been almost closed; my experience agrees with authority that the os is normally closed on the 12th day. The uterus, prior to the removal of clots, was as large as a fetal head; now it seems likely that the faint was most important in arresting the hemorrhage, not the occlusion of the os by a clot; so that we may believe that this bleeding was extremely rapid as well as severe. Several cloths were used on the following day, but only two or three on June 11th; next day there was no discharge. On the evening of 13th bleeding was profuse; the os was still patulous, but the uterus much less in size. The probable cause of this attack was, she had been sitting up in bed, and had neglected her medicine. The subsequent account of slight flow on June 15th and 16th, a little more on the 17th, and its gradual disappearance afterwards indicated involution. The bleeding which was so alarmingly profuse on the 26th, was clearly due to the new source of danger, the partially loosened growth. On this occasion the uterus was not felt in the hypo-gastrium except by bi-manual examination. Such irregular bleedings are met with in chronic inversion, but in acute post-partum inversion the history is different; this condition supervenes suddenly and with it we have hemorrhage and collapse. Partial inversion might occasion similar bleedings, but the organic condition would be explanatory, when the polypus

was forced into the cervix it had much the feel of an inverted uterus. I was strongly reminded of one case I saw some years ago, with Dr. Nellis of Fraserburgh and the late Dr. Fiddes of Aberdeen, of chronic partial inversion; in many respects there was much similitude. The pain in handling an inverted uterus is much more marked; the roughness, said to pertain to inversion as distinct from polypus, was in the foregoing case of little help; the tumour by no means felt smooth; but the encircling band of uterine tissue was more symmetrically circular, and the relations of the vaginal parietes to the cervix more perfectly defined. However it was not until I had cautiously passed a sound $2\frac{1}{2}$ inches within the uterus, that I felt justified in removal of the tumour. It is all very well to write in one's study of the "clear differences," but in this case at least there was nothing to prove that the body was not an inversion, which had been gradually formed and was eventually protruded, until the sound was used. From prolapsus the tumour was distinct, it occupied the neck, and the neck could be felt. With prolapsus there can be little risk of confusion, even although there should be an opening in the polyp, unless the latter occupies the vagina very fully. I am aware of the possibility of complications of polypus with prolapse and inversion; but there seems here no need of further reference. Nor do I think the "book" differences of polypus from vaginal hernias, cystoceles, or malignant affections require discussion. In chronic cases it is doubtless valuable to bear these in mind, but not with a narration like the above. The intra-uterine situation of the growth obscured diagnosis. Montgomery, fully thirty years ago, wrote "fibrous tumours formed in the substance of the uterus may thence descend, pass through the os, and form an ordinary pediculated polypus in the vagina." To him also we owe the fact that a "large polypus may make its first appearance immediately after delivery. Even with the additional facilities for diagnosis and knowledge we now possess, I think most will agree that until interference is clearly indicated, the policy of non-intervention is wisest. I fancy few would care to dilate and explore a recently parturient uterus, which had ceased bleeding, and judging from the discharges was undergoing involution. Had the polyp not appeared when it did, I would then have explored the uterus more thoroughly. I well know

that in all obscure cases of uterine hemorrhage an exhaustive examination is a hundred-fold less dangerous than is popularly believed. I have known cases where the impregnated uterus submitted to every abuse with impunity, even to an insertion of 10 grs. of lunar caustic to stop a supposed inflammatory condition, and, when profuse bleeding still continued, the artificial dilatation of the os revealed the true cause, a retained foetus and an inflamed chronically enlarged uterus! Viewing our present case retrospectively, one might think had the os been dilated, the whole thing would have been cleared up much sooner; yet, although with the authority of Matthew Duncan to justify us introducing a carbolised exploring hand within the uterus shortly after delivery, and with my personal experience of the benefit of the practice, I would not consider a case of secondary hemorrhage, with os contracted down to two fingers' breadth, a suitable one for this measure, until all others had failed; and that the case diagnostically seemed so far one of this description must be patent. Cervical tears, which have recently—"British Medical Journal, Oct. and Nov. 1881,"—been a subject of discussion, as regards their frequency and treatment, between Montrose Pallen, and Henry Bennet, might have been included in differential diagnosis. These are seldom a consequence of natural labor in such subjects as my patient, and as a matter of fact there were none. Bleeding from varicose veins in the cervico-vaginal region is either tolerably early discovered, or so slight as to require little attention. It seems impossible to misjudge either of these conditions so greatly as to confound them with secondary hemorrhage proceeding from the interior of the uterus.

TREATMENT has in part been touched upon. The primary indications were to check the flow and keep the patient living; the details have been described. Exactly the same treatment is required for secondary hemorrhage and an intra-uterine growth, up to a certain point. As Churchill said "by these means some good may be done, just sufficient perhaps to enable the patient to wait for the descent of the polypus, with rather less risk than if nothing had been done. He however regarded ergot as a beneficial remedy of a special nature. I think the witch-hazel tincture, ordered with ergot, a most useful addition. I have had much satisfaction with this drug in all classes of

uterine hemorrhage; even in malignant disease, it is fully equal, if not superior, to any remedy in restraining bleeding. A combination of hamamelis, with ergot and strychnia, and ferruginous tonics, combined with quinine is all in the way of medicinal agents likely to be of use. The long subject of removal of polypi by means of the various media employed, galvano-cauterics, ecraseurs, ligatures, canula, polypotomes, screws, scissors, or bistouries, need not now occupy us; it was found practicable to twist the tumour off after fixing it firmly; torsion, the simplest method of all, was found easy and satisfactory. There was no bleeding, and the operation was almost painless. The subsequent treatment was simply good nourishment, tonics, and rest. So well did these fulfil their aim, that on the 13th of July the patient was able to take a longish walk without fatigue.

[We are indebted to Dr. Aubrey Husband of Edinburgh, author of *The Students' Hand-Book of Forensic Medicine*, for the above interesting paper.]—ED. LANCET.

ABSTRACT OF A CLINICAL LECTURE ON A CASE OF THE "JUVENILE FORM" OF PROGRESSIVE MUSCULAR ATROPHY (ERB'S "DYSTROPHIA MUSCULARIS PROGRESSIVA").

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GENTLEMEN,—The patient whom I exhibit today, through the kindness of my friend, Dr. Wilkins, presents in a very marked degree all the essential features of a disease which has only recently been described. The case is one of what Erb calls the "Juvenile Form" of progressive muscular atrophy.

The patient is a male, aged 21 years. His occupation, up to the time he was compelled to cease working from his present trouble, was that of a farm laborer. His complaints are, weakness of his back and legs. He first noticed this weakness three and one-half years ago. At that time he experienced difficulty in dragging his body after his feet when getting into a carriage or in ascending a stair. He could, at this time, raise his feet without difficulty, but to move his body, he found it necessary to use his hands to drag

himself along. About two years ago he first noticed that he was very apt to fall, and on attempting to rise from the horizontal position he found it necessary to use his hand to drag himself up. He never suffered from any serious illness. He attributes his present trouble to a fall which he received three and one half years ago. On careful enquiry, however, he acknowledges that for a long time previous to this accident, he disliked ascending a stair, because he found it both difficult and tiresome. Two and one half years ago he received a second injury; on this occasion a weight fell on his head, rendering him insensible for half an hour, and giddy and stupid for several days. His parents are dead, but cause of death is unknown. He has a brother living and in good health. Had no sisters. As far as he knows there has been no similar trouble to his in any of his relations.

Present Condition.—You will notice the peculiar gait which he assumes when he walks across the floor: 1st, he walks with his feet far apart; 2nd, he walks on the front part of his feet, the heels being raised from the floor, and 3rd, the gait is of a more or less waddling character. Nothing abnormal can be found in connection with the circulatory, respiratory, digestive or genito-urinary systems. There are no symptoms of any affection of the brain or cranial nerves.

On stripping the patient the marked difference in the size of certain muscular groups is at once noticeable. In the upper extremities, the contrast between the well developed muscles of the fore-arms and the atrophied ones of the upper arms is very striking. The circumference of the thickest part of the upper arms is an inch less than the fore arms. A still greater disproportion exists between the muscles of the thighs and those of the legs, the circumference of either calf being an inch greater than the circumference of either thigh at the thickest part. The following muscles of the upper part of the body are in a state of more or less complete atrophy: The pectoralis major and minor, of each side, are considerably atrophied, especially the costo-sternal portion of the former. The lower half of each trapezius has almost entirely disappeared. There is scarcely a trace left of the rhomboids. The latissimus dorsi of each side is very much atrophied, as is also the whole group of the spinal extensors. The biceps of each

arm is greatly wasted, and what there is left of it is in a state of active contraction, preventing the full extension of the arms. The brachialis anticus of each arm is also in a state of advanced atrophy; the triceps is only slightly affected. The coraco-brachialis, the supra and infra spinati, as well as the deltoids, are normal. None of the muscular groups in the fore-arms or hands have suffered.

In the lower extremities the following muscular groups are in a state of more or less complete atrophy: The glutei of both sides, and the ilio-psoas. The quadriceps of each thigh is more extensively atrophied than any other group in the lower extremities. The peronei of the right side are considerably atrophied, while those of the left side have escaped. The calf muscles are hypertrophied. When the patient is in the erect posture there is marked lordosis. All the atrophied muscles are firm. They are not the seat of any fibrillary twitchings. The patient is quite unable to raise himself from the horizontal to the erect position, even with the aid of his hands. He, however, can accomplish this by getting a support to his chin, and thus using the muscles of the neck to drag his body upwards. The patellar reflex is absent. The plantar reflex is exaggerated. While the cremaster and abdominal are normal on the right side and absent on the left. The epigastric reflex is present, but the scapular is absent. The atrophied muscles do not respond to the faradic current. They are *not*, however, the seat of the degeneration reaction. Sensibility is normal. There is no interference in the vesical or rectal reflexes.

You will at once notice the striking difference there is in the patient before you, and the one* whose case we enquired into last week, and whom most of you have seen. When comparing these two cases, it is at once observable that we have to do with dissimilar clinical pictures, although they are both frequently described as one and the same disease. The following are the marked points of difference between them: 1st, they differ as to the localization of the atrophy. In the patient affected with the spinal variety of the disease, the atrophy commenced in the small muscles of the hand, in

* The patient referred to is a man, aged 37, who has the ordinary spinal variety of progressive muscular atrophy. The wasting commenced three years ago in the small muscles of the left hand.

the interossei, thenar and hypo-thenar groups. The wasting is confined to these small muscles. In this patient the atrophy affects the trunk muscles principally, while the hand muscles are perfectly free from any form of wasting. They differ also as to the condition of the affected muscles. In the spinal case they are soft and flabby, while in our patient here they are firm, hard, and have a knotty feeling. In the man previously seen, the atrophied muscles are the seat of fibrillary twitching, while the muscles in this boy's case are free from these fibrillary movements. Another marked difference is that in the case of the spinal form there is neither true nor false hypertrophy of the muscles, while there is here, especially in the calf. Other points of difference are the ages at which they make their appearance. The spinal form is essentially a disease of advanced adult life, while the juvenile form is seldom or never seen after the twentieth year. They are both slowly progressive diseases; the juvenile is, however, much slower than the spinal variety. In the latter the periods of intermission are comparatively short and seldom, while in the former they are long and frequent. They differ also as to the complications that may arise during their course. Last week, when we were examining the patient affected with the spinal form, I pointed out to you that there was marked trembling of his tongue when he protruded it. This is sufficient evidence that there is commencing bulbar paralysis in his case, and is the beginning of a series of symptoms that will before very long lead to a fatal ending. In the patient before you no such complication exists. In all the cases of the juvenile form of progressive muscular atrophy described up to the present, no such complication has existed. Secondary sclerosis of the pyramidal columns is not infrequent as a result of the changes that take place in the spinal form. It does not occur in the juvenile form. When we come to discuss the pathology of the disease, it will then be clear to you why these complications are so frequently present in the one case and never present in the other. Another marked point of difference between these two forms of atrophy is the fact that one is much more amenable to treatment than the other, the juvenile form being much more likely to have a favorable ending than the spinal.

They differ also in their pathology. In speaking

last week of the appearances found post mortem in the spinal variety of the disease, I mentioned that the essential change was a slowly progressive obliteration of the multipolar cells in the anterior horns of grey matter of the spinal cord. The local muscular changes were simple atrophy of the muscular fibres. There is no increase of connective tissue, no deposition of fat, and no hypertrophy of the muscular fibres. Now in the juvenile form the changes are wholly seated in the muscles. The multipolar cells of the anterior horns of grey matter remain free, as do also the peripheral nerves. The muscular changes consists in atrophy of the muscular fibres, with here and there fibres which have undergone hypertrophy. In advanced cases hyperplasia of the connective tissue is very marked, and lying between the connective tissue fibres is seen only a small quantity of muscular fibres in an advanced state of atrophy, which, however, still retain their transverse striation. The most important change is the hyperplasia of the interstitial connective tissue, and next to this is the deposition of a more or less quantity of fat. It is probable that the increase in the muscular fibres is the first phase of the morbid change, and that the later appearing connective tissue hyperplasia gives rise to atrophy of the muscular fibres. These changes, as we will presently discuss, are essentially those found in cases of pseudo-hypertrophic muscular paralysis, and the so-called hereditary form of progressive muscular paralysis. This hereditary form of muscular atrophy has been described by Friedrich and others, but it is essentially the same disease as we are now considering. When the disease is hereditary and sets in about puberty, the muscles affected are those of the upper arms and trunk, while if it sets in during childhood the atrophy is principally confined to the muscles of the lower extremities.

The disease commonly called pseudo-hypertrophic muscular paralysis, differs but little, if at all, from the disease with which the patient before you is affected. Clinically, the only difference appears to be, that in the pseudo-hypertrophic paralysis, we have lipomatosis, while in the juvenile form of muscular atrophy, hypertrophy is not necessarily present, and if present it is true and not false. If this is the only difference it is quite plain that it would be better to describe the juvenile form of muscular atrophy as being sometimes attended

with a true and sometimes with a false hypertrophy of the muscles, rather than describe two separate diseases. Pathologically there is no difference between them. They are both myopathic and *not* neuropathic disorders. All the recent autopsies in cases of pseudo-hypertrophic muscular paralysis agree in the particular that no changes in any portion of the spinal cord are present. The changes found being confined to the muscles and differing in no way (except in a great degree of lipomatosis) from those described as being present in cases of the juvenile form of muscular atrophy. Changes have been described as being found in cases of the pseudo-hypertrophic paralysis in the ganglion cells of the anterior horns, but this was some years ago, and before the much improved methods of the histological examination of nervous tissue were known. Seeing that in a number of recent cases examined by such competent observers as Recklinghausen, Schultze, and Ross, where improved methods were made use of, it follows that little or no value can be attached to the alleged changes found by the observers of even a few years ago.

Erb is a firm believer in the essential identity of these two diseases. Speaking of the juvenile form of muscular atrophy he says * "there is a particular form of disease of the muscles which consists partly in hypertrophy with subsequent atrophy of the muscular fibres, partly in hyperplasia of the interstitial connective tissue with more or less lipomatosis. Whether the changes in the muscular fibres or in the connective tissue is the primary event, or whether they are simultaneous appearances has not yet been definitely settled. There are no changes in either the peripheral or central nervous system. It is a very chronic and slowly progressive trouble. Clinically the disease is characterized by affecting in the upper part of the body, the pectoral, the trapezii, latissimissimi dorsi and other shoulder muscles, the muscles of the upper arm, while those of the forearm and hand escape. In the lower part of the body the muscles that suffer are those of the abdomen and the extensors of the back, the muscles of the thigh, calves, and the peroneal group. Cases of this disease in the past have been mostly described as ordinary cases of

progressive muscular atrophy. A few as pseudo-hypertrophic muscular paralysis and hereditary muscular atrophy. If the disease appears in the earliest childhood, and if there is no lipomatosis it is what has been called hereditary muscular atrophy. If there is a high degree of lipomatosis, especially of the lower extremities it is what has been called pseudo-hypertrophic muscular paralysis. These three, hitherto separately named affections, are in reality one and the same disease. It is quite a distinct disease from the spinal form of progressive muscular atrophy." It follows therefore, according to Erb, that there are two distinct forms of progressive muscular atrophy—a neuropathic form and a myopathic form. In the patient whose case we examined into last week, we had a good example of the neuropathic or spinal form. The patient before you now is a good example of the myopathic form. For the former or neuropathic form of the disease Erb proposes the name "*Amyotrophia Spinalis Progressiva*," while for the latter or myopathic variety of the disease he suggests the name "*Dystrophia Muscularis Progressiva*."

TREATMENT.—Before this patient came under the care of Dr. Wilkins, the atrophy had made such progress, that it was hopeless to expect benefit from any form of treatment. Where the disease is however seen early, there is fair grounds for hoping that in a small number of cases, arrest of it or even recovery may follow well directed treatment. As already mentioned, this form of muscular atrophy is more amenable to treatment than the spinal variety. There are very good grounds for believing that both forms would not be so fatal if more systematic and scientific attempts were made in their treatment. Physicians, as a rule, when they diagnose a case of muscular atrophy, pronounce it both "interesting" and "incurable." Seldom is even the attempt made to prevent the further progress of the degeneration. In the present state of the therapeutics of this subject, it is not possible in the very great majority of cases to prevent the progress of the disease. The few cases that have yielded to treatment are a sufficient proof that in the near future we will be much better able to combat this degenerative process. I would strongly advise you in all cases of progressive muscular atrophy, but especially in that form of the disease under consideration, to make persistent efforts to cure. The only therapeutic means of any promise is

* Erb: Ueber d. juvenile form d. progressiven Muskelatrophie u. ihre Beziehungen zur sogen. Pseudo-hypertrophie d. Muskeln-Deutsches Arch. f. Klin. Med. xxxiv. 5 u. 6 p. 467.

electricity, especially galvanism. The galvanization of the atrophic muscular groups should be performed very gently, otherwise the process may be quickened in place of retarded. It should be continued until it is quite clear that it is useless. Should it be of no effect, faradization of the affected muscles, or even general faradization should be resorted to.

EPIDEMIC CEREBRO-SPINAL MENINGITIS*

BY A. WORTHINGTON, M.D., CLINTON, ONT.

I desire to present for your consideration a brief history of an outbreak of epidemic cerebro-spinal meningitis, which took place in the county of Huron early in the year 1872, and in connection therewith some ideas in reference to its treatment. The outbreak occurred at Clinton about the latter part of December, 1871, or the 1st of January, 1872, and was termed in the neighboring towns, "the Clinton malady." It continued in and around Clinton the remaining part of the winter, and the greater part of the following summer. In other parts of the county, cases continued to occur as late as the fall of 1873. The localities visited by this epidemic appeared to be confined principally to the vicinity of streams and lowlands, carrying with it the idea that the specific poison might possibly emanate from that source. The idea was suggested to me by a Toronto medical friend. Mr. John Netton Radcliffe has written more fully on this subject than any other author to which I have had access. He says, "Locality and soil do not exercise any manifest influence over the disease. It has been observed on low grounds, high lands, and on soils of the most varied character indifferently." Sanitary regulations and precautions appeared to have very little influence in this epidemic. The rich and poor were visited alike—the well-fed, well-housed, well-clothed suffered equally with the poorly-fed, housed and clothed. According to Mr. Radcliffe the reverse obtained in certain outbreaks, as that on the Lower Vistula, where the "prosperous classes suffered to a much less extent from the malady than the poor and miserable, who were subjected to privations, and

much foulness of persons, dwellings and atmosphere." Mr. Radcliffe again says, "There is not any constant or common relationship between any insanitary state, and the appearance of the disease. Neither foulness of house and its surroundings, nor the atmosphere, whether from putrid emanations, or from over-crowding, nor impurity of any other kind, has any determinate relation with epidemic cerebro-spinal meningitis." Since the discoveries of Pasteur, Koch and others, it appears quite probable that a germ cause may yet be found for the disease, when some future outbreak provides the opportunity. The attack in many cases was exceedingly violent, causing death in from 24 to 48 hours, death being always preceded by profound coma. Mild cases, which were easily controlled, and terminating in convalescence, were quite numerous. Two cases were observed, which ran 36 and 68 days respectively, ending fatally. The disease was almost invariably ushered in with rigors, more or less severe, and accompanied or followed by pain in the head, sometimes of such a terrific character that the patient continued to cry out until unconsciousness relieved him of sensation. Pain along the spine was noticed as being very severe in only a few cases, but was nearly a constant symptom. Retraction of the head was rarely absent—in some very severe, in others very little. Vomiting was among the early symptoms, but ceased when the disease was fully established. Delirium was a constant attendant in all severe cases; arterial tension was invariably deficient, the pulse being usually abnormally slow, but often frequent towards the end in fatal cases. The temperature in all the cases observed was above normal with one exception. Respiration was irregular; in bad cases, "sighing and labored" according to severity. The treatment, if commenced early, seemed more likely to be satisfactory than if begun later on. Observation has led me to think that epidemic cerebro-spinal meningitis is not necessarily so fatal as is generally supposed. I have, however, never seen any case recover where the patient had passed into a state of stupor for over two to three hours.

In the treatment of epidemic cerebro-spinal meningitis, the removal of all the hair from the head as closely as possible—even shaved—appears to me to be the first essential in all cases of severity. The application of cold to the head is cer-

* Read before the Ontario Medical Association, June, 1884.

tainly the next (except in cases of collapse or approaching collapse), for without this application, the case may be left to take care of itself, as it certainly will, but it is needful to use the cold cautiously, guarding against the too sedative effect on the already weakened heart, at the same time using sufficient to control and reduce the engorged condition of the vessels of the brain. Blisters to the back of the neck were of great benefit, probably by producing exaggerated circulation near the brain, also along the spine in case of severe pain and spasm of the spinal muscles. Cold was applied in these cases at the same time as the blisters. It appeared to me to be of the utmost importance that cases of this disease should be seen at the earliest possible moment. Treatment delayed beyond two to three hours after the super-vention of stupor, appeared to be useless, as I have not known any case to recover under such conditions. Of medicines, only two were used—aconite and morphia—others might be equally good, but I had not tried them. The two named I had tried and knew what they would do. Aconite controlled the circulation and reduced the temperature, when necessary; morphia seemed to have a marked effect—under its influence the patient became more quiet and got absolute rest; *it appeared to do more, to have a curative effect.* In illustration of this idea, I may mention the case of the housekeeper of Mr. M——, farmer, in the township of Tuckersmith, who had been suffering for several days with spasms of the muscles of the neck and back to that degree, that during the spasms she rested on her head and heels, her back being raised several inches from the bed, she being unconscious while the spasm lasted. The relief, when the spasm was over, was very little, as the retraction of the head was constant and very distressing, and drawn back as much as it could be apparently. When taking nourishment, she could only put some in her mouth, and then push it along down the cesophagus with the thumb and fingers, on account of the muscles of deglutition being stretched to that degree that she was unable to use them. These spasms occurred every 15 or 20 minutes, and lasted two or three. She also had cystitis. A solution of morph. sulph. gr. i, to ℥i. of water), was prescribed, a teaspoonful to be given every third hour as long as needed. I saw her first on the 18th May, 1872, and on my

second visit on the 21st, she was quite free from spasms and evidently convalescing. So beneficial was morphia in that terrible disease, that the thought has occurred to me that it *might, like quinine in ague*, yet be found to be a germicide. In sporadic cases I have always pursued the same course of treatment, except, perhaps, in using less morphia, with the same result. I have selected the following four cases, as each was a little different from the other.

CASE I.—S. S——, æt. 28, cooper, was attacked on the evening of the 23rd March, 1872. I saw him about 8 p.m. Pulse 68, temp. 99, resp. normal; said he felt very sick. I prescribed a febrifuge, and directed a mustard and water foot bath, and to go to bed. About 1 a.m. I was sent for, and found him in a state of stupor, quite unconscious, moaning, and very restless. On enquiry, I was told that in about half an hour after I had left the previous evening, he was seized with a severe chill, which lasted nearly an hour, and during the chill severe pain in the head came on, and so sudden and terrific was it, that his first exclamation was, "Oh! my head!" The pain continued to increase till about 12, when he became unconscious. His pulse was slow, labored and feeble, and his face, arms, hands, body, legs and feet, all were cold, and he was so restless that he could only be kept in one place a few minutes, when he would attempt to rise, perhaps stagger and fall unless held. No heat could be detected in his head, and he uttered no cry, but moaned continuously. It was not easy to know what to do for him. I, however, had his legs from the knees to the ankles, covered with plasters of mustard, and a heated quilt wrapped closely around him, then bottles of hot water and heated bricks kept as closely around him as it was possible to do in his restless condition, and a large blister placed on the back of his neck. As far as possible this course was followed till about 7 a.m., when reaction appeared to be slowly taking place. His movements now became more natural, and he seemed somewhat conscious that there was something wrong with his legs, as he tried to get at them, when he suddenly exclaimed, "Oh! my head!" As he merged towards consciousness, he complained so piteously of his head, that I bled him to about 4 oz., which seemed to ease the pain. I had previously cut the hair from his head, and now began

to apply cold water moderately. His temperature never rose above $101\frac{1}{2}$, and his pulse was unnaturally slow, and very compressible, ranging from 60 to 80. Before night his reason had returned. He now complained of pain along the spine (rachialgia) very much, and there was considerable retraction of the head. The spinal pain and tenderness were treated by blistering and cold. On the third day he said he felt sufficiently strong, and was sent by train to Goderich, where Dr. McLean attended him some three or four weeks before he entirely recovered.

CASE 2.—H. S—, æt. 27, labourer, got intoxicated, and lay out over night, June 30th, 1872. In the morning he felt chilly and had a bad headache, and vomited several times. To relieve his head he put a piece of ice in his hat, and lay down upon the ground in the sun. The pain had increased so much by noon that his mind began to wander and I was sent for. I found him lying on the far side of the bed and he appeared to be in a high fever as his face was very red. I asked him if he could get over near me where I could examine him, and I should say that it took him five minutes to accomplish the task. He afterwards told me that he remembered when I went into the room, but nothing after. Pulse 113, temp. $103\frac{1}{2}$ F., resp. hurried. He remained delirious for about a week, and during that time there was pretty constant retraction of the head. I had the hair closely cut from his head, and bathed with water in which plenty of ice floated; the first application seemed to produce a shock, but after a few minutes he did not appear to notice it. A blister was applied to the back of the neck and the following prescription given:

R Morph. sulph. grs. ii.
Ext. aconiti. fl. m. x.
Aqua ℥iv.—M.

Sig.—A teaspoonful every two hours.

His diet was principally milk, no solid food being allowed. The temperature fell in a few hours to $101\frac{1}{2}$ and did not rise above that again, but came down gradually to, and below normal. The aconite was discontinued after his pulse and temperature were well under control. The morphia was continued till reason returned, then changed to quinine and generous diet.

CASE 3.—Mrs. F., æt. 33, was taken down April 24th, 1872. She had been for several weeks tak-

ing care of her children, who one after the other had taken the disease in a mild form and lastly her husband, who was just recovering, when the attack came, and but for her exhausted condition would probably have been mild. A chill—not very severe—was the first instalment, followed by vomiting, confusion of intellect and delirium. The pulse from the beginning was feeble and very compressible, ranging from 65 to 110 with a marked want of arterial tension. The temperature ranged from $100\ 3\text{-}5$ to $103\ 1\text{-}5$, being higher in the early stages. Respiration was variable, sometimes hurried, then sighing and irregular. The vomiting ceased on the appearance of delirium. The bowels required but little attention during the attack. On the third day a thick mottled eruption was noticed, purpuric in character, the size being from a pin's head to that of a split pea—the large ones being of a dark purple while the smaller ones were of a reddish cast. Large and small were thoroughly intermingled. Pain in the head, neck and along the cord, especially in the dorsal region, was constant. In a later stage cystitis made its appearance and caused much trouble and anxiety. Still later she suddenly became blind and remained so for about twenty-four hours—this I attributed to nervous exhaustion. She had been taking quinine every two hours, but by some oversight of the nurse it was omitted for about twelve hours during which time she lost her sight. The treatment from the first had to be supporting; aconite was given very cautiously and for a short time only. Morphia was continued through to the end. Her hair was cut off except a little on the front of the head, and cold kept constantly applied. Her neck and the upper part of the spine were repeatedly blistered, and cold applied as constantly as possible. Quinine was given early and continued until she was able to be about the house. Paralysis of the right arm remained for about three months, when sensation and motion were gradually restored. Duration of attack was 50 days.

Mrs. H. B—, æt. 26, was confined on the 25th April, 1872. Prior to confinement there appeared to be strong evidence of albuminuria, and my suspicions were fully confirmed on making the usual test. Her accouchement passed without trouble, and the kidneys gradually resumed their proper functions. Her progress was satisfactory up to 3rd May, when symptoms of some other

trouble appeared, but what it was I could not tell. There was a slight chill and slight reaction, pain in the head and back, but not severe. There was no vomiting, retraction, nor eruption. Pulse 92, temp. 100½, resp. seemed a little hurried, no abdominal tenderness, the kidneys were secreting the proper quantity of urine, and the albumen had nearly disappeared. There was no puffiness of the face, nor anasarca. The lochia had given no trouble. The pain in the head continued much the same, and on the 5th her mind began to wander occasionally, the pulse became more frequent and feeble, but the temperature did not vary much till towards the end, when it fell to below normal. No lesion of the heart or lungs could be discovered, and I could arrive at no other conclusion than that the poison of the then prevailing epidemic had secured a permanent footing in her system. She gradually sank and died on the 20th May, 25 days from her accouchement. Morphia was given and her neck blistered; tonics and stimulants and the best of nourishment were provided. No cold was used in this case.

REMARKS—The remarkable features in case No. 1 were the severity of the attack, the approaching collapse, and the rapid manner in which he rallied from what appeared to be a hopeless condition. He had uttered no sound but moaning during the five or six hours I was with him, until the exclamation Oh! my head! I confess I am at a loss to explain the rapid changes which took place in this case. In case No. 2 there was the curious fact that the nerves of motion were nearly paralyzed, as it took the patient fully five minutes to move from one side of the bed to the other, but after his hair had been removed, and the ice water applied for some time, he recovered the use of his limbs very fully, for in his delirium, and when his brother was off his guard, he sprang and seized his brother by the throat and was very near strangling him. Case No. 3 was in several points a remarkable one: first, on account of the severity of the attack, which would probably have been mild but for her exhausted condition at the time. Second, the mottled appearance and abundance of the eruption which lay beneath the cuticle. Third, the supervention of cystitis, which helped to complicate the difficulty; fourth, loss of vision, and fifth, paralysis of the right arm. I have placed Case No. 4 in the list of those cases which were certainly epidemic spinal

disease, because I could find no reason to place it anywhere else. The insidious character of the attack would seem to favor the idea that a specific deadly poison had entered the system probably through the same channels which we now charge germ poison with entering to produce puerperal peritonitis.

TWO CASES OF STRANGULATED FEMORAL HERNIA.

BY J. E. BROUSE, M.D., BROCKVILLE, ONT.

CASE 1.—May 13th, 1882, I was sent for to see Mrs M.—, in consultation with Dr. Lane, of Mallorytown, Ont. Her son, who came for me, stated that she had a lump in left groin, that there had been no passage through the bowels for some days past, and that there was frequent vomiting of fecal matter. On arriving, found patient to be a somewhat stout, fresh, bright-looking lady aged 58. She was the mother of a large family, and had always enjoyed good health. Pulse 100, firm, not very compressible, but regular; temp. 101½. She said she had been ruptured for several years, but had not worn a truss, as the tumor was small, gave no trouble, and was easily reducible. Two days previous, however, while lifting, she experienced pain in the part and felt a sickening sensation, and on examining the swelling, found it to be larger than before. Dr. Lane was called in. He had given opium and tried taxis as fully as he dared, but without success. I had her placed on a well cushioned table, and, while under chloroform, had lower extremities elevated and flexed, and endeavored to effect reduction, but was also unsuccessful. The tumor was the size of an ordinary egg, and quite painful. The abdomen was tympanitic. While Dr. Lane continued the anæsthetic, I proceeded to operate, by an incision 2½ inches long in the axis of the tumor. A thick layer of fat necessitated cutting deeply before reaching the sac, which was much inflamed and very dark. After dividing the stricture at the upper and inner angle, found adhesive bands so firmly formed, that, although I separated them as freely as I could, it was impossible to return the sac. It was accordingly opened on a director, exposing a very dark, inflamed knuckle of intes-

tine, which passed readily into the peritoneal cavity. Three sutures, embracing the entire thickness, including the peritoneum, were passed, and dressings of carbolized lint and an oakum pad applied. A hypodermic of morphia was given, and patient placed in bed. No bad symptoms whatever supervened. Flatus passed the second day, and the bowels were freely moved by an enema the fourth day. She made a speedy recovery and is now alive and well.

CASE 2.—Nov. 1st, 1882, was asked to visit Mrs. T—, a lady 67 years of age, who had been taken suddenly ill, Oct. 25th, a full week previous. For several years she had been in bad health and quite feeble, so as to be unable to do anything in the way of house work. Oct. 25th, when going out of the door she slipped, and at once felt sick and experienced pain in the left groin, but did not say anything about it to her sister or family. In a day or two the pain increased, and she began vomiting, the bowels being obstinately constipated. Her sister, to help her on satisfactorily, gave her salts and castor oil, even repeating the dose. I was not sent for until the lapse of seven days, notwithstanding that stercoraceous vomiting had been going on for five days. The woman was greatly exhausted and looked so badly that I almost feared attempting an operation. The tumor was not larger than a walnut, but very painful, and the skin red. Giving her a hypodermic of $\frac{1}{4}$ gr. morphia, and obtaining the assistance of Dr. Vaux, who gave the chloroform, I tried reduction without avail, and operated at once. The sac appeared almost gangrenous, being nearly black. Without attempting to return it, I slit it up, exposing a small knuckle of intestine, in nearly as bad a state as the sac itself, though saw no actual sloughing. I was in doubt as to the propriety of returning it to the abdomen, but knowing the very great recuperative powers of both the peritoneum and intestine, and believing that, in her exhausted state, an external opening would prove fatal, the bowel was replaced and the wound closed. On Nov. 3rd, flatus passed, and the next day a copious motion of the bowels, which continued daily till her death, Nov. 8th. All tenderness over the abdomen passed away, and all tympanitis, but the nausea and vomiting continued in spite of every effort, and she died of exhaustion the 8th day after the operation.

These cases, especially the second, show the wonderful recuperative powers of the intestinal and peritoneal tissues, and I have no doubt that had Case 2 not been such a feeble person, with strength exhausted by stercoraceous vomiting before, and chloroform vomiting after operating, she would have recovered, the operation itself being a success.

Correspondence.

To the Editor of the CANADA LANCET.

SIR,—I am pleased at the position you assume towards some of the changes proposed by the Ontario Medical Council. Changes made by that body in former times were so frequent that one would need to have the minutes of their proceedings always at hand to assure himself of the legality of his position in almost any given case. It was hoped that the present Council would amend all that, and to a great extent they have done so, and it is therefore much to be regretted that the change of which you very properly disapprove, namely, the compelling of graduates in Arts to pursue a four years' course in medicine, has been made. Our profession is certainly not over-crowded with men of scholarly attainments, and we have always felt that every inducement compatible with a thorough medical course, should be held out to young men about to enter the medical profession, to encourage them to graduate in Arts before commencing their professional studies.

To place a gentleman who has passed through an Arts' course, and taken the degree of B.A., on a par in the matter of study with one who has just quitted the farm or the workshop, is certainly not in accordance with the dictates of experience. Sixteen years' teaching has convinced me that on an average the Bachelor of Arts will acquire as much professional knowledge in three years as one who has not had such a course of training will in four; and besides this, we all know that after the M.D. has been obtained, the man who has also had the training of an Arts' course is much better qualified to fulfil many of the duties which in after life devolve upon the active and respected medical man. I take the average as a rule, and do not ignore exceptions, which are conceded to be the accompaniment of all rules. Apropos of this matter I may

quote a pithy little extract from the *Queen's College Journal* for June—

"It is a significant fact that the Medicals who succeeded this year in taking University prizes are graduates in Arts. The prizes be it noted, were given for essays upon subjects in connection with the medical course. Theorists may maintain that a physician does not require an Arts education, but it is facts and not theories that for the sober-minded are trumpet-tongued. While it would be probably too much to require that every M.D. should be a B.A., as it would be to require that every Reverend should be a B.A., yet as the requirement is being at least generally fulfilled in the latter case, so it should be in the former. The spirit of the times is happily pointing in that direction. Queen's has begun to agitate for a higher standard for matriculation in medicine."

We hope, however, that with the object in view of promoting a higher standard of general education in our profession, such an amendment as the one under discussion will never become a permanent law, unless as a compensating rider they make it compulsory on every medical student to pass a matriculation examination equivalent to that for the degree of B.A.; but this would be asking too much, and hence we ask for a continuance of the old *regime*.

Another change we object to is the imposition of an annual tax of \$5, instead of \$1, upon every registered practitioner while we receive no corresponding value. Raising money in this manner for the purpose of stocking the rooms in which the Medical Council meet with a library and museum, does certainly not commend itself to the profession at large, inasmuch as our representatives are sent to Toronto for the purpose of legislating in behalf of our professional interests, and not for the purpose of refreshing their minds by perusing the tomes of a library and examining the specimens in a museum. We have been waiting patiently year after year to see some legislation that would bring under control the manufacture and sale of the many nostrums that flood our land; that would restrict or prohibit the misleading advertisements of shameless adventurers; that would enforce a proper code of ethics amongst qualified practitioners, and provide for the disciplining of those who habitually transgress it; to restrain druggists from their almost universal custom of prescribing for patients, etc. etc.; but we have hitherto waited in vain. Until our Council can show us some practical work, beyond the modifying of curricula, and the transferring of the subjects of medical study from one part of the course to another, and back again, I for one most emphatically protest against

paying any more than we pay at the present time. Let them turn their attention to clearing away some of the impostures and annoyances to which both the laity and the profession are subjected, and then we will hail the labors of the Medical Council with gladness and bid them God-speed in their laudable efforts.

Yours truly,

THOS. R. DUPUIS.

Kingston, July, 1884.

Reports of Societies.

ONTARIO BOARD OF HEALTH.

The third quarterly meeting of the Provincial Board of Health was held in Toronto on the 31st of July, Dr. C. W. Covernton in the chair. The fore part of the day was taken up with matters of routine, the secretary's report of work done, etc. Replies were read to the circulars sent out to local boards, some of which showed considerable interest in sanitary matters, while others were the reverse of what should be expected. Pamphlets on cholera were distributed in large numbers. Correspondence had passed between the Board and the Dominion Government regarding the precautions which were being taken by the quarantine officers at ports of entry to prevent the introduction of infectious diseases. The replies, though courteous enough, were far from satisfactory.

The chairman read a report on epidemics, in which he alluded to the absorptive powers of milk, and the dangers arising therefrom. He gave instances of outbreaks of typhoid fever and other infectious diseases which had been directly traceable to this source.

The secretary was instructed to communicate with the railway authorities, recommending that they provide dry earth closets on all cars.

The second day's session began at half-past ten a.m. The secretary read a letter from Dr. Brown, of Galt, stating that the manufactories on the east side of the Grand river were making offensive deposits in that river, and stating that he had taken steps to force the owners to stop the nuisance. He wished to know if the Board would support him in this action.

On motion of Dr. Cassidy, a Committee was appointed to enquire into the evils of baby farming, and suggest a remedy.

The Board then went into Committee of the Whole to consider the report which was to be handed to the Lieutenant-Governor concerning the precautions which, in the opinion of the Board, should be taken in case cholera should break out

here. The following is the substance of the regulations which were recommended :

As soon as danger has become imminent, the Board shall ask for a grant to be set apart by the Government sufficient to enable the Board to pay a medical executive officer in each town in the Province, and to meet the expenses incurred in taking precautions against the spread of the epidemic. These medical health officers will be executive officers of the Board ; and where it is found possible, the officer of the Local Board of Health shall be chosen for the position. He shall report to and act in accordance with the instructions of the Board.

On the approach of the first case of cholera the medical health officer shall at once remove it to the isolation hospital, and shall take every measure for the disinfection of linen and clothing worn by sufferers, and if necessary destroy them. He shall be careful to destroy any food which has begun to decay.

In regard to the quarantine stations which shall be provided by the local Boards of Health, all persons who may have been exposed to the infection shall be detained until such time as the period of incubation shall have elapsed, and shall be permitted to go only on being thoroughly disinfected by fumigation.

If any municipality be a port of entry from infected districts, the medical executive officer shall make a strict inspection of said vessel before any passengers, luggage, or freight from it be allowed to land ; and where any affected or exposed persons are found on board they shall be dealt with in the manner above indicated. And further all personal effects or other exposed luggage or freight shall be thoroughly disinfected before being landed.

Wherever cholera exists in any Province or State adjoining Ontario, from which railways enter the Province, the medical executive officer shall be given the full powers of a quarantine officer as far as can be exercised under the provisions of municipal or provincial laws. He shall examine all trains suspected of containing cholera, making thorough disinfection. The medical executive officer may by arrangement with the railways, board the trains when some miles outside the Province, in order to avoid unnecessary detention of trains.

Should cholera appear in this Province or in any Province or State adjoining this Province, the medical health authorities shall, under the direction of the Provincial Board of Health, carry out the recommendations contained in the pamphlet No. 14, issued by the Board.

Dr. Oldright then read a report on the prevalence of typhoid fever at the Kingston Insane Asylum. He had found the ventilation and drainage defective and the water tainted.

A letter was received from Mr. Prust, of Hali-burton, complaining of the nuisance of sawdust deposits in the lake. The chairman and secretary will take steps to assist the local Board in abating the nuisance.

In the evening session, Dr. Yeomans presided in the absence of Dr. Covernton. Upon enquiry, it was found that many municipalities had not formed local Boards under the Act, and the secretary was instructed to notify the clerks of the municipalities, and that in case the law was not complied with, the Provincial Board would appoint members of the Local Board, as provided for in the Provincial Health Act.

The secretary was also instructed to inquire through the proper official channel what precautions the Dominion and other Provincial authorities were taking to prevent the introduction and spread of cholera and other zymotic diseases.

Dr. Cassidy and Dr. Bryce were appointed delegates to the Sanitary Conference at Washington, and Dr. Covernton and Dr. Oldright to the British Association for the Advancement of Science, and the Canadian Sanitary Association at Montreal. The chairman will appoint a deputation, including himself, to the meeting of the American Public Health Association at St. Louis in October.

THE NEW BRUNSWICK MEDICAL SOCIETY.

The fourth annual meeting of the New Brunswick Medical Society was held in St. John, on the 17th and 18th of July. The attendance was large, there being fully forty members present. Hon. Dr. Vail, the president, occupied the chair. Dr. Musgrove, in the absence of Dr. Duncan, was appointed secretary *pro tem*.

The president made a brief address, expressing his pleasure at seeing so many members present, and describing the objects for which the society was formed and the advantages of belonging to it.

A communication was read from the W. C. T. U. referring to the increase of intemperance, caused to a certain degree by the administration of alcoholic stimulants by physicians, and calling upon the society to unite with them in suppressing intemperance. The communication was filed.

Dr. F. A. Nevers, the treasurer, reported that after paying the bills there remained on hand \$87.05.

The committee appointed to consider the feasibility of publishing a *Journal* reported in favor of the scheme, the publication to be entitled, *Medical and Surgical Journal* of the N. B. Medical Society. Messrs. J. & A. McMillan's offer to publish the work quarterly, 200 copies, twenty-four pages, without charge, on consideration that they receive the benefit of all advertising, was recommended for acceptance. The vote on its adoption stood 19 to 15. Drs. J. D. White, S. Z. Earle and J. T.

Steeves were appointed a committee to superintend the publication of the journal, and Dr. L. C. Allison was appointed editor.

The following officers of the society were elected: President, Dr. Thomas Walker; 1st Vice-President, Dr. E. M. Patterson; 2nd Vice-President, Dr. George Taylor; Secretary, Dr. T. W. Musgrove; Treasurer, Dr. D. E. Berryman; Cor-Secretary, Dr. W. F. Coleman; Trustees, Drs. Coleman, D. E. Berryman, Daniel; Council, Drs. Steeves, Earle, Vail, Moore, Christie.

Dr. Grant, of Ottawa, who was present, was invited to a seat on the platform, and addressed the society. He alluded to the energy, activity and ability displayed by the profession in New Brunswick, and was pleased to see so large an attendance. He also referred, among other things, to the excellent summer resorts in this part of the Dominion, and concluded by wishing the society many years of success.

In the evening there was a very pleasant conversation, at which a large number of ladies were present. Dr. Vail presided. A paper on Sanitary Science was read by Dr. Bayard. Music and short addresses by some of the medical gentlemen present, enlivened the proceedings. Refreshments were served during the evening.

SECOND DAY.

The society met at 10 a.m., Dr. Walker in the chair.

After routine, Dr. Gray read an excellent paper on "Uterine Fibroids," in which he gave a number of cases in his own experience. An interesting discussion followed.

Dr. Moore then read a paper on the treatment of "Hydrocele" by iodine and carbolic acid.

Dr. S. Z. Earle thought that these remedies would not effect a permanent cure. He related a case where the disease had returned after twenty-two years.

Dr. Harrison agreed with Dr. Earle. A similar instance had come under his notice.

Dr. Frank Nevers related a case in which he had used iodine, U. S. P. At first he did not think that his patient would rally, but subsequently he came round all right. In future he would be inclined to use carbolic acid.

Dr. McFarland read an interesting paper on "Conservative Surgery in Compound Fractures," and described the mode of treatment he adopted. One of his patients, whose leg had been badly mangled, was shown, and the limb examined.

Dr. Moore and others expressed satisfaction with the paper and hoped that it would lead medical men to be more careful in dealing with fractures.

Dr. James Christie said there were cases which terminate well, and there were other cases in which the patient dies. It was often a serious question,

whether we should amputate or not. In the present case a good constitution had largely been the cause of the patient's recovery.

Dr. Nevers related a case in which the patient had died by endeavoring to save her limb.

Dr. Coleman stated that the mortality in amputation of the thigh was 63 per cent.

Dr. Coleman then read a carefully prepared paper on "Some Points in the Diagnosis and Treatment of Diseases of the Eye." In the discussion which followed, the paper was warmly commended, and regret was expressed at the rumor that Dr. Coleman intended to leave St. John.

Dr. James Christie read a paper on "Amputation after Recent Injury," citing a case or two in support of his contentions.

At the afternoon meeting Dr. Musgrove read a paper on "The Proper Use of Alcohol as a Medicine," taking strong ground against its use, except in the way arsenic, opium, or any other poison is used. In the discussion which followed, the usual view prevailed, that competent medical men were the best judges of when and how to prescribe alcohol. The medical profession is opposed to the use of alcohol except in case of absolute necessity.

Last, but not least, was an admirable paper on "The Germ Theory in Disease," by Dr. J. P. McInerney, of Portland. Drs. Barker, Coleman and Grant spoke in high terms of the paper.

The next annual meeting of the society will be held in Fredericton, and Drs. Brown, Currie, Curn and Barker were appointed to make arrangements.

HURON MEDICAL ASSOCIATION.

The regular meeting of the Huron Medical Association was held in Clinton on the 8th July, Dr. Williams, president, in the chair.

Dr. Hyndman, of Exeter, presented a case of hemoptysis, recurring since the 7th May, quite frequently. The patient last fall had an attack of bronchitis from which he apparently recovered. On careful examination the normal respiratory murmur was heard, except at one point about two inches in diameter and about the same distance below the left clavicle. His general appearance is one of fairly good health. There can, however, be little doubt that he has incipient phthisis.

Dr. Elliott presented a boy four years of age, who had been attacked with inflammation of the left arm below the shoulder, resulting in an abscess. Another soon formed at the joint, from which a quantity of pus was evacuated. The head of the scapula was found carious and the entire epiphysis removed at different times. The result was recovery with partial ankylosis. A little mobility of the joint existed which would likely increase.

Dr. Campbell, of Seaforth, reported a case of Pott's curvature of the spine, in a lady of 59 years, in which entire recovery took place after seven plaster of Paris jackets had been used. He also reported a case of pleuro-pneumonia ending in empyema. Six pints of healthy pus were taken by aspiration, and fourteen days after eight pints of very fetid pus were removed by free incision, and the cavity washed out three or four times a day with carbolic lotion.

Dr. Worthington presented a case of rodent ulcer, situated at the outer angle of the left lower eyelid. The treatment advised was scraping with Volkman's spoon and cauterizing with chloride of zinc solution. He also presented a case of congenital defect of the spinal medulla, and probably of the left frontal lobe of the brain. The patient is six years of age, and cannot walk, but is making some effort to do so, and also to talk. When an infant he had no control over the motions of his head whatever. When attempting to walk he is bent very much forward and both arms extended. There is a want of co-ordination which in time seems likely to be overcome. He has perfect control of his passages.

Drs. Smith and Nichol are to prepare papers for the next meeting.

BATHURST AND RIDEAU MEDICAL ASSOCIATION.

The eleventh annual meeting of the Bathurst and Rideau Medical Association was held at Carleton Place, on the 9th of July. There was a large attendance of members present, Dr. Cranston, President, in the chair. The Secretary's minutes and Treasurer's report were read and adopted. The latter announced that as there were sufficient funds on hand no levy would be made this year upon the members.

The President, in his annual address, alluded to the work done in the Medical Council, referring particularly to the proposed changes in the Medical Act. A discussion followed, in which many took part; the increase of the annual fee was objected to, especially the payment of a life fee which, it was contended, would only encourage extravagance in the Council, and when the fund was exhausted, the practicing physicians would again have to contribute to support the Council.

Dr. R. H. Preston exhibited a case of disease of the ankle joint. The trouble was of several months duration, pain was now very severe, swelling slight, tenderness not very marked, movements of foot were not difficult. All usual remedies, both internal and external, had been tried; he proposed to drill for pus, suspecting an interosseous abscess of the tibia. Drs. Grant, Horsey & McEwan concurred in his views.

Dr. Grant, jr., read a paper on "The Pathology

of Tubercle," exhibiting several slides of tuberculous and healthy tissue of various organs.

The Secretary read a paper from Dr. Malloch, of University College Hospital, London, reporting a case of "Hydatid Disease of the Liver," detailing operation and post mortem appearances.

The following officers were elected for the ensuing year: President, Dr. Cranston; 1st Vice-President, Dr. Preston, M.P.P.; 2nd Vice-President, Dr. Horsey; Treasurer, Dr. Hill; Secretary, Dr. Small.

The meeting then adjourned, to meet in Ottawa in January, 1885.

NOVA SCOTIA MEDICAL SOCIETY.

The annual meeting of the above named society was held in North Sydney, C.B., on the 9th and 10th of July, under the presidency of Dr. Somers, of Halifax. There was a good attendance of members. After routine, the President delivered an able and instructive address. The reports of the Standing Committees were then presented. The report on Medicine was prepared by Dr. Moore, of Kentville, and in the discussion that followed, the communicability of phthisis was chiefly taken up. It was decided to issue cards to the profession that a record may be had of all cases of this kind during the year.

The report on Surgery was presented by Dr. Stewart, in which he raised the question of anti-septic treatment of wounds, etc., upon which the President had also touched in his address. The report elicited considerable discussion.

In the afternoon, Dr. McGillvray presented the report on "Therapeutics," giving a succinct classification of recent popular remedies, showing that 97 in a list of nearly 300 had been more or less successfully adopted, while 190 had been rejected as useless. Dr. Angus, of Oxford, also reported for the same committee. The report on "Obstetrics" was presented by Dr. Page, in which he criticised the systems adopted by certain schools of practitioners.

The following gentlemen were elected members of the Provincial Medical Board under the new Medical Act: Drs. Somers, Wickwire, and J. F. Black, Halifax; Johnson, Sydney Mines; McIntosh, Antigonish; and Perrin, Yarmouth.

Dr. Tobin, of Halifax, read a paper on "The Modern Operation for Cataract Extraction," which was well received.

In the evening session a paper was read on "Medical Education in Nova Scotia" by Dr. Reid, Superintendent of the Insane Asylum.

On Thursday morning, Dr. J. W. McDonald read a paper on "Sanitation in regard to Diphtheria." In 1880 no less than 2,000 deaths occurred from this disease in Nova Scotia, but last year so great was the advance of the people in

sanitary knowledge, the death rate fell below 500. Dr. McDonald contended that the prevalence of diphtheria was entirely owing to the lack of sanitation. Quite an animated discussion followed in regard to the infectiousness of diphtheria. Dr. McKay followed with a paper on "Sanitary Legislation." He advocated the enforcement of our present sanitary laws, the establishment of a Department of Public Health in the Cabinet, and the appointment of an Inspector of Health for each County.

The following officers were elected for the ensuing year: President, Dr. H. B. McPherson; 1st Vice-President, Dr. John Stewart; 2nd Vice-President, Dr. T. R. Almon; and Secretary, Dr. J. W. McDonald. Dr. W. McK. McLeod was placed on the Standing Committee on Medicine; Dr. Lewis Johnston on that of Surgery, and Dr. Wm. McKay on that of Obstetrics.

In the afternoon the visiting gentlemen enjoyed an excursion on the harbor, as the guests of the C. B. Medical Association.

The society met again in the evening. The question of the union of the associations of the Maritime Provinces came up, but its consideration was deferred. Dr. Stewart gave notice of his intention to move next year in regard to the matter of physical education in the public schools.

After the usual votes of thanks, the society adjourned to meet next year in Halifax. Much of the success of the present meeting was due to Dr. McPherson, upon whom devolved the local arrangements.

MICHIGAN STATE BOARD OF HEALTH.

Reported for the CANADA LANCET.

The regular quarterly meeting of the Board was held in Lansing, July 8, 1884.

The Secretary presented a report on four outbreaks of cheese-poisoning in Michigan, during May and June. All persons who ate of the cheese were taken sick, (in all about one hundred and sixty-four persons), with the same symptoms, i. e., pain and burning sensation in the stomach, intense vomiting and purging, feeble pulse, cold extremities, and tendency to collapse. All finally recovered. Specimens of the cheese were analyzed. Everything about the factory appeared to be scrupulously clean, and nothing in vats, cans, or surroundings offered any explanation of the cause of the poisoning. Analysis showed no arsenic, copper, lead, iron, or other mineral poisons. When the cheese was cut or broken, a whitish liquid oozed into the pores, and in the liquid microscopic organisms were detected. For more than one hundred years the attention of the scientific world has been drawn to the subject of cheese poisoning by repeated outbreaks from time to time. It has been variously ascribed to diseased milk, decomposition

and the development of certain fatty acids, etc.; but it is not yet known what makes the cheese poison. The manufacturer said the cheese which produced the ill-results was all made between April 26 and May 26, 1884. It was made in the same manner and with the same care as other lots which had given no cause of complaint. Good cheese is only very slightly acid, and slowly reddens blue litmus paper. The poisonous cheese was intensely acid, instantly reddening blue litmus, when the paper was applied to the freshly cut surface. This test for poisonous cheese appears to be practicable. The blue litmus paper could be applied by any grocer to each freshly-cut cheese.

The Secretary reported an outbreak of small-pox in Ross Lake, introduced by a German immigrant. He said this outbreak was another illustration of how Michigan and the North-west suffer from the lack of a careful immigrant inspection service, such as was planned by the National Board of Health, and for a time carried on, but discontinued for want of an appropriation.

Owing to the spread of Asiatic cholera in Europe, and the liability of its introduction into this country at any time, it was decided to issue a circular to local Boards of Health on the prevention and restriction of cholera.

Other circulars on infectious diseases were ordered to be printed and distributed. A report of the work of the Secretary's office concluded the work of the Board.

Selected Articles.

CLINIC, BY ROBERTS BARTHLOW, M. D.

CHRONIC ILEO-COLITIS.—The first case to be exhibited this morning, the child before you, was shown you some time ago, suffering with chronic ileo-colitis. The disease had been extremely persistent and severe, but under a properly regulated diet and the use of tincture of iodine and carbolic acid, the so-called carbolate of iodine—a half a drop of each being taken three times a day—there has been rapid improvement, and now the symptoms have disappeared, notwithstanding that the instructions in regard to the regulation of the diet have been imperfectly obeyed. You will remember that I insisted upon a change in the diet as of the first importance in the treatment of this case.

I hope that you will observe the character of the cough which the child has. It has frequently occurred ever since the existence of the ileo-colitis. Every time the child takes cold it has this hard, ringing cough which you now hear, and which is termed a "croupy cough." I have on several occasions insisted that this phrase is a misnomer. It is called croupy simply because it has the loud, ringing, metallic character which is as-

sociated with the cough of spasmodic croup. This is not the true croupy cough. The cough of exudative laryngitis is husky in addition to being ringing and metallic. The cough which this child presents is significant of laryngismus stridulus; that is, an affection of the larynx in which the muscles are thrown into a state of spasm. A child who during the day has been exposed to the cold, or who in the evening has eaten heartily of indigestible food, wakes up in the night with an attack of so-called croup. This is really an example of laryngismus stridulus, or spasm of the muscles of the larynx. In the case I have supposed there are two factors: the child takes cold, or it has an irritation of the gastro-intestinal mucous membrane. We can here apply with great certainty our physiological knowledge. The mechanism is very obvious. The pneumogastric nerve which supplies the mucous membrane of the fauces, and the gastro-intestinal mucous membrane in part, also has branches going to the larynx. This nerve is both motor and sensory in function. All the muscles of the larynx, with the exception of the crico-thyroid, are supplied by the inferior laryngeal nerve, while the superior laryngeal nerve is distributed to the mucous membrane and the crico-thyroid muscle. Now we have the terms of the problem. Irritation of the peripheral distribution of the pneumogastric nerve is referred to its motor branches, and the muscles of the larynx are thrown into a state of spasm. It would be a great mistake to confound this condition with true croup.

LARYNGISMUS STRIDULUS.—As laryngismus stridulus is merely a reflex spasm of the muscles of the larynx, those remedies which relieve spasm are the appropriate ones to use. In the present case we can prescribe a remedy which has a twofold effect; a remedy which benefits the intestinal inflammation, by acting through the nervous system, and which is also very effective in relieving the muscular spasm. This remedy, the bromide of potassium, will allay spasm of the muscles of the larynx, and it will also relieve certain kinds of irritation of the gastro-intestinal mucous membrane. In that disease commonly known as summer complaint bromide of potassium is one of our most efficient remedies. Why? Because it acts on the vascular supply of the mucous membrane, through the nervous apparatus, the semi-lunar ganglion and solar plexus. We have in this drug a remedy which fulfils all the indications of the present case. I direct five grains of bromide of potassium to be taken every three hours until the symptoms subside. The injunctions in regard to the diet must be repeated. When I last saw the child I carefully indicted the food which should be used. I now learn that the child has been given bread in considerable quantity, with the idea that bread, being the staff of life, can do no harm, and is always in place. In such cases as this bread is

always out of place. It is unsuitable; because it is an eminently fermentable substance, and in the process of fermentation acids are produced which have an irritating effect on the inflamed mucous membrane.

CHLOROFORM IN TIC DOULEUREUX.—Here is another case which you have seen before, and I can now show you the result of treatment. It is a case of tic douleureux, *i. e.*, neuralgia of the superior maxillary branch or division of the fifth nerve. You will remember that I pointed out the various features of this case, indicated the painful points, and referred to the remedies most appropriate in its treatment, and I prescribed a remedy which has been found singularly efficient. There is no fact in therapeutics more striking than the curative results of a few drops of chloroform injected in the neighborhood of this division of the nerve, when it is the seat of neuralgia. In my experience the superior maxillary division of the fifth nerve is, above all the divisions of the nerve, most apt to be affected with neuralgia. Fortunately, it is this division of the nerve which is most easily acted upon.

Given a case of tic douleureux involving this nerve, how shall it be relieved? Simply lift the corner of the lip and insert the needle at the junction of the mucous membrane of the lip and that of the cavity of the mouth, and pass it up until its extremity comes in the neighborhood of the nerve, and inject from five to fifteen drops of chloroform or ether. As a rule, chloroform is less painful and more efficient than ether. In this case the pain at once subsided, and in the majority of cases the result, if not permanent, lasts for a considerable length of time. I have a patient in Boston, who comes to me twice a year to have this injection practised. In his case the neuralgia is probably due to intra-cranial disease. This measure has accomplished that which nothing else has done. The relief which he obtains is complete, and lasts never less than six months.

PARALYSIS FROM ENLARGED LYMPHATIC GLANDS.—This case has also been before you, and I am the more desirous of presenting it to you as there were some rather confused points in regard to the diagnosis. In this patient the parotid gland and the lymphatic glands of the right side of the neck were greatly enlarged. This swelling of the glands was followed by an attack of hemiplegia. The mechanism which I maintained to be explanatory of this is the following: This mass of enlarged glands presses upon the cervical sympathetic and affects the intra-cranial blood supply. You will probably at once ask, "How is it that the paralysis involves the right side, for the enlarged glands are on the right side, and we know that the superior cervical ganglia controls the circulation of the same side of the brain?" We learn from the experiments of Bernard, which have frequently

been repeated, that when the cervical sympathetic is divided the corresponding side of the face and head becomes flushed, owing to the paralysis of the vessels. Suppose, however, that the nerve is merely irritated the unstriped muscles supplied by that nerve are thrown into a state of spasm, and this causes a diminution in the blood supply, the degree of which depends on the amount of spasm. In other words, irritation of the superior sympathetic produces anæmia of the brain. This does not explain the occurrence of the paralysis on the right side. It is a peculiarity of some cases that the impression is crossed. Why this should be has never been adequately explained. It is, however, a practical fact that the paralysis sometimes occurs on the same side as the lesion, and not on the opposite side.

The patient has been improving under the treatment, which consisted in the administration of one-half grain of sulphate of iron with $\frac{1}{10}$ of a grain of sulphate of strychnia three times a day. As you can see he has great difficulty in combining muscular movements. Looking at the face you observe that on the right side, the labio-nasal fold which passes from the corner of the mouth to the corner of the nose, is much less distinct than it is on the left side. This is always an important point. A very positive evidence of paresis of the seventh nerve is often afforded by that sign.

LUMBAGO.—A short time ago I presented several cases of lumbago, and dwelt on the differential diagnosis and treatment. Some of the cases were strictly of a rheumatic nature, while others were more of a neuralgic character. I enlarged upon the essential differences between these two forms of the disease, and pointed out how certain states of the system had much to do with the results of treatment.

In this case we had to deal with a rheumatic lumbago, and we put him on the use of salicylic acid. The pain has disappeared and the patient is nearly or altogether well. In those cases which are distinctly rheumatic, there is no question as to the efficiency of this remedy. I at the same time advised the external use of oil of wintergreen, which has been found of service in muscular rheumatism so situated as to be reached by topical applications. The result here has been eminently satisfactory.

INTERMITTENT FEVER.—This little girl has had attacks which the mother supposed to be sick headache. They have occurred periodically, but of late have been increasing in frequency. On inquiry we learn that the attacks began with chilly sensations and often with a decided chill. This was followed by violent fever and headache, and terminated in sweating. With the commencement of chilly sensations there appeared nausea, violent vomiting and distress of the stomach.

Looking at the phenomena presented by this

history, there is no difficulty in making the diagnosis. The child lives in a malarial part of the city. The attacks begin with a chill, followed by high fever, and terminate in sweating. The frequent recurrences of the seizures, and their persistence, indicates the existence of changes in the condition of the spleen and liver. In many examples of chronic malarial toxæmia the spleen is enlarged, but sometimes it is smaller than normal; in other words, in the most chronic cases the spleen is the seat of a chronic splenitis. The liver is also changed, being affected with pigment deposits and disorders of its circulation—the nutmeg liver. The paroxysms will recur as long as these modifications in the condition of the liver and spleen are allowed to continue.

The question which we have to consider is, how best to arrest the attacks. As the gastric disturbance is so great, attention to the diet will be necessary. In order to prevent the occurrence of the paroxysm, quinine must be administered, in anticipation of the seizure. We must do something more than this. The condition of the liver and spleen must be taken into consideration, for although there is no enlargement of the area of dullness proper to these organs, I have no doubt that they are the seat of the changes which characterize chronic malarial toxæmia. The spleen in these cases is not necessarily enlarged, and may, indeed, as already stated, be smaller than normal. The organ may be in the condition known to practical pathologists as the "fleshy spleen." This is a chronic alteration in which the trabeculæ are very much increased in amount, and the splenic pulp proportionately diminished. There is hypertrophy and hyperplasia of the connective tissue elements, and hence its fleshy appearance.

There are two remedies to influence the liver and spleen, which are especially valuable. The one is aqueous extract of ergot and the other is an iodide, especially iodide of ammonium. There is also a condition of anæmia for which remedies of the chalybeate group are indicated. The most appropriate one in the present instance is the arseniate of iron. The best results will be accomplished by giving quinine, to prevent the recurrent attacks, and the use of a pill, containing the following:—

| | | | |
|----|-------------------|--------|----|
| R. | Extracti ergotæ, | ʒ j | |
| | Ferri arseniatis, | gr. ss | |
| | Ammonii iodidi, | ʒ j. | M. |

Ft. pil. No. xx.

SIG.—Two pills three times a day.

This prescription should be very persistently used. Under this plan of treatment, we will see the paroxysms subside and the marked improvement take place in the general state.

EXOPHTHALMIC GOITRE.—Before us is a case of exophthalmic goitre. One of the symptoms is

very manifest. You see the marked protrusions of the eyeballs. Let me first give the quaternary of symptoms in which this curious malady consists : first, protrusion of the eyes ; second, enlargement and pulsation of the vessels of the neck ; third, enlargement of the thyroid gland, and fourth, rapid action of the heart. Two of the symptoms give the disease its name—the exophthalmos and the enlarged thyroid.

Are all the symptoms present in this case? You see the condition of the eyes. I direct the patient to look downward ; the eyelid does not follow the movements of the ball, and a considerable amount of the sclerotic is exposed. The cause of the protrusion has been much disputed. It has been attributed to œdematous swelling of the tissues back of the eye, and also to the action of the unstriped muscle of the orbital membrane. The latter is probably the chief cause.

Looking at the thyroid, it is found that although it is not much enlarged, the change is characteristic. It is the right side of the gland which is involved ; the left side does not exhibit any enlargement. When only one side is affected, the rule is that it is the right side. The left side may subsequently be involved. In typical cases, the vessels of the thyroid also become enlarged, so that the gland pulsates like an aneurism and is often confounded with aneurism. The enlargement also presents the aneurismal whirr and thrill. This enlargement may be either temporary or permanent. At first the enlargement is merely due to the vessels ; afterwards to the hyperplasia of the gland elements. In consequence of the lesion of the sympathetic, which is the seat of the trouble, the vessels dilate. The vessels of the neck in typical cases also become enlarged. We also find in this patient that the heart is affected. In typical cases where there is no lesion of the heart, the action of the heart is simply increased, the number of pulsations being increased, and the force of the pulsation much greater than normal. In old subjects, changes in the structure of the heart are apt to occur. In the present instance, when I apply a stethoscope over the heart, and especially over the mitral area, I hear a double murmur. This is not merely anæmic, but it is due to lesion of the valves. There are various changes which may take place in the heart, but no one of them can invariably be referred to this malady. As I have said, the heart is not necessarily the seat of any lesion in this disease, the only change being the increased number and the force of the pulsations. This might take place in one of two ways, either from irritation of the accelerator, or paralysis of the inhibitory apparatus. In this disease the lesion is in the accelerator nerves which arise from the sympathetic, and not in the pneumogastric nerve. Such is the mechanism and such the pathology of this affection.

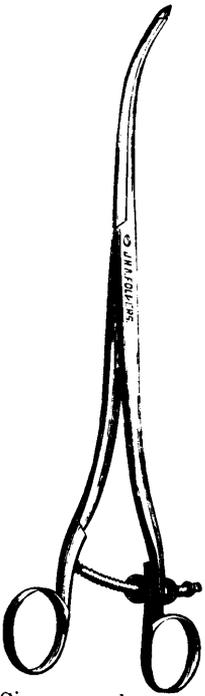
This being the nature of the case, what is the appropriate treatment? I have effected cures in several cases by persistent galvanization of the cervical sympathetic. This is done by placing one electrode in the fossa behind the angle of the jaw, and the other in the epigastrium. The continuous current should be passed for five, ten, or fifteen minutes. This at once diminishes the pulsation, and the protrusion of the eye is lessened. Of course, one application will not affect a cure ; but I have no hesitation in asserting that in all uncomplicated cases, occurring in young subjects, a cure may be effected by the persistent use of the galvanic current.

In addition to this, remedies which modify the activity of the sympathetic system may be administered by the mouth. Digitalis has been much used, and has sometimes been of service. Ergot has also done good in many of these cases.

INSTRUMENT FOR OPENING PELVIC ABSCESES.

In the *Pacific Med. Journal*, Clinton Cushing, M.D., Professor of Gynecology Cooper Medical College, describes a new instrument for opening pelvic abscesses through the roof of the vagina. The most frequent site for a pelvic abscess is either in Douglass' pouch behind the uterus or in the connective tissue of one or both of the broad ligaments on either side of the uterus. It may also occur in the connective tissue between the uterus and bladder, but this is quite rare. It may open into the vagina, the rectum, through the abdominal wall, into the bladder, or into the peritoneum ; of the last mentioned, out of nineteen cases of pelvic abscess reported by Savage, of London, three terminated fatally in this way, and out of three cases opening into the rectum two proved fatal. The most favorable point for the escape of the pus is through the vagina. Between the uterus and bladder, there are no arteries of a size to make them of importance from a surgical point of view ; but on either side the cervix, just above the junction of the vagina with the uterine neck, very important structures exist—no less important than the ureters and the uterine arteries. The uterine arteries which are as large as the radial, branch off the internal iliac on the sides of the pelvis and pass inward to the sides of the uterus just beneath the base of the broad ligaments and within a half inch of the roof of the vagina. The ureters pass over the brim of the pelvis beneath the pelvic peritoneum and run forward on either side the cervix to their position between the bladder and vagina. They cross the uterine artery about three-quarters of an inch laterally from the cervix, and both the ureter and artery are directly in the way if an at-

tempt is made to evacuate pus in broad ligament through the vaginal roof. The instrument—of which I herewith present a wood-cut one-third the size of the original—consists of two blades, which when closed form a trocar, and when introduced into an abscess direct, or along the side of an aspirator needle, the handles can be closed and the extremities separated so as to act as a dilator, and thus tear the connecting tissue sufficiently to furnish the most ample room for the escape of pus and the introduction of a drainage tube.



The manner of using it is simple. After making a digital examination and locating by the sense of touch the point in the vagina that you have determined to explore, turn the woman on her side in the Sims position, on a table before the window where the light is good. Introduce a

Sims speculum and give it to an assistant to hold, and then seize the cervix with a small vulsellum to steady it. If the induration where the suspected pus is supposed to be presents no sense of fluctuation to the finger, pass a slender aspirator needle into the mass by means of a pair of strong dressing forceps and determine whether pus is present; if so, now make a slight incision alongside the needle and then introduce the trocar-pointed dilator by the side of the aspirator needle directly into the cavity of the abscess and close the handles before withdrawing it, leaving a large patulous opening into which the finger can be introduced, and of a character that does not tend to heal readily, admitting also of the easy introduction of a drainage tube. If fluctuation can be made out, the use of the aspirator is unnecessary. The advantage of this instrument over a knife is, that the danger of injuring the ureter or artery is reduced to a minimum; and the advantage over a trocar, is that of being able to make a large and free opening before withdrawing it, and with no additional risk. Doubtless the possession of this instrument with a knowledge of its use would give many men the courage to open and cure pelvic abscesses, that otherwise would allow them to go on to a bad ending. One of the difficulties attending the treatment of pelvic abscesses by openings through the vaginal roof is the inability to prevent the closure of the opening before the pus cavity has become entirely closed and healed, thus leading to a re-accumulation of matter. In order to meet this

indication, I have devised a self-retaining drainage tube that has proved most satisfactory in my hands. The tube is made by taking a piece of rubber tubing of pure gum, the size of a lead pencil, and cutting off a section three-quarters of an inch long, in which an opening is made at its centre, at one side, equal to the diameter of the piece of tubing. This is now fastened transversely across the end of the longer piece of tubing with silver wire. It is easily introduced by means of a pair of long-handled dressing forceps, and when in place will be retained without difficulty, unless considerable force is made to withdraw it. Through this tube the cavity of the abscess can be easily washed out if needed, and it can be left in as long as any purulent matter escapes.

TAIT'S OVARIOTOMIES.

A correspondent in the *St. Louis Courier of Medicine* gives the following: The other day I asked Dr. Savage to what he attributed his and Mr. Tait's success—for they are very similar in their methods, and have much the same results—and he replied: "It can all be summed up in three words, 1st, cleanliness; 2nd, dryness, and 3rd, dexterity." To which I would add "carefulness."

The first, "cleanliness," brings up the question of antiseptics, which can be disposed of in a word, neither of them uses them. I may have something to say on this subject in a future letter, but, from what I have already seen, I must say that my confidence in Listerism has been very much shaken. Tait uses nothing but pure water, but Dr. Savage does use a little carbolic acid in the water in which his instruments are placed. The instruments and sponges are, of course, scrupulously cleaned, and plenty of water is used from beginning to end, but that is all the antiseptic that is used. There is no oiled silk or anything of the kind placed over the abdomen, but the parts are sponged thoroughly clean before operating.

There are only four persons who take part in the operation, the operator, his assistant, and two nurses to manage the sponges. The nurses have to redress before coming from the other patients, and in fact everything is done that can possibly be done to insure perfect cleanliness. If there are any visitors present, they are required to sign a certificate to the effect that they have not attended any post mortem examinations or contagious diseases for six days.

Before the peritoneum is opened, the external bleeding is arrested with Koeberle's scissor-shaped artery forceps, which are left on until it is necessary to complete the operation, when, as a general thing, all the bleeding is stopped. Just as soon as the peritoneum is opened, sponges are inserted

ad libitum. I have seen as many as twenty sponges in the abdominal cavity at one time. Before closing the incision, dry sponges are put in and taken out until they finally come out dry and clean, so that Baker Brown's old rule, "don't sponge the peritoneum," has been replaced with the opposite, "sponge until perfectly dry."

Mr. Tait is renowned for his short incisions. As a rule he seldom makes an incision longer than an inch and a half in simple ovariectomies, or the removal of the appendages. With this small opening, barely large enough to admit his two fingers, he diagnoses the case, and generally completes the operation. From what I have seen, and judging from a discussion that has just taken place in the *Lancet*, I am led to believe that no one ever attempts to perform the operation with as small an opening as Lawson Tait. He is remarkably skillful with his fingers, not only in abdominal section, but in every other operation I have seen him perform.

Carefulness in little things has much to do with success. In every operation there are the same number of artery forceps (12), the same number of sponges (either 12 or 20.) When the operation is about completed, and the sutures ready to be tied, the nurses have to count the sponges, etc. This, of course, is absolutely necessary, for it is a very easy matter to leave a sponge in. Several times I have seen the operator search the abdominal cavity for some time before a sponge could be found, that was known to be there only from counting them. The anæsthetic used is bichloride of methylene.

His method of treating the pedicle is the intraperitoneal, after ligating with silk. He uses a peculiar double knot for tying the pedicle, which, for want of a better name, I would call the Tait knot. The advantages of this knot are that while the whole is compressed into one surface, it ties the pedicle in two halves, and at the same time these halves are equally well compressed, so that very great constricting force can be employed. To tie with this knot a long handled needle is threaded with the silk required and pushed through the centre of the pedicle. The needle is then withdrawn, and a loop left on the opposite side of the pedicle. Then the loop is drawn over the tumor or ovary, and one of the free ends drawn through it, so that one end is above and the other under the retracted loop. Both ends being seized they are drawn through the pedicle, till complete constriction is made. A simple hitch is then made and tightened, as in an ordinary ligature. The pedicle is then cut about a third of an inch from the ligature.

The intraperitoneal method of disposing of the pedicle was a long while in being adopted, but it has been the means of lessening the mortality at least fifteen per cent. There are times, however,

when the clamp must still be used. But in all the operations I have seen, I have only seen the clamp used five times—four by Mr. Tait and once by Dr. Savage—the latter a Porro's operation, and the removal of a six month's child.

During the ten weeks I have been here, Mr. Tait has operated sixty-five times, with only one death. The fatal case was a cancer case, and the operation was a *dernier ressort*; the woman died in twelve hours. Thus, throwing out this case, which really ought to be thrown out, we have sixty-four consecutive cases in ten weeks without a death. When we think what was the rate of mortality only a few years ago, when we expected at least twenty out of every hundred to die, we may well rejoice at the results of the present methods.

RETAINED PLACENTA.

Dr. T. Parvin in a paper read before the Philadelphia Co. Medical Society, thus discusses the management of retained placenta:—As long as the placenta is wholly attached, hemorrhage is impossible; the placenta is still a living structure and one with the uterus; to tear it loose, to directly detach it from the uterus, opens the way for perilous hemorrhage. Not only this, but such artificial detachment is usually incompete, is liable to injure the uterine tissue, and the operator's hand may be the bearer of septic germs, or these may pass in with the air admitted during the manipulation, and find a congenial soil for their development in fragments of placenta, or blood-clots that are retained in the uterus. Therefore, unless hemorrhage demands immediate interference, the obstetrician refrains from passing his hand into the uterine cavity for the removal of attached placenta; a completely adherent placenta is not so dangerous as the intra-uterine use of the hand for its detachment. I believe, then, that armed expectation is wise in the latter case, only endeavoring, by suitable compression of the uterus with the hand acting through the abdominal wall, to determine or assist that retraction of the organ which is nature's method of separating the placenta. After the detachment of the placenta—a fact which is best learned by feeling a part of the organ with the finger passed into the mouth of the womb—we may, by friction and compression of the uterus, if needed, evoke uterine contractions which will cause its expulsion. Those who believe that the placenta presents its foetal surface at the os uteri, urge the value of moderate and continuous traction upon the cord, thus assisting the moulding of the mass to the orifice through which it is to come. This conservative view as to the management of so-called retained placenta has been strongly presented by Siredey in his recent work upon puerperal diseases. The common expression, retention

of the placenta, means very different conditions, each requiring its appropriate treatment.

Dr. Parvin concludes with a study of a ruptured uterus. The uterus was ruptured in consequence of a shoulder presentation, a case which ended in death the eighth day after delivery. Yet, he said, I would fail in duty to my profession that has been so generous to me, if I did not make the case fully known. The patient was a well-formed multipara; she had been in labor nearly twelve hours when I first saw her, the left shoulder presenting. Ether was immediately given until she was thoroughly under its anesthetic effect; and then, without violence, nay, with great ease, I passed two fingers behind the right knee, brought the foot down, and turning and delivery were effected in a few minutes; the placenta followed almost immediately; the child, quite a large one, was dead. The patient came out from the anesthesia satisfactorily; her pulse was good; there was no complaint, no shock, no great hemorrhage. Yet that woman had a ruptured womb, the tear beginning at the os uteri on the right side, involving the cervix and the lower part of the body of the uterus, this condition being made known by the post-mortem. If it be thought I ought to have known this accident at the time of delivery, I can only say that like ignorance happened to Dubois, to Hervieux, to Tarnier, and others—the first revelation of the uterine rent being made at the post-mortem; these silent tears of the womb are, as Hervieux has suggested, probably more frequent than generally thought. No, my self-reproach is not in this, but in not having made myself, or by another, an examination during pregnancy, so that the abnormal presentation could have been corrected, if not then at least in early labor. But let this pass. The great practical lesson to be drawn from the accident is not only the importance of an early rectification of a mal-presentation, but also an appreciation of the danger of rupture of the uterus, and how this accident occurs. The drawing now shown gives the position occupied by the child, and also and especially gives the change in form and thickness of the two cavities of the uterus, which, as so admirably described by Bandl, are formed when nature is unable to overcome the obstacle to labor found in such case. The one cavity is formed by the body of the uterus, and its walls become thicker and stronger; the other by the cervix, and its walls grow thinner—become indeed so attenuated and weak that a very slight additional strain at some point; that strain may come from a uterine contraction, or solely from the introduction of the finger; and thus peril from action, peril from delay must be before the obstetrician's mind when called to a case of neglected shoulder presentation.

Of course had I seen this patient an hour or two earlier, the event might have been different. The pressure of the presenting part had been so severe that a slough of the vesico-vaginal wall oc-

curred, and the patient, had she recovered, would have required an operation for the resulting urinary fistula. I have thought that possibly the uterine rent was in part the result of a slough also; but be this as it may, there was not the slightest indication given at the post-mortem that any hemorrhage in the abdominal cavity had taken place.

THE EASY APPLICATION OF THE FORCEPS.—One of the chief minor objections to the use of the forceps is the fuss and trouble necessary to place the patient, already much exhausted and worried, in the orthodox position close to the edge of the bed, and, when so placed, patients frequently complain of feeling unsafe, and as if in danger of falling.

Let the patient lie in the ordinary position on her side, and at a reasonable distance from the edge of the bed, then let the upper blade be introduced as a lower blade, and then passed posteriorly round the head of the child into its proper position as the upper blade. When this is accomplished, the lower blade may be introduced in the usual manner, and the two handles locked. No force must be used, but the handle of the forceps manipulated as gently as that of a catheter when being introduced into the male bladder. I have applied the forceps in this manner more than twenty times in the last three years without any difficulty, and without causing any injury to the head or face of the child.

In teaching the use of the forceps, I think too little is said as to the direction in which the force should be applied after the head has reached the perineum, and when it is considered wise or justifiable to terminate the labor with the help of the forceps. I believe the force should be applied anteriorly, in a curved direction, terminating in a line almost parallel with the abdomen of the patient; in fact, in the same direction in which one might imagine that the woman herself would pull if attempting self-delivery with the forceps. Were more attention paid to this point, I am convinced that many perinæa which are now lacerated would escape uninjured.—Dr. Cribb, *Brit. Med. Journal*.

REMEDIES FOR GONORRHOEA.—No 1. —R. Liq. ferri. subsulphatis, gtt. xv.; aquæ font q. s., ℥ iv. No. 2.—R. Hydrastin muriatis, ℥ j; glycerinæ puræ f. ℥ ss; aquæ font q. s. f. ℥ iv. Directions.—Wash out urethra well with warm water, then inject formula No. 1. Six hours after use No. 2 by injection. Four days is all I ask for cure. This treatment has never failed where I have given it.—*Therap. Gaz.*

THE sulpho-carbolate of sodium, in thirty-grain doses given after meals, is recommended in flatulent dyspepsia. Also in ten-grain doses for nausea and vomiting, particularly in pregnancy.

THE CANADA LANCET.

A Monthly Journal of Medical and Surgical Science
Criticism and News.

Communications solicited on all Medical and Scientific subjects, and also Reports of Cases occurring in practice. Advertisements inserted on the most liberal terms. All Letters and Communications to be addressed to the "Editor Canada Lancet," Toronto.

AGENTS.—DAWSON BROS., Montreal; J. & A. McMILLAN, St. John, N.B.; GEO. STREET & Co., 30 Cornhill, London, Eng.; M. H. MAHLER, 23 Rue Richer, Paris.

TORONTO, SEPTEMBER, 1884.

The LANCET has the largest circulation of any Medical Journal in Canada, comprising four-fifths of the entire Medical Profession.

THE SPREAD OF CHOLERA.

Considerable anxiety is felt by the public in regard to the probable appearance of cholera on this side the Atlantic. It is impossible to say how soon, or when it may reach our sea-coast, for in these days of rapid railway and steam communication the germs may be carried to very distant parts in an almost incredibly short space of time. But whatever opinions may be entertained regarding the spread of cholera, the duty of the civic authorities, boards of health and the general public is clear. It is not enough to spend a few hundred dollars in cleaning up the filth in back lanes and alleys, the most thorough inspection and disinfection must be enforced. If proper and timely precautions are taken there need be no dread of cholera. Its outbreak in Toulon was the result of gross carelessness, and its continued spread the result of the most disgraceful unsanitary conditions. Although the violence of the epidemic has considerably abated, the area is very much enlarged, it having spread into the interior of France and Italy. At last accounts an outbreak in Algiers was feared. Koch has given the following instructions regarding the methods of preventing the spread of cholera: 1. Avoid contact with cholera patients or clothes worn by them; 2. practise temperance in eating and drinking; 3. avoid food that comes from an infected locality—cook it well; 4. see that the drinking water is pure—boil it; 5. avoid large gatherings; 6. disinfect choleraic evac-

uations with carbolic acid; 7. vacate apartments of cholera patients six days; 8. wash the hands with soap and water and carbolic acid if they have been in contact with cholera patients or their clothing; 9. disinfect linen before sending to the laundry; 10. disinfect all clothing of patients before transportation. The best disinfectants for cholera are carbolic acid, corrosive sublimate, and the zinc and copper salts.

A singular circumstance is mentioned in connection with the cholera in Marseilles, viz., that the swallows migrated at the outbreak of the pestilence and have not yet returned.

There are no specifics in the treatment. As most cases are preceded by a painless diarrhoea, it is well to adopt early treatment, so as to check it in the outset. Hypodermic injections of morphine and the internal use of opium, aromatics and astringents will be found most serviceable. Stimulants should be used with great caution. Horner's mixture, which has been recommended by Hartshorne and Bartholow in the *rice water* stage, is as reliable as any of the numerous so-called specifics:

R.—Chloroform,
Tr. opii,
Spts. camph.,
Spts. am. aromat.,
Creasot.,
Ol. cinnamom.,
Spts. vin. gall.,

aa ℥iss.
gtt. iij.
gtt. viij.
℥ij.—M.

Sig.—Dissolve a teaspoonful in a wineglassful of ice-water, and give two teaspoonfuls every five minutes. The following is the treatment adopted at Toulon and Marseilles:—In the first stage, twenty drops of laudanum are given with three grammes of ether, and ice in the mouth, to stop the vomiting. In the second stage, from ten to fifteen grammes of acetate of ammonia, the same quantity of alcohol, and injections of morphia, are given. If the breathing is embarrassed, oxygen is inhaled and the limbs rubbed with turpentine; and the *Medical Record* gravely adds, "the third stage is the coffin."

SURGERY OF THE URINARY ORGANS.

Late English journals bring us a report of the first of a series of lectures to be delivered by Sir Henry Thompson on the surgery of the urinary organs. Perhaps no man, living or dead, was ever better qualified to speak on this branch of surgery.

With rare natural and acquired gifts he combines a varied experience, in his chosen specialty, extending over a third of a century. The skill and experience which have made his name famous in this branch of surgery, he now proposes to make an open book for the benefit of suffering humanity. Thus it ever is in the higher walks of medical and surgical knowledge. The light is not hidden under a bushel to serve a selfish purpose, but is rather so placed that all who look may see.

Sir Henry, in his preliminary remarks, stated, that he became a specialist not from deliberate choice but by the merest accident. When about entering on the practice of his profession the Council of the College of Surgeons offered for competition as the subject of a Jacksonian prize, the "Pathology and treatment of Stricture of the Urethra." To the accident of having obtained this award, and not long after another Jacksonian prize for an essay on the prostate, he attributes the shaping of a career which he had never marked out for himself.

The subject of the lecture before us is Stricture of the Urethra. Of all the diseases, coming within the range of surgery, to which the urinary organs are liable, stricture of the urethra is by far the most common. Its victims are numerous and are to be found in every locality. As the common method of treatment is only calculated to afford temporary relief, nothing but evil forebodings is in store for the unhappy sufferer. Year by year he grows worse, until worn out by suffering catheterization, bladder and kidney troubles, he at last succumbs. Most practitioners of any experience can recall several such cases. The smallest diminution in the urethral calibre in itself of no consequence or inconvenience, often sounds the death knell of our patient. A trouble so grave in its ultimate consequences should never be regarded as trivial and undeserving of the most careful attention. Incipient stricture too often goes by the name of "gravel," to be treated by diuretics, thus seeking to overcome obstruction by increased force which is absurd. Catheterization next follows, sometimes with a view to gradual dilatation, but more frequently for the purpose of affording temporary relief from retention. It is cheering to learn from such an eminent authority as Sir Henry Thompson that nearly all cases of stricture are more or less within the range of surgical control. We can do

no more than touch upon a few of the more practical points discussed in this important lecture.

For a simple stricture or narrowing, *the history of which is recent*, nothing need be done beyond gradually restoring the calibre of the canal to its normal state by means of flexible bougies, and for this purpose the style of bougie called "olive," is the one recommended, to be followed in severe cases by polished steel dilators. By the use of these or other dilators, according to the fancy of the surgeon, we are assured the normal calibre of the canal may be maintained in a large number of cases for a long period. When the passage has been restored it should be maintained so by an occasional regular use of the bougie by the patient himself. Congenital, organic, as well as acquired narrowings of the external meatus, and near to it, will not yield to dilatation. An incision is necessary in such cases. Strictures also within three or four inches of the orifice do not benefit much by dilatation. In after life when all the tissues become more rigid, dilatation is less effective. But it sometimes happens that this rigidity is absent even in the aged, and hence dilatation should first be tried. A decided tendency to contract, at any period, despite treatment by dilatation, calls for internal urethrotomy without delay. Prompt action will save much suffering, avert perineal abscesses, fistulæ, and organic changes in the bladder, ureters and kidneys. To delay until symptoms of such troubles appear involves complicity in a course which irretrievably damages the patient's life.

How to ascertain the extent and situation of the stricture, before attempting to divide the tissues which constitute it is the next point discussed. For this purpose nothing is better in the majority of cases than a bougie just large enough to pass through the stricture. In exceptional cases it may be desirable to use a series of solid bulbous-ended instruments, of which the stem is slender. Next follows a description of the urethrotome used by the lecturer. The mode of operation is then minutely described. The instrument should be constructed so as to cut from behind forwards.

The question is next asked and answered, what are the results of internal urethrotomy in relation to the reappearance of stricture? It is not possible to promise immunity from return. Great stress is laid on the necessity of *complete incision* of the con-

tracted tissues. The rule is that sooner or later the stricture will return. But in the meantime the patient has been placed in a condition of health and comfort for several years, saving him the suffering and organic changes which threatened his existence. When the trouble returns division can again be resorted to. It is not a dangerous proceeding, necessarily occasioning hesitation on the part of the patient when his condition requires it. As in the case of stone, stricture is to be dealt with as often as the case demands. In this way the implication of vital organs is avoided, and the patient is permitted to live out his days in comparative comfort.

The risks of the operation are small. Sir Henry has operated on about 340 patients. The number of operations must have exceeded the number of patients by several hundreds. Of the 340 on whom the operation was performed, six only died, or less than two per cent. Three of the deaths were due to pyæmia; one to embolism; two to extravasation and exhaustion, one of the latter being unfit for operation.

Such is a brief summary of the views of one every way qualified to speak; and such are the results of his long and wide experience. The low rate of mortality will be a pleasant surprise to many. Every surgeon cannot hope for results so satisfactory, yet we are convinced their publication will go far to disarm fear, and give such a stimulus to this branch of surgery as will diminish the suffering and brighten the hopes of many a doomed victim.

BRITISH MEDICAL ASSOCIATION.

The fifty-second annual meeting of the British Medical Association was held in Belfast, beginning on the 29th of July, under the presidency of Dr. James Cuming. Additional interest was imparted to the proceedings by the presence of a number of distinguished foreigners both from Europe and America—Prof. Benedikt of Vienna, Zehender of Roostock, Cordes of Geneva, Drs. Pozzi and Durand-Beaumez of Paris, Gayet of Lyons, Drummond of Rome, Grant Bey of Cairo, etc., from the continent; and Drs. Flint, Sayre, Jacobi, Billings, Moore, Jones and others from the United States. Drs. Geikie, Douglass, Graham and McFarlane were present from Canada. About six hundred members attended the meeting. The president's

address was on "The General Character of Epidemics," in which he referred to the present epidemic of cholera, and urged due vigilance on the part of the profession and the government. The subject of micro-organisms and their relation to disease was also considered. On the following day Dr. Sayre gave a demonstration of the application of the plaster jacket in curvature of the spine. The address on medicine was delivered by Dr. Ord of London, who took for his subject "Some Perversions of Nutrition caused by the Nervous System." He alluded especially to muscular atrophy dependent upon articular disease—Charcot's disease, rheumatic arthritis, gonorrhœal rheumatism, etc. The address on surgery was delivered in the surgical section by Sir William McCormac, in which he reviewed the advances made in "Abdominal Surgery" during the past five years, relating his own experience in two successful cases of gastrostomy for malignant disease of the œsophagus, sixteen cases of the radical cure for hernia performed as a sequel to herniotomy, and one of excision of a large goitre. His method of the radical cure of hernia was to excise the sac, and ligate the neck, suturing the ring. The address on obstetrics was delivered by Dr. George H. Kidd of Dublin, taking for his subject "Puerperal Fever." With regard to etiology, he claimed that it was due to either or both of two causes—traumatism or epidemic influences. The address on physiology, which was a most able and interesting one, was delivered by Prof. Redfern of Belfast, and was well received. He dwelt chiefly on the progress of physiological science and its influence in medicine and pathology.

The work of the sections was characterized with earnestness and energy. The social aspect of the meeting was as agreeable as it was varied. The citizens of Belfast spared no pains to make their visitors happy. Public and private entertainments took place every evening, and excursions were made on Saturday to the Giant's Causeway, Garon Tower, Newcastle and other places. Dr. W. T. Edwards was elected President for the ensuing year, and Cardiff, South Wales, chosen as the place of meeting in 1885.

DR. KOCH has been decorated by the French Government with the *Legion of Honor*, in recognition of his services in the French cholera district.

THE INTERNATIONAL MEDICAL CONGRESS.

The eighth session of the International Medical Congress was formally opened in Copenhagen on Sunday the 10th of August, by the president, Prof. Panum, of Copenhagen, in the presence of the King and Queen of Denmark, the Council of State, and the King and Queen of Greece. The attendance comprised about 1600 medical men of all nationalities, including about 100 English and 50 Americans. The *Medical Record*, of New York, with characteristic enterprise, gives a cable report of the proceedings, from which we glean the following. An address of welcome was delivered by the president, followed by a brilliant reply from Sir James Paget in behalf of Great Britain, Prof. Virchow in behalf of Germany, and Pasteur in behalf of France. A grand banquet was given in the evening. On Monday the work was inaugurated by the division of the Association into sections, sixteen in number. Prof. Pasteur delivered an address in the general session on "Micro-organism and Vaccination," in which he referred to the report of the French commission, stating that of twenty-three protected dogs bitten by rabid animals in June last, all remained healthy, while of seventeen unprotected animals similarly bitten, fifteen went mad. He emphasized the practice of inoculating dogs only, and said if they were protected the disease would die out. Very interesting addresses were also delivered by the chairmen of sections and many excellent papers read and discussed. On the third day Prof. Tommasi Crudeli, of Rome, read an address before the general session on "The Nature of Malaria," and the means of making malarial countries healthier. Many interesting and valuable papers were also read before the different sections, too numerous to mention. The fourth day was devoted to excursions, one of which included a visit to Elsinore, the assumed scene of Shakespeare's tragedy of Hamlet.

It is expected that the next session of the Congress will be held in America, the invitation on behalf of the American Medical Association, through Dr. Billings, having been very cordially received. If so, our American confrères know well how to make it a success.

NEWSPAPER PARAGRAPHS.—Since our last issue we have received a number of newspaper paragraphs, containing reports of wonderful and rare "surgical operations" performed by medical men in different parts of the country. Some of these paragraphs are written in a style which makes only too apparent the source of their paternity. Others again are written in such a way that we may assume that they are the work of the "reporters." But it must be remembered that the code holds the medical men concerned responsible if their names constantly appear paraded in this way. In many of the towns and cities in this Province, and in other parts, medical men have been obliged to remonstrate against their names being used in connection with paragraphs such as above referred to.

Apropos of the above, the *Medical Times & Gazette* gives the following:—Members of the medical profession who have with reason made frequent complaints in our columns of the unprofessional advertisements appearing in the daily newspapers, will be glad to learn that, so far as the Royal College of Surgeons of England is concerned, an important step has just been taken calculated to check these practices by the removal, by resolution of the Council of that College, at a meeting on the 5th instant, of one of its Members, viz., Mr. George Washington Evans, who has, after careful enquiry and due deliberation, been judged by the Council to have been guilty of an offence against the by-laws of the College by the issue of advertisements and pamphlets declared to be "prejudicial to the interest," and "derogatory to the honour of the College," and "disgraceful to the profession of Surgery." The effect of this resolution will be that the name of George Washington Evans will also be erased from the Medical Register.

ONTARIO MEDICAL ASSOCIATION.—In accordance with a resolution passed at the last meeting the chairman of each temporary committee is expected to open a discussion next year on some subject to be named. The following are the subjects chosen:—*Surgery*—Chairman, Dr. Powell, Edgar—Subject: "Plaster Splints and Bandages." What fractures are best treated by them in private practice? What their advantages and what the dangers and limitations of their use? *Medicine*—Chairman, Dr. Tye, Chatham—Subject: "Diphtheria." *Ophthalmology*—Chairman, Dr. Ryerson,

Toronto—Subject: "On the use of Jequirity in affections of the eye." *Obstetrics*—Chairman, Dr. Temple, Toronto—Subject: "Intra-uterine medication."

CHILDREN'S TONIC.—The most pleasant and palatable disguise for quinine may be extemporized as follows:

| | |
|---------------------|----------|
| R—Quinæ sulph., | grs. xl. |
| Acid tannic, | grs. xx. |
| Tinct. opii camph., | ℥ ss. |
| Tinct. cinchona, | ℥ ss. |
| Spts. lavender co., | ℥ iij. |
| Syrup simp., ad., | ℥ iv.—M. |

Shake well before using. The dose will be usually one teaspoonful three times a day, but the amount of quinia desired to be administered should govern the size of the dose. It will make a beautiful creamy mixture, if the quinia and tannin are rubbed together on a pill tile or a sheet of paper with a spatula until all lumps disappear, then put in a suitable bottle and first add the paregoric, shaking at once, then the cinchona and lavender, followed by the syrup.

DAVOS-PLATZ AS A HEALTH RESORT.—The merits of Davos-Platz, Switzerland, as a health resort are becoming more and more appreciated by the highest medical authorities of Great Britain. The place possesses the great advantage of salubrity at all seasons of the year, so that patients may be sent there the moment it is discovered that their health requires the aid of its pure, bracing, dry and rarified air, and can remain without interruption until their recovery is complete. Good accommodation, suited to the habits and wishes of English visitors, may be had at the Hotel Belvedere, under the management of Mr. Cöester, who will gladly furnish any information that may be desired.

BRITISH DIPLOMAS.—The following gentlemen have successfully passed the examination of the Royal College of Surgeons, England, and were admitted members—Drs. H. W. Aikins (Toronto); C. E. Gooding, G. B. Rowell, and J. B. Loring (McGill). The following have taken the L.R.C.P., London:—Drs. G. L. Airth, W. M. Brown, and E. H. Williams (Trinity); E. E. Bronstorph and A. Stewart (McGill); and J. F. Bell (Toronto). The following have received the double qualification of

L.R.C.P. & S., Edin.:—Drs. S. A. McKeague, W. E. Sprague, J. Johnstoa, O. M. Belfry, R. Ovens, A. S. Thompson, and E. T. Eade (Trinity); J. Hutchison and W. Porteus (McGill).

ANOTHER CHOLERA COMMISSION.—We have had the French commission and the German commission, and now at the eleventh hour we are to have an English commission. Prof. Klein and Dr. Gibbes are to proceed to India and study the nature of cholera, and to act in conjunction with a native commission recently appointed. The gentlemen named are well qualified for this important work and their investigations will be of service to the world, but we fear that the earlier German commission has robbed them of whatever distinction they might have obtained in their investigations.

TREPHINING IN EPILEPSY.—Dr. Briggs, of Nashville, read a paper at the recent meeting of the Am. Surgical Association (*Am. Pract.*, July), in which he claims the most brilliant results from trephining in epilepsy arising from traumatic causes. In his record of 30 cases, he gives 25 cured, 3 relieved, 1 not benefited, and 1 died. No antiseptic precautions were used. Such results clearly indicate the propriety of resorting to the operation.

A GOOD DIURETIC.—The following combination recommended by Dr. Fothergill, will be found a useful diuretic:

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|---|----------------------------|
| R | Pot citrat. ℥iiss. |
| | Spt. Juniper Co. ℥j. |
| | Tr. Digitalis ℥iiss. |
| | Inf. Buchu. ad. ℥viiij.—M. |

Sig. One to two tablespoonfuls three or four times a day.

MEDICAL LIFE PEERS.—An amendment has been proposed to the British Medical Act Amendment Bill, to the effect that two physicians of over twenty years' standing be made life peers, and act as lord justices of appeal in medico-legal trials. Some such measure has been frequently urged by members of the profession in England, and if carried out will considerably strengthen the hands of justice.

The passing of the British Medical Bill has been again postponed till a more convenient season.

HONORS TO CANADIANS.—Dr. Osler, of Montreal, is an applicant for the chair of clinical medicine in the University of Pennsylvania, made vacant by the transfer of Dr. Pepper to the chair of medicine. Should he be appointed the loss to McGill College will be seriously felt. He has also been invited to deliver the Gulstonian lectures before the Royal College of Physicians, London, next spring.

APPOINTMENTS.—Dr. J. M. Cochrane, of the assistant staff of the Toronto General Hospital, has been appointed medical superintendent of the Hamilton City Hospital. We congratulate our young friend and also the Hospital upon this excellent appointment

Dr. J. McDonald has been appointed to inspect all vessels arriving in the ports of the Miramichi District, N. B.

APPLICATION FOR DIPHTHERIA.—The following will be found a most useful formula :

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|-------------------------|----------|
| R—Liq. ferri subsulph., | ʒ iv. |
| Acid carbol., | ʒ j. |
| Sodæ sulphit., | ʒ iij. |
| Glycerini, | ʒ ij. |
| Aquæ, ad., | ʒ iv.—M. |

Sig.—Apply by means of a brush or swab every two or three hours.

PRURITUS VULVÆ.—Dr. William Goodell, of Philadelphia, prescribes for this disease : carbolic acid, one drachm ; morphine sulphate, ten grains ; boracic acid, two drachms ; vaseline, two ounces. Also, pat the parts with a sponge soaked in boiling-hot water. This is also a most excellent application for that rawness so often found between the thighs of the newly born.

HYDROPHOBIA INOCULATION SUSTAINED.—The commission appointed to consider the question of the prevention of hydrophobia by inoculation as advanced by Pasteur, has reported in favor of the correctness of the distinguished scientist's theory.

THE death of Prof. Jäger, of Vienna, the distinguished ophthalmic surgeon, is announced ; also Sir Erasmus Wilson, of London, the well known dermatologist.

Books and Pamphlets.

THE AMERICAN SYSTEM OF PRACTICAL MEDICINE Edited by William Pepper, M.D., LL.D., Philadelphia. In five volumes, with illustrations. Volume I., *now in press*. Philadelphia: H. C. Lea's Son & Co.

The publishers have just announced this magnificent work. For three years it has been in active preparation, and it is now in a sufficient state of forwardness to justify them in calling the attention of the profession to it as the work in which for the first time American medicine will be thoroughly represented by its worthiest teachers. A reference to the list of contributors will show the generous rivalry with which the most distinguished men from all the prominent centres of education, and from all the hospitals which afford special opportunities of study and practice—have united in bringing together this vast aggregate of specialized experience.

THE FIFTH ANNUAL REPORT OF THE ILLINOIS STATE BOARD OF HEALTH, for year ending 1883. Springfield, Ill. : H. W. Rokker.

The annual report of the Board contains besides the proceedings of the meetings, a mass of information on medical education and the regulation of the practice of medicine in the United States and Canada. It contains a digest of the medical laws and institutions in each of the several States of the Union, and also in Canada ; a list of Medical Colleges, Post-graduate Institutions, number of Physicians and Students, etc. It also contains articles on small-pox epidemics, vaccination, mortality statistics, and nomenclature of diseases, together with meteorological tables, all well indexed.

STUDENT'S MANUAL OF ELECTRO-THERAPEUTICS, by R. W. Amidon, A.M., M.D., Lecturer on Therapeutics at the Woman's Medical College, New York ; pp. 90. New York : G. P. Putnam's Sons.

This unpretentious little work aims at presenting, in the most concise language, that information necessary to the proper understanding of the construction and use of medical batteries. It also deals with the proper application of electricity in different pathological conditions, and the methods of electro-diagnosis.

*** The charge for Notices of Births, Deaths and Marriages is Fifty Cents, which should be forwarded in postage stamps with the communication.