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ASTHMA.*
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BY THE LATE H. J. SAUNDERS, M.D.,
KINGSTON.

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I INTEND in the following paper to record a few of the cases of asthma that have come under my notice during the past year in which I have endeavored to ascertain the exciting causes of the attacks. They also serve to illustrate some of the vagaries of the disease in its etiology and course.

Up to the present time, I am afraid we cannot congratulate ourselves upon much practical advance in our knowledge of the nature of this affection. That it is essentially a spasmodic condition of the muscles of the smaller bronchi, by which both the entrance into and exit from the air cells of air is impeded, but especially the latter, is generally believed, and also that this spasm is due to irritation of certain nerves, of which probably the pneumogastric and phrenic are the principal; but how this irritation is

* Read at the meeting of Canada Medical Association, Kingston, Ont.

produced we have, at present, no knowledge. The discovery of certain pathological forms in the sputa, such as Leydin's crystals and Curschman's spiral fibres, although interesting, throws no light on the subject, and I do not think these can be regarded as any other than faulty secretions, the result of deranged innervation. There have been numerous classifications made of the disease, but it appears to me that they can all be included under three heads, according to the apparent provoking cause, viz.: (1) Irritation of the terminal filaments of the vagus nerve, either in the respiratory passages, particularly the nasal, or in the digestive tract, the stomach probably chiefly; (2) irritation of the main trunk of the nerve itself; (3) irritation of its origin in the brain. Of these three causes, the first two are decidedly the most common, and are frequently combined, as is illustrated by some of the cases I have recorded. The last, or purely nervous form, in which the paroxysm occurs independently of any local irritation, is probably rare, and, I am inclined to believe, will be found to be more uncommon the more thoroughly we are able to investigate the conditions in each of our patients under which an attack occurs. (I may here remark that I am leaving out of consideration altogether those cases of so-called asthma in which puerile breathing is present, indicating an absence of bronchial spasm, as in the "hæmic asthma" of some writers, and cardiac asthma. These, which are commonly due to some fault in the blood itself, or its circulation, on account of which it is unable to absorb sufficient oxygen for the requirements of the system, should not be regarded as asthma at all, but are better described as dyspnoea.) Although, as I have said, the purely nervous cases of asthma are, I believe, rare, yet there is probably in all cases a faulty nervous constitution, for in no other way can we account for certain causes producing attacks in some individuals that to most of us are innocuous; e.g., nasal polypi and vegetations frequently exist without the subjects being asthmatic, and exposure to nasal irritants, such as ipecacuanha and various odors, though sufficiently strong to excite violent sneezing, will yet fail to excite asthma, except in the few. The hereditary character of the disease and its frequent association with neurotic affections, such as neuralgia, hysteria, etc., in other members of the same family, show this. One of the most remarkable and perplexing characteristics of the affection also, its sudden and unaccounted origin at various ages, and persistence thereafter, can hardly be explained in any other way. Almost equally inexplicable is sometimes the suddenness and completeness with which the disease sometimes ceases, as in the following case:

Mrs. S., æt. 62. First attack of asthma when about thirty years of age, while pregnant; after that had frequent and severe attacks, often lasting, with exacerbations and remissions, for several days, occurring especially on

the approach of wet weather. These continued till about six years ago, when they suddenly and completely ceased, and have not recurred, although she has undergone a great deal of mental and physical suffering, consequent on the sudden death of her husband, the illness of her daughter, and cataract of both eyes, which has rendered her unable to go about alone for the last two or three years, until they were operated on by Dr. Connell a couple of months ago. As illustrating the nervous origin of this case, it may be mentioned that one of her daughters suffered from asthma until after her marriage, when she removed to Calgary, where she was free from it, but suffered again while in Kingston two years ago, and I am told she still has occasional attacks at Fort Macleod, where she is now resident. Another daughter for many years suffered from a form of hysterical vomiting after meals, unassociated with pain or any other indication of disease of the stomach. In the above case I could detect no apparent cause for the cessation of the disease, as it took place several years subsequent to the menstrual climacteric, and there was no change of residence or habits to account for it.

The origin of the disease is as perplexing often as its cessation. Many patients can assign no cause whatever for the first attack, yet having once become subject to it the disease persists, and this first attack is often abrupt and complete, and as severe and characteristic as any subsequent ones. I have noted a few cases illustrative of this.

W.B., æt. 36. Car inspector on Grand Trunk. First attack three years ago. Previously healthy. Family history free from asthma. Attacks most common during July and August; not influenced by weather. For the rest of the year is free from any tendency, and can work as much as any man, but while subject to attacks will certainly have one if obliged to work hard immediately after a meal. If he can rest for an hour will not have one. Find attacks more likely to occur after certain articles of food, especially meat.

Mrs. G.H.B., æt. 37. First attack seven years ago. Has had asthma every year since during the summer, the attacks usually beginning during June and lasting until the frost sets in. This year (1894) attacks did not begin till August 10. They are induced and aggravated by food of any description, however small in quantity; even the white of an egg, or a sip of milk, or a mouthful of bread, will cause a feeling of a load in the stomach and aggravation of the asthmatic paroxysm. She is consequently obliged to nearly starve herself, and during her asthmatic season becomes very thin and emaciated. Her residence is in a marshy neighborhood. Has been told that she has gastric catarrh, and been given pepsin and other digestive aids, but without benefit. Has been told to avoid starchy, saccharine, and greasy foods, but has not found that the first two have any special tendency to cause attacks.

Mrs. A., æt. 55. First attack when 41, and since then has suffered severely every summer. Residence in marshy neighborhood. Thin and spare in habit. Is worse in wet weather. Attacks usually terminate in diarrhœa, attended with great tenesmus and mucous intestinal discharge, and I have frequently noticed the two conditions alternate, the asthmatic being relieved when the dysenteric symptoms appear, and *vice versa*. Two sons of this patient were asthmatic, one until he was seven or eight years old, since which he has been free from it. A daughter shows at present no tendency.

The above may all three be regarded as "hay asthma," but hay asthma does not differ from ordinary asthma, except in the cause being somewhat more definite. I have selected them to illustrate the unaccountability of their commencement, and also because they show some of the vagaries of the disease in the mode in which attacks may be induced. They show, moreover, that even in those forms of asthma in which the cause apparently acts on the respiratory passages, the influence exerted by the condition of the stomach is equally great, and that bronchial spasm is caused just as much by irritation of the gastric termination of the vagus as by irritation of the nasal or bronchial terminal branches.

It is interesting and instructive to note what trivial things may excite or allay attacks of asthma. Slight changes of locality, such as the removal of a patient from one part of a town to another, and even in a house a difference may often be observed by removing a patient from a small, close room to a large, airy one. A case I saw last year was an instance of this.

A.D., æt. 6, has, since infancy, been subject to asthmatic attacks, especially when living near the river bank, but was free from them whilst living in Fergus. She is now living in North Toronto, and her mother noticed that she had attacks every evening after watering the lawn; when this was discontinued the attacks ceased.

It would be easy to multiply cases of this description; most of us can from our own experience cite similar ones, where an influence so slight as to be overlooked by the careless observer may be the determining cause of an attack. A very large proportion of asthmatics can tell precisely what circumstances will bring about an attack. It is not surprising that a disease having so many and such varied causes of attack should be relieved by varied and often apparently opposite therapeutic measures, or that one lasting, as it does, usually for many years, and often through a lifetime, should, in course of time, resist methods that were effectual in its earlier history. It must, however, I think, be confessed that ample as our experience of it is, and numerous as are the drugs, new and old, made use of, we have not advanced much, either in its alleviation or cure. Of some of

these I propose to say a few words. First, as to the locality. As it is a disease that of itself rarely causes death, we have no statistics, that I am aware of, to point out its frequency. Yet I am satisfied, from my own experience, that it is exceedingly common all along our lake front, and I think especially so where the soil is heavy and clayey, less so where it is light and sandy. Moisture is an especially exciting cause, and many of my patients who have suffered severely when living near water have been comparatively exempt on removing to a distance from the water. Hyde Salter, whose elaborate work is perhaps the most thorough in its investigation into the exciting causes of this affection, after relating many cases which were benefited by residence in smoky cities, while suffering severely in country places, remarks of one case: "Here we plainly see what air offends most; it is that of low, damp situations abounding with vegetable life; and any air free from these conditions is beneficial, whether seaside or dry inland." I do not wish to detain you by going into details which have been gone into by him and others, but I must express my conviction that most, if not all, cases of asthma are relievable by change of locality. What this change should be must be determined for each individual case; some may be better by the seaside or at sea, others in high elevations, and only a careful study of each can well enable us to decide which kind of climate is suitable; but I believe that if local sources of irritation are removed, such as nasal growths, where these are present, and digestive excitants, such as special articles of diet found to disagree, or over-eating avoided, that a locality might be found for each case where the individual might live in comfort free from his disease. This is probably the most potent curative agent we possess, but, unfortunately, it is not in many cases available. Want of means or inability to leave one's business or employment are often inseparable obstacles, and we are thrown back upon the use of drugs. These are employed with two objects: the prevention of attacks, and their relief.

For the first purpose, there are but few drugs that are of much service. Iodine of potash has long been used with this object, but I must confess that I cannot, from my own experience, say that I have seen any benefit from its use in the majority of cases. In some few it may have mitigated the attacks or prolonged the interval between them, but in most has been of little or no benefit. For the relief of the attacks the number of remedies is as various and incongruous as the causes of the disease, and there would be little object in my taking up your time with enumerating them. Briefly, they are useful in one of two ways, either by their narcotic influence allaying the spasm by lessening the sensitiveness of the nerve involved, as is done by morphia, chloroform, bromides, and the different varieties of datura; or by their sedative and depressing effect, instances of

which are seen in the action of lobelia, grindelia, and tobacco. I think all or nearly all the drugs that have been found serviceable in asthma may be included under one or other of these heads, either narcotics or depressants; and, further, that to obtain beneficial results it is necessary that they be given in sufficient quantity to produce their physiological effects; *i.e.*, if a narcotic, as morphia, is given, it must be in sufficient dose to act as a hypnotic; if a depressant, as lobelia, the dose must be large enough to act as a nauseant, or emetic, to produce the best results. Within the limits of this paper, I cannot consider the various drugs in detail, as it would take up too much of your time, nor do I think it would be of much service, as nearly every case of asthma that we meet with has undergone treatment with many drugs, and in many cases the patients themselves have found out by experience what will give the most ready relief, and each have some *pet nostrum* to which he has recourse when suffering from an attack. I will, therefore, in concluding, merely point out what should be our general line of treatment, leaving the discussion on particular methods for the experience of those present.

(1) As to preventive treatment, our first care should be to seek for and remove all sources of irritation as far as possible. The nose and pharynx should be carefully examined for polypi, adenomatous growths, and evidences of catarrhal trouble. Where dyspeptic trouble is present, it should be treated, and careful enquiry made as to the effect of special articles of diet, the patient being warned to avoid those that are found liable to provoke attacks, and generally to be careful not to overload the stomach. Where the attacks are confined to certain seasons of the year, as in hay asthma, and the means will allow of it, change of air should be recommended, and if there are no special indications a dry elevated atmosphere should be preferred, such as is met with in the Adirondacks, and, as I have said before, I believe that in almost every case a locality can be found in which the patient can live free from attacks, though it is not possible in every case to predict what will be a suitable locality. Of specific prophylactic medicinal treatment, we can hardly be said to possess any.

(2) For relief during the attacks, morphia given hypodermically in a full dose is probably the most efficient remedy we possess, though its unpleasant after effects and the danger of producing a morphia habit may often be great objections to its use. The various patent nostrums, which usually consist of nitrate of potash, mixed with some variety of datura, are often efficacious, the vapor from the burning drug being inhaled. The list of drugs that have been used, however, I do not propose to enumerate, as it would be needless, and extend my paper far beyond the limits I have laid down for myself, which were rather to seek in the causes producing the disease the means of relief than to discuss its therapeutics.

THE SURGICAL TREATMENT OF EMPYEMA.*

BY A. PRIMROSE, M.B., C.M. EDIN., M.R.C.S. ENG.,

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PUS within the pleural cavity is a condition which calls for surgical interference. It would appear from one's experience that the earlier suitable measures are adopted to evacuate the pus the better, and the risk of serious consequences is greatly increased by delay. Further, the means employed must be of such character as to ensure an early and complete evacuation of the pus and the prevention of a reaccumulation. There can be no doubt that neglect of these precautions, delay in adopting them, or failure in providing efficient drainage, will, in the vast majority of cases, lead to the most disastrous results, resulting in an almost intractable form of disease, which calls for an extensive and dangerous operation, or may bring about fatal consequences.

I do not propose to deal in this paper with the causes and symptoms of the disease, but will merely deal with the treatment by surgical procedure.

The principles which guide one in treating an accumulation of pus within the pleural cavity are the same as those observed in treating collections of pus elsewhere in the body, modified somewhat, however, by the circumstances that we have in empyema to deal with a rigid chest wall and an expansile and elastic lung.

Simple incision of the chest wall, through an intercostal space, *i.e.*, the operation of *thoracotomy*, may be employed. The site of the incision must be determined according to the position of the collection of pus. If it be general in the pleural cavity, a favorite seat for incision is in the sixth or seventh space, just in front of the posterior fold of the axilla. Other positions for the incision are the eighth or ninth space, just external to the line of the angle of the scapula, or in the fifth space, just external to the cartilages. The opening in the sixth or seventh space has the advantage of a thin covering of the soft parts, and the space is wider than more posteriorly, but that in the eighth interspace is probably most frequently employed, and has been found very efficient.

* Read before the Toronto Medical Society.

The opening in the fifth space was advocated by Dr. John Marshall on the ground that here an empyema tends to point naturally. The chest wall is very thin in this locality, and the pleura is not so well supported as elsewhere. The point indicated is external to the rectus, above the external oblique and internal to the serratus magnus, whilst it is in front of the external intercostal muscle. It is questionable, however, if an empyema does tend to point here, and the experience of surgeons is that the locality does not possess the advantages claimed for it.

When the collection of pus is localized, the point of incision will depend on the position of the accumulation, and will be made in such a position as to insure efficient drainage from a dependent opening.

In considering the place for incision, one must remember that the cavity, upon opening, tends to close from below more rapidly than from other points, and, therefore, an opening in the lowest part of the pleural cavity is not the most suitable. This is taken into account in advocating the localities mentioned above.

The operation must be carried out with strict antiseptic precautions. The patient should lie on his back, and not on the sound side; the latter position is apt to interfere seriously with respiration. In order to make the site of operation more accessible, the patient is brought near to the edge of the table. The arm is raised; but, before doing so, the position of the rib should be marked, in order to avoid a valvular incision, which one is apt to make in consequence of the superficial parts being pulled upwards by the elevation of the limb. An incision, from an inch and a half to three inches in length, is made over the upper border of the rib, and the pleural cavity opened; the pus is allowed to escape slowly, and the finger should be inserted to aid in bringing out any thick, flaky material which may be present. It is not necessary to wash out the cavity; in fact, it is not advisable to do so, at the time of operation at all events; the procedure is not devoid of danger. A tube is inserted, and this must be arranged so as to provide for efficient drainage. The tube should be as large as the intercostal space will admit and should project inward just beyond the costal pleura; a shield should always be provided, attached to the outer extremity of the tube, so as to prevent the tube slipping in, and being lost in the cavity. The writer once assisted Mr. A. Pearce Gould, of the Middlesex Hospital, London, to remove a piece of rubber drainage tube six inches long from the pleural cavity; the tube had slipped in, and disappeared in the cavity during the treatment of an empyema, and had remained in the cavity for some months. The shield of a vulcanite tracheotomy tube answers the purpose well; a rubber drainage tube, sufficiently rigid to prevent collapse, may readily be

attached to this. Lateral openings in the part of the tube which lies in the thoracic wall are harmful; they permit penetration of the tube and occlusion of it by granulation tissue, and serve no useful purpose. When the discharge has somewhat subsided, but has not stopped, it is serviceable to wash out the cavity once or twice daily with boracic lotion, or with tincture of iodine one in one thousand parts of water, or perchloride of mercury, one in ten thousand. If the cavity refuses to close completely, a counter opening may be necessary to secure more thorough drainage, and to facilitate the flushing process.

As a rule, one finds that the more efficient way of treating an empyema by operation is to incise and remove a portion of a rib. Judging by one's experience, it would appear that in children this is the only way of treating the condition in an efficient manner. In childhood the intercostal spaces are too narrow to admit a drainage tube of sufficient size, and one is inclined to believe that an attempt to drain in young children, without resection of a rib, entails a loss of valuable time; the success of one's treatment depends largely upon the promptitude with which one establishes thorough and free drainage, and this cannot be accomplished by simple incision without removal of the bone. The removal of a portion of a rib is easily accomplished. The periosteum is divided in the long axis of the rib, and is stripped off by a periosteal elevator; the rib is then severed by bone pliers, or with the aid of a Hey's saw. The saw is used to partially cut the bone, and the section is completed with the pliers; a portion of rib, say, an inch and a half in length, is removed. It is well now to dissect out the periosteal bed, because the new bone formed from it is apt to be irregular in shape, and becomes a source of inconvenience later. The pleura is now incised, and a drainage tube inserted, with the precautions already mentioned. If bleeding occurs from an intercostal artery, one finds that the most severe hæmorrhage always accompanies *partial* severance of the vessel; consequently one should see that the vessel is completely divided. The bleeding does not give rise to much trouble as a rule.

The condition of empyema in children deserves special consideration in this paper. In children the pleura seems to suppurate more readily than in the adult. A grown person may have a dry pleurisy or serous effusion, whilst in a child, under similar conditions, pus is formed. It is stated by most writers on the subject that aspiration will frequently cure an empyema in a child. The writer has never succeeded in effecting a cure in this way, and practitioners of large experience have found such a procedure uniformly unsuccessful. There can be no doubt but that aspiration in the adult is useless waste of time; that is, if employed for the purpose of effecting a cure. It may be permissible as a temporary means

of relief in severe dyspnoea, but should be followed at once by an operation for the establishment of efficient drainage. Aspiration is usually performed in the mid-axillary line in the sixth or seventh interspace. The operation need not be detailed here. Care should be taken that the needle is sufficiently long to reach the interior of the cavity, and one must avoid injuring the lung with the needle-point. One is inclined to believe that in the vast majority of cases aspiration will fail in children as it does in adults. There can be no doubt that the best results are obtained in those cases which have been operated upon early. The advisability for early and efficient operative interference cannot be too strongly urged, and this applies to children as well as adults. The moment pus is detected in the pleural cavity means should be adopted to secure drainage. The precise form of operation will depend on what may be found necessary to accomplish this. In children it will entail resection of a rib, and in the adult incision, and possibly also the removal of a piece of bone, depending on the size of the intercostal space.

The two cases of which I now give you a short account illustrate the good results which usually follow early operative interference in children :

CASE 1. G. McC., æt. 4. History of illness extending over two weeks before admission into Hospital for Sick Children. Over left chest there was an extensive area of dullness ; breath sounds absent in the lower part of chest and tubular in character above. The left side of chest was almost motionless during aspiration. I aspirated and drew off 16 oz. of creamy pus ; there was some odor, but not very foetid. The aspiration was done in sixth interspace in the mid-axillary line. The temperature, which had been elevated, fell to normal, and child seemed much improved. On examination of the chest there was no dullness, and the breath sounds were normal. Subsequently, however, pus reaccumulated, and Dr. Thistle (in my absence from the city) opened the chest and drained for a short time, after which the child was discharged cured.

CASE 2. G., æt. 3. Had been ill about a fortnight before admission in November, 1894, to the Toronto Hospital for Sick Children. Dr. Thistle aspirated the chest on November 10, and drew off 10 ounces of thick greenish pus. The aspiration was done in the sixth interspace, just in front of the posterior axillary fold. The temperature, which had been elevated, came down, but in forty hours began rise to again, and dullness reappeared, and the condition of the child was as bad as on admission.

On November 13, I resected one and a half inches of the sixth rib in front of the posterior axillary fold ; a large amount of stinking pus came away. A dressing of moist gauze under a piece of protective was applied.

The child was discharged about two weeks afterwards with condition apparently cured. Shortly after, however, Dr. Thistle, who saw him in private, found it necessary to insert a drainage tube. The discharge soon ceased again, and has not recurred.

The disastrous results which follow in neglected cases are very apparent. Let me narrate such a case.

CASE 3. T. S., æt. 4. Admitted to Toronto Hospital for Sick Children, June 16, 1894. History of illness for two months before admission. Five weeks previously he had been operated upon in private. An incision had been made one inch below and to the left of the left nipple, and a drainage tube inserted in the intercostal space. The tube, however, "came out" after a few days, and the drainage was very imperfect subsequently. On admission there was a small sinus opening in the position indicated above, from which exuded stinking pus in small quantities. The opening was not free, and the pus came away chiefly when he coughed. There was an extensive area of dullness over the left chest.

On June 29, 1894, I operated, assisted by Dr. Clingan. An incision was carried backwards along the fifth rib from the fistulous opening for about three inches. The rib was exposed, periosteum divided and peeled off by means of a smooth elevator. A Hey's saw was used to partially sever the rib; the division was completed by means of bone pliers, and then an inch and a half of the rib was removed. The periosteal bed was now dissected out, the intercostal artery being divided in the process and secured. Up to this point the pleural cavity had not been opened; the thickened pleura was now incised, and thick, stinking pus, containing flaky material, was poured out in large quantities. On introduction of the finger a large cavity was found. In all directions the limits of the cavity could just be reached with the index finger introduced full length. The cavity was now flushed out with sterilized water. After thorough flushing the finger was again introduced, when it was found that the lung had expanded considerably, and portions of it were lying quite against the opening. One could readily pass the finger behind it, however, and the cavity was, by no means, completely obliterated. It should be noted that the position of the child was somewhat altered between the two digital examinations, and this, no doubt, aided in bringing the lung more in contact with the chest wall. A drainage tube provided with a shield was inserted and fixed in position.

The child was in the Lakeside Home during the summer; the temperature ran an irregular course, and the discharge varied in amount. About four weeks after the operation, the discharge being very scanty, the house surgeon removed the tube; the temperature began at once to rise, reaching 104.4° , and the tube was replaced. The child remained in the hos-

pital during the autumn, and late in September the tube was removed without any appreciable effect upon the temperature, which still ran an irregular course, however, and the sinus did not close satisfactorily, but a small amount of discharge would come from it from time to time. In January, 1895, I again put the child under chloroform, and thoroughly scraped the sinus, but found no collection of pus. The sinus healed after this, and shortly after the child left the hospital.

In June, 1895, the patient was again admitted into the hospital with a discharge from the sinus. The mother was told that a further operation was advisable, but she would not consent to it, and the child was discharged after a few days. The present condition of the child (twenty months after operation) is that a sinus still exists. This heals up and remains closed for a month or two, and then breaks down and discharges again for a short period. There is no doubt but that a limited cavity still exists which is not completely obliterated, and in all probability this will not heal until a portion of the rigid outer wall is removed by operation.

The operative procedure which has proved of value in long-standing cases of empyema is that which is known as *thoracoplasty*, or Estlander's operation. This operation is called for chiefly in neglected cases, in which the early interference advocated in this paper has not been adopted. Inefficient drainage has prevented closure of the cavity; the lungs, under such circumstances, remain in a contracted condition; the pleural walls become greatly thickened, and exist as rigid structures; the pleura may sometimes be as much as an inch thick. We can imagine that, under these circumstances, such a chronic case having presented itself, one has endeavored, by establishing free drainage, to obtain a cure; the lung remains unexpanded; the chest wall retracts as much as possible; the diaphragm rises to an exceptional position; and still the space remains unobliterated. Nature, unaided, is unable to effect a cure; the continued discharge weakens the patient, and eventually a fatal result ensues. It was for such cases that Estlander, in 1879, advocated a formidable operation calculated to provide relief for these apparently hopeless cases. Gould, in 1888, advocated this procedure, and published several cases treated successfully after this fashion. The principle upon which the operation depends is the removal of the rigid outer wall of the abscess, including the bone and the thickened pleura. A special operation is planned for each case, depending on the extent of the cavity to be obliterated. It is held that almost the entire outer wall of the abscess cavity, with the ribs covering it, must be removed in order to secure success. Gould reports a successful case in which he excised portions of nine ribs, including a total length of fifty-four inches of bone. This operation

should not be lightly undertaken ; it is an extensive and dangerous one, to be thought of only in cases which are otherwise incurable. The incisions advocated by different surgeons are as follows : Estlander recommends an incision along an intercostal space, from which the rib above and below the space is removed, the length of rib depending on the extent of the cavity. Several such incisions may be necessary, according to the vertical extent of the empyema. Godlee recommends a V- or U-shaped flap in order to expose the ribs. Barker advises an incision along the course of a rib, from which three ribs may be attacked. Gould employed a vertical incision. This last method is found very serviceable in such cases, and allows of sufficiently free access, with a minimum extent of wound. The details of carrying out the operation must necessarily vary in different cases ; the principle is the same in all, namely, to remove the outer rigid wall, and to allow, in consequence, of retraction of this wall, with obliteration of the cavity. The effect of such an operation may best be illustrated by the narration of a case in which the good results obtained by interference with the rigid wall are well shown.

CASE 4. F. C., æt. 23, admitted to Toronto General Hospital, October 10, 1893, under the care of Mr. Cameron, suffering from empyema. The patient's family history is to the effect that his father died of pneumonia, mother died of Bright's disease, an uncle of phthisis, and a grand-uncle of stonemason's lung. Four years before admission the patient was strong and healthy, and was working as "gripman" on cable cars in Montana ; the air of the locality was contaminated with noxious gases from smelting works. On January 24, 1891, he was chilled when on his car ; he was taken home, and has been sick ever since. Pneumonia developed, and was complicated with pleuritic effusion. Aspiration was performed six times in six weeks, and on one of these occasions the pleural cavity was washed out ; in the others the cannula became plugged : the left side of the chest collapsed.

In the summer of 1891 he went to Barrie, and received much benefit by the change of air, his general health improving ; but the improvement was only temporary, and in October a sinus opened in the sixth left intercostal space in the nipple line, and pus continued to discharge from it up to the time of admission in the Toronto General Hospital in October, 1893. The discharge varied in character, being thick and thin by turns, and usually offensive. He lost flesh rapidly, and was troubled much with profuse perspiration, and was very weak. He had a constant cough, and profuse but difficult expectoration. His pulse was frequent, the temperature normal. In the latter part of 1891, and in the early part of 1892, he attended as an out-patient in the Toronto General Hos-

pital. His chest was examined by auscultation, there was absence of breath sounds on the left side; the apex beat could be seen under the right nipple.

Resection of the ribs was advocated at this time, but the patient would not consent to operation; he was therefore put on special treatment, taking Fellows' syrup of the hypophosphites and cod-liver oil internally, and instructed to take certain breathing exercises. He spent the greater part of the day in the open air, and kept his bedroom window open all night. As a result of this treatment, the cough decreased, the sweats almost stopped entirely, and his appetite improved. Moreover, his left lung expanded considerably, so that his left shoulder, which had been depressed, had risen nearly to the horizontal, and his vertebral column, which had been deflected away from the affected side, had nearly recovered its normal position. Air now entered the upper part of the left lung. His weight, which had been reduced from 175 to 135 lbs., increased to 145 lbs. He now attempted to work and tried to split wood; the result was that discharge increased, and became streaked with blood.

During the summer of 1892, which he spent in Barrie, he gained strength, and in August the sinus closed, and remained closed until January, 1893. He was employed during this time as clerk in an office; the close confinement did not agree with him, and he began to lose weight. In May, 1893, a doctor in Toronto attempted to insert a drainage tube, but the patient choked under the anæsthetic and the operation was not completed. During his whole illness there had been more or less œdema of the hands and feet, and his finger-tips are markedly clubbed.

He was admitted to the Toronto General Hospital for operation in October, 1893. Examination of the chest at this time revealed the following condition: The right lung was apparently healthy; the breath sounds were pleuritic in type. Inspection of the left side revealed a depression of the infraclavicular and mammary regions. On palpation there was marked vocal fremitus above the level of the fourth rib; below this point it was absent. Percussion gave a resonant note above the fourth rib, dull below. The same conditions were found at the back at the same level. Bronchial breathing was heard over the upper portion of the lung, while just above the fourth rib it was cavernous. Below this level the breath sounds could not be heard. The sputum contained no bacilli. The apex beat of the heart was diffuse, the mitral sound being best heard in the fourth interspace of the right side, two inches from the middle line. The urine contained phosphates in abundance.

The condition of the patient immediately before operation was extremely unsatisfactory. He was emaciated to an extreme degree. The sinus discharged freely when he walked about, but almost ceased when

he lay in bed. The expectoration when in bed was very copious and offensive, and was composed of pus; the amount of expectoration, on the other hand, diminished when he walked about.

Chloroform was administered on October 25, 1893; the administration was extremely difficult and dangerous; the empyemic cavity apparently drained into the lung when the patient was recumbent, and the pus collected in the air tubes and choked the patient. Moreover, the cough was much aggravated by the chloroform vapor. The moment the patient was completely under, the cough stopped and the pus blocked the trachea, and cyanosis supervened. An attempt was made to render the surface anæsthetic with ethyl-chloride, but this was only partially successful, and the operation was proceeded with whilst the patient was only partly under the influence of the anæsthetic.

An incision was made nearly vertical, but somewhat obliquely from above downwards and inwards, near the nipple line, from the fourth to the ninth ribs. The edges of the incision were held aside by ligature retractors. The sixth and seventh ribs were bared of periosteum, and by means of a Hey's saw and cutting pliers about two inches of each rib were removed. The thickened pleura within was now freely opened, and a large quantity of thick fœtid pus escaped. The patient's pulse, which had been very feeble up to this time, improved at once. The seventh rib was extraordinarily thick; my notes state that it was as thick as the middle of an adult ulna, and of quadrilateral shape on section.

On introducing the fingers into the wound the cavity was found to extend downwards to the diaphragm, about a finger's length, not quite as far forwards to the mediastinum. The lung could be felt high up, just within reach of the finger; the limit of the cavity posteriorly could not be reached with the finger. The cavity was washed with 1-20,000 bichloride of mercury, and a tracheotomy tube placed in position. A drainage tube was fixed in position.

A note made a week after the operation was to the effect that the condition of the patient had vastly improved. The cough was much diminished, and expectoration not one-fifth what it was before operation. His appetite was excellent. He made an excellent recovery; he gained twenty-one pounds in weight in twenty-one days; the discharge diminished, and the cough had almost disappeared when he left the hospital.

I met the patient in June, 1895, nearly two years after the operation; he was then a motorman in charge of a car on the Toronto Street Railway. He informed me that he was in excellent health, and had been in the employ of the street railway for eighteen months.

I had an opportunity of examining this patient to-day (two years and four months after operation). The cavity has never opened since the

sinus closed after operation. There is a saucer-shaped depression on the side of the chest about four inches in diameter; the bottom of the saucer is formed of bone, the periosteum left having allowed of this formation. The cavity is completely closed, and the patient's health is fairly good; he is actively employed at work as motorman on one of the cars of the Toronto Street Railway. The man was practically in a dying condition when operated upon, and the operation was completely successful in bringing about closure of the cavity and in saving his life.

Since reading the above paper the patient has died. I examined him on the morning of the day upon which I read my paper; he was apparently in his usual state of health. Next day, however, he became ill and sent for his physician; he was suffering from pleuro-pneumonia, and died on the fourth day. Dr. John Stenhouse, who attended him, has been kind enough to furnish me with the following account of his illness, and of the condition found post-mortem. The record is of value, as it demonstrates the results of the operation which has been advocated in this paper. There had been effected a complete cure of the empyema by closure of the cavity, the walls of which had become firmly united. Dr. Stenhouse writes as follows:

"Since his operation, F. C. has had comparatively good health, and I have only attended him occasionally, for some minor ailments. He found employment as motorman on the street railway service, and for a few months before his death was working seven hours a day.

"Late on Friday night, February 7, I was sent for to see him. He was half sitting up in bed, and complaining of severe pain down the right side, both back and front, and in the right hip. His temperature was 102° ; pulse, 120. He said his car is the hardest to brake on the line, and two of his predecessors had already been unequal to the task. Not unmindful of Hilton's case of intercostal neuralgia, due to pleurisy, and knowing that my patient had but one useful lung, I examined it very carefully, but could make out nothing wrong with either pleura or lung tissue. I concluded he had simply caught a bad cold from exposure, and that the soreness was due to the frequent strain of suddenly pulling up a heavily-loaded car and trailer. I prescribed a pil cath. co., some powders of ammoniac, gr. x, and a liniment for the side.

"Next morning he was no better, but beyond the puerile breathing, which was normal with him, distinct signs of lung disease were wanting. Poultices were ordered, and I called again late in the evening, I could now for the first time make out a definite pleurisy, but there was no evidence of an invasion of the lung tissue. The pleuritic rub could be made

out over the whole side under the mamma, but was particularly strong just beneath, and extended to the nipple. Being afraid of covering so wide an area with fly blister, I ordered mustard, and left some triturates of morphine to control the pain.

“On Sabbath the pleurisy was well marked, and there was now a distinct pneumonia over about the same area, thus leaving very little lung available for respiration. The breathing was labored and painful; pulse, 132; temperature, 102.4°. I kept up the poulticing, and prescribed ammonium chloride, liq. strychninæ, and tr. strophanthi, but felt quite hopeless as to the result. Next morning I was sent for at 4.30, but the patient was moribund, and died at 8.30.

“With the assistance of Dr. James G. Caven, I made a post-mortem eight hours after death. The body was muscular and well nourished. The left side was sunken, and the site of the Estlander operation marked by a deep depression.

“On opening the thorax the apex of the right lung was found quite free, but adhesions had formed below the mamma, and were specially strong where the rub was most apparent. About two-thirds of the pleura was covered with recent lymph, and the pleurisy had also invaded the base behind. There was consolidation of the lower two-thirds of the lung, though there was still some air in the anterior free border.

“The left lung was firmly adherent to the chest wall, and could not be removed without its being badly torn. It was small and black, and being completely collapsed sank in water. The dark color was due to chronic congestion rather than to carbon pigmentation. Tags of fibrous tissue showed old pleurisy.

“The heart was weak and flabby (fatty?); the liver was fatty.

“The early death must have been due to the absence of the left lung, as much as to disease of the right.”

Selected Articles.

TRANSLATIONS FROM THE FRENCH.

By DR. W. A. MCKEOWN, B.A., M.D., M.R.C.S. ENG.

INCONTINENCE OF URINE.

The following simple procedure has given M. J. Stumpf excellent results. During sleep the pelvis of the child is raised so as to form an angle of 130 to 140 degrees with the vertebral column. On account of this position, and the obstruction which it offers to the passage of urine into the urethra, the sphincter is not excited. He has cured, by this means, twelve children and one adult. The same method has been employed with success by the director of the Deaf Mute Institute at Wurtzburg on two obstinate cases. The treatment need not be extended over three weeks, when, without fear of recurrence, the child may be allowed to sleep in the normal position.—*Gazette des Hospitaux.*

HYDROCHLORIC ACID IN DYSPEPSIA.

M. Huchard, in *The Revue Générale de Clinique et de Thérapeutique*, gives the following indications and contraindications for the administration of hydrochloric acid :

In all cases where digestion is retarded, where there is a diminution of hydrochloric acid, in chronic gastritis, in cancer of the stomach, in fevers which suppress almost completely the secretion of hydrochloric acid, in pulmonary tuberculosis, and during loss of compensation in heart affections. Besides these, in chlorosis anæmia, and certain nervous affections, hydrochloric acid is indicated. It may be given as follows :

Acid hydrochloric, 1 part; aqua distil, 250 parts. Tablespoonful in half glass of water at the end of and half an hour after meals.

It is contraindicated in hypersecretion of hydrochloric acid, in continuous hypersecretion of gastric juice, in ulcer, and acute diseases of the stomach, in certain cancers of that organ arising from an ulcer, and in certain nervous dyspepsias, due to an increased sensibility of the mucous membrane, even if the secretion of hydrochloric acid is not increased.—*Gazette des Hospitaux.*

SUPERNUMERARY URETHRA AND BLADDER.

M. Peon reports a case of incontinence of urine in a young girl of fifteen. referred to him for operative relief. On examination, he found in the line of the urethra a tumor which was at first thought to be a urethrocele, or cystocele, but upon more careful examination, and pressing upon the tumor, it was found to empty, not by the urethra, but by a smaller orifice in the middle line. Through this opening a sound was passed, entering the sac. On opening the canal and sac it was found that there was a supernumerary urethra and bladder, the latter communicating with the normal bladder. As there was no sphincter at the opening of the supernumerary urethra, the incontinence could be readily explained. The removal of the additional bladder, and bringing together of the normal bladder wall over the opening, was followed by complete relief. M. Peon says that this case is unique, and that there have been only two cases reported which at all resemble it, both in men. One of these latter was remarkable for the fact that the urine was discharged by one urethra, and the semen by another.—*Eng. des Hopitaux.*

TREATMENT OF WHOOPING COUGH BY QUININE.

According to M. Fischer, quinine has not only a favorable effect in checking whooping cough, but may completely cure it. In two children the number of attacks after the use of quinine for two days was found to decrease from fifty-six to two each day. At the end of eight days they disappeared entirely. He has treated altogether twenty-seven children, of whom one died the day following its admission to the hospital. Two others could not retain quinine, vomiting it. In the others the effect was remarkable. At the end of five days there was complete relief from the attacks. In the most severe cases, all that remained of the attack was a little bronchitis. Where whooping cough is complicated by bronchopneumonia the quinine has also a favorable action upon the latter. Moreover, it stimulates the appetite of the little patients. As to the dose, he gives one centigramme for each month and ten for each year of the child's age, not giving, however, more than forty centigrammes at a time.

INTRAVENOUS INJECTIONS OF ARTIFICIAL SERUM IN SEPTIC PERITONITIS.

At the meeting of the Société de Chirurgie, December 18 last, M. Pozzi reported the case of a patient upon whom he had performed vaginal hysterectomy, followed by septicæmia, and cured by the injection of 1,400 grammes of serum into the veins.

The patient, a woman aged thirty-nine, had had, at ten years of age, scarlatina, followed by epileptiform convulsions. Married at the age of twenty-two. She had four children. One of her confinements was the

cause of a cervical laceration, which necessitated Emmet's operation. She was finally attacked with double salpingitis, the uterus being bound down by adhesions. Pozzi did a vaginal hysterectomy, removing also the adnexia. There was no hæmorrhage. The same evening the patient became extremely nervous. The next day excessive vomiting set in; pulse, 110. Retention of urine, and no flatus from the bowel. The next day the clamps were taken off. No hæmorrhage; pulse, 135. Abdomen distended and painful. The next day the symptoms had increased. M. Berlin, of Nice, determined to try serum injections. He injected 1,400 grammes, in two doses, into the veins. The patient, who had been suffering from dyspnœa, intense delirium—who, in a word, showed all the symptoms of intense septic peritonitis—as a result of the injections showed a very noticeable improvement. Convalescence was soon established, and the patient recovered. M. Pozzi remarked that in this case a considerable dose was used. The injections appeared to have produced in this case the happiest results. He cited an analogous case of a Baltimore surgeon in which large doses of serum had been injected into the arteries. In the discussion which followed several of the members spoke of similar cases which had come under their observation, and where the results were all remarkably good. Some had used the serum for injection after severe hæmorrhage, and spoke highly of the effect produced.

MENINGISME HYSTERIQUE.

M. Huchard has described a condition simulating tubercular meningitis, which he terms "Meningisme hysterique." M. Comby states that this condition is not particularly rare in children, he himself having seen three cases. The diagnosis is extremely difficult, and it is almost impossible to distinguish this from true meningitis, except by the fact that the patients recover. However, fever may be absent in these cases of false meningitis. The diagnosis might be made by examination of the blood. It is easier to take a drop from the end of the finger than to go down with a needle into the spinal canal. This may be used for direct examination and for inoculation.

PUNCTURE AND INCISION OF THE PERICARDIUM.

Dr. Delorme, Médecin principal de première classe de l'armée: I have the honor to communicate the results of researches which we have undertaken (M. Mignon and myself) on an important subject in surgical practice—puncture and incision of the pericardium.

Warned by the unfortunate cases in which the usual procedures have been shown to be insufficient or dangerous, we have taken for our guides the normal and pathological anatomy of the region sought for, a procedure less dangerous, and which would give better results.

Those who have practised puncture, or incision, of the pericardium have always sought to avoid first wounding the internal mammary artery, which may give rise to dangerous hæmorrhage, and, secondly, worse still, wounding the heart. The fear of injuring the internal mammary caused them to introduce the trocar, or bistoury, from two and a half to three centimetres to the left of the edge of the sternum, and to avoid the heart at a point where the heart impulse could be the least felt and dullness the most marked. This latter caused the incision to be made still more to the left. The classical point for puncture is six centimetres from the sternal margin, in the fourth or fifth interspace; for incision the same interspaces, commencing at a point three centimetres from the sternum. To those who feared to pass through the left lung the answer was given, not without reason, but not always with sufficient exactness, "The left lung in distension of the pericardium is pushed behind; if not, it presents a notch, often on the inside, which corresponds to the point of puncture or incision."

As to wounding the pleura, it has been regarded as of little consequence. Scarcely anyone, except Baizeon, has drawn attention to the danger of this. He has also suggested a means of avoiding it; but his suggestions have not received the attention they deserved. The statement that the distended pericardium almost immediately became adherent to the thoracic wall, and the belief in the retraction of the pleura, the degree and importance of which have been exaggerated, have inspired operators with a regrettable security. The word regrettable is not too strong; for the anatomy shows that when incision or puncture is performed after the usual manner, the pleural cavity is almost certainly opened into.

Our researches, which have been carried on on sixty cadavers, have shown that the border of the left pleura forms attachments with the corresponding margin of the sternum, and with its under surface, and that these are more extensive than is generally recognized. At the level of the fourth intercostal space it is behind the sternum, or corresponds with the margin of the bone. The pleura can be injured close to the sternum, in the fifth interspace, in about one-third of the cases, normally; and anomalies are frequent. It is only two centimetres from it, that is to say, it does not go beyond the line of the internal mammary; finally, it comes beyond the vessel for a few millimetres to a centimetre in the sixth interspace. Thus, to be certain of avoiding the pleura, it is necessary to keep to the margin of the sternum, or even within it, in the fourth, fifth, and sixth interspaces, which are the ones best available for our purpose. This is a long way from the point of election in puncture or incision.

Does distension of the pericardium, as has been said without sufficient proof, push to the left the pleural margin? Does it increase the extent of the left half of the mediastinum sufficiently for the trochar or bistoury to

be passed in with safety at the points chosen for this purpose? It does not; for the parietal layer, more fixed than the visceral, remains in place, while the latter is slowly displaced, and the instrument will invariably penetrate the pleural cavity. In a subject suffering from enormous serous dilatation of the pericardium, upon which I made an autopsy, puncture or incision at the classical points would have opened the pleura; in a second, a case of purulent pericarditis, the trochar passed through and infected the pleural cavity; in a third case, where I attempted to open the pericardium, I opened the pleura and produced a pneumothorax.

It is only in cases of serous effusion into the pericardium that it can be said puncture of the pericardium, at a point badly chosen, is without danger; but in purulent pericarditis the pleura is infected during the withdrawal of the trochar, either directly by it, or by the jet of pus escaping from the pericardial opening, or by extension from the latter. The incision at the point of election may give rise to pneumothorax (a complication to be dreaded in a patient with whom the pulmonary functions are so impaired and the right heart so overtaxed), or may cause infection of the pleura. The latter affects the general condition, which is already grave, has the same action on the right heart as pneumothorax, and offsets any good which the puncture may have produced.

We have endeavored to suggest a means of avoiding these complications, and, at the same, time avoid injury to the lung, heart, or internal mammary.

After having made a puncture at the left margin of the sternum in the fifth interspace, or in the fourth when the fifth is too narrow, we put the needle of an aspirator in, close to the sternum. The needle follows exactly the margin of the sternum, then the posterior surface of this bone for a distance of about a centimetre. This done, it is pushed directly down and a little backward to a depth of some centimetres, until the fluid flows into the aspirator.

The needle passes along the anterior surface of the heart, and penetrates the space formed by the heart above, the diaphragm below, and the pericardium in front.

In one of my cases I have appreciated the safety and efficacy of the procedure. The characteristic of our incision is the avoiding of the left pleura, which passes, in the majority of cases, behind the sternum. The margin of it, often protected by a little cushion of fat, is only united by slight adhesions to the external surface of the pericardium.

If the fifth and sixth interspaces are too narrow to allow the separation of the pleura, we excise with a bone forceps two centimetres of the fifth and sixth cartilages. Beginning at the edge of the sternum, we separate the intercostals of these interspaces. This done, we, with the use of fingers, run

along the anterior surface of the pleura, and, without trying to see the pleura, we separate its border, and push it back with the mammary vessels and the soft parts. At the bottom of the wound, which is about six centimetres long by three wide, is seen the pericardium, recognized by its white, pearly color. It is picked up, an opening made, and extended to the length of three, four, or five centimetres by use of a director.

The loss of the sternal attachments of the fifth and sixth ribs when the cartilages are cut through, although inconvenient, is rendered of less consequence by reason of an anatomical arrangement, which we may here note. Independent of its direct attachment to the sternum, the sixth cartilage is united to the seventh about five centimetres from the border of the sternum. Thus, when care is taken to preserve the sternal attachments of the seventh cartilage, the sixth is still indirectly connected with the sternum. This indirect attachment is always found. Besides, a similar connection unites the fifth and sixth. We then lose one sternal attachment only when the connection between the fifth and sixth is wanting. But it appears difficult to oppose the inconvenience of this to the advantage, from the triple point of view, of safety, facility, and certain protection of the left pleura.

The conclusion from our researches has been already drawn. The usual mode of puncturing, or incising, the pericardium exposes us to the danger of opening the pleura. To avoid this, it should be sought for behind the sternum, or pushed aside before cutting into the pericardium.

ACCIDENTS AND INJURIES FROM CRICKET.

ARTHUR W. PRICHARD, in his presidential address on "School Surgery," delivered on October 9th, 1895, at the opening of the twenty-second session of the Bristol Medico-Chirurgical Society, speaks as follows on the accidents and injuries to which cricketers are exposed :

We come now to the summer term, and the accidents and injuries that may happen from cricket, a game that is remarkably free from danger. Considering the huge number of people who now play the game, and the sometimes great pace of the bowling, and that, too, on a wicket that is the reverse of perfect, I think it is curious that so few cases of serious injury occur. At a school with a carefully-kept playground it is not generally in a match that we see accidents. They occur most commonly during practice at the nets, and when many games have to be played in a limited area ; and therefore the fieldsmen of one game are near, or, perhaps, overlapping, the fieldsmen of another. An unexpected blow from the ball frequently occurs, though not commonly resulting in much harm. I have had, however, under my care from this cause, many contusions, two or three cases of concussion of the brain, and at least one case of fracture of the skull. In formal cricket, the commonest accident that might be called serious is, I think, dislocation of the top joint of the fingers in catching or stopping a hard hit. This results in perfect recovery after a few days' inconvenience, provided the dislocation is reduced at once ; but I have seen a case in which permanent stiffness of the joint ensued because the boy let the joint remain out for a fortnight before he sought surgical assistance. In a ladies' match last year one of the players at a school in Clifton attempted a catch at short-leg, and the result was a bad compound dislocation of the middle finger and a simple dislocation of the ring finger. This hit was by a girl considerably her junior. Next in frequency, perhaps is the more or less split web of the fingers, and I believe it always arises from the clumsy way in which a fieldsmen attempts a catch. If his fingers are up towards the ball—and the accident happens more often from a lofty hit than a low one—the ball may come down between separated fingers and so split the web. The ball should be received into the palms of the hands. Injured knuckles and fingers from playing fast bowling without gloves, and blows on the thighs above the pads, injuries from

collisions, broken noses, and cut lips are common, and need no special comment.

The most important surgical question that arises from cricket is, how far a growing boy ought to tax the strength of his muscles and frame in bowling. Bowling with a high-reaching delivery, and as fast as possible, is a frequent source of strain of the muscles of the back. If the bowler is right-handed, the trouble appears in the left erector spinæ and quadratus; and when once it has appeared, it is sure to recur if a considerable rest from that kind of bowling be not enforced. It is easy to see that lateral curvature may be induced, and I have seen cases where, if it has not been begun, it has been made materially worse by this practice. Some instances of sprain of the scapular muscles have come under my notice, also, from bowling and from throwing. The question of bowling by young boys is one that ought not to be lightly passed over. The ball is too heavy and the pitch is too long, in my opinion, for most boys below the age of thirteen or fourteen, and boys can be taught to play with more precision if a smaller ball is used and a shorter pitch.* It is painful to see a small boy with the ordinary cricket ball, and at the regulation pitch, go on, over after over, trying to bowl as fast as his strength will let him, and I am sure it would be far better for the boys' own sakes, whether as regards their general well-being or their future cricket career, if some modification were made in the laws of cricket, defining a certain weight and size for the ball, and a certain length of pitch for matches between boys under the age of fourteen.

In preparing the cricket part of my paper, although I do not wish it to be understood that he is in any way responsible for the opinion I have just expressed, I have asked the greatest of living cricketers to give me his experiences of accidents in the cricket field, one who, among the many records that he has broken, holds the world's record—at all events among medical men—of having his name known to the largest number of English-speaking people in the universe. He, with us all, rejoices at the immunity from serious injuries which cricket enjoys. One injury, he says, that occasionally occurs, and one which he has suffered from himself, is that in starting from the crease to make a sharp run a few fibres give way in the gastrocnemius, making the player feel as if he had been hard hit on the back of the leg. This quite incapacitates the player for the time from running, and the best treatment, although very painful, is to have the part strapped with firm plaster, or to have an elastic bandage put on. Indeed, for many cricket injuries an elastic bandage is a very useful item in one's cricket bag. Mr. W. G. Grace has seen one death in the field, and that was a sad case of a boy at Harrow, who received a blow on the head, while

* This, I am pleased to hear, has been the custom in the junior school at the college for some time.

umpiring, from a ball hit to leg by a batsman of his own game, while he was paying too much attention to a more important game played close by. Another death, but not on the cricket field, occurred a few years ago in the Notts v. M.C.C. match. A professional player was stunned, but insisted next day in travelling home, saying he was not seriously hurt. Coma came on, and he died before he reached home, presumably from hæmorrhage. On August 22nd this year, a player at Clapham, when batting, was struck in the neighborhood of the heart, and died in a few minutes.

A curious case that Mr. Grace mentioned was that of a Kent gentleman, who, in playing at Gloucester against Gloucestershire, jumped at a catch, while fielding at point, and dislocated his shoulder. The following year, in the same match, but at the county ground, Bristol, he fell while fielding and met with the same result. Mr. E. M. Grace brought him at once to the Infirmary, where I happened to be on duty, and I reduced the dislocation. Notwithstanding that he had to be put fully under chloroform to effect the reduction, the Kent player insisted upon going back to see the match an hour after he had come round. One case Mr. W. G. Grace cited, as showing the pluck of some players, was this. A wicket-keeper dislocated the top joint of his finger so badly that the skin was split across. This was reduced, and a bandage put on. He then resumed his place at the wicket, and did his work with credit till the end of the match. Bad blood blisters are common, and sometimes he has seen broken metacarpal bones, but never any serious damage to the abdomen or to the scrotum. This last fact rather surprised me, as a blow upon this part of the body of the batsman or wicket-keeper is apparently so frequent.—*The Bristol Medico-Chirurgical Journal.*

THE RELATION OF RECTAL SURGERY TO OTHER SPECIALTIES.*

BY CHARLES B. KELSEY, M.D.,
Professor of Abdominal and Rectal Surgery.

GENTLEMEN,—I shall show you this afternoon three cases in no way peculiar, and yet illustrating perfectly the idea I wish to impress.

Please bear in mind that they are all cases sent to me for disease of the rectum—two in private practice, and one in the dispensary—and that in two of them the diagnosis of disease of the rectum was correct, and in the third perhaps not to be wondered at, though an error.

CASE I. An intelligent working woman of middle age. The note from her physician which she brought to the clinic said she needed an operation for piles. She was examined too superficially, and two weeks ago to-day was operated upon before you for piles. Not four days had elapsed before she calmly told me she was no better, that I had not hit the cause of her trouble, that she was just as bad and in just the same way as she was before, and that she proposed to stay in the hospital till she was well. Few patients will treat you as well as this one has treated me, and not only tell you of your errors, but give you a chance to correct them. It now turns out that this patient, although she had piles, never suffered from them, and that what she came to the hospital for was not to be operated upon for piles, but to be cured of a constant pain in the back and pelvis, and of an almost insurmountable difficulty in defecation. A vaginal examination reveals at once that there is endometritis with salpingitis. This is shown by the pain and by the tenderness on pressure. The uterus also is much out of position. It is strongly retroflexed, and is lying in the hollow of the sacrum, and as I pass my finger into the rectum beyond it I find a large fecal mass which leads me to think that the uterus, by its pressure on the bowel, causes a certain amount of obstruction. The uterus is, however, movable, and can be thrown into anteversion by the finger.

*A Clinical Lecture at the Post-Graduate Hospital, New York.

We will now try to finish the cure of this patient. First, we will curette the uterus for the endometritis and salpingitis. Then we will open the abdomen, and fasten the organ to the abdominal wall out of the way of the rectum.

You observe that the organ is much increased in size, as the curette passes in nearly five inches. You see also, now that I have opened the abdomen, that the annexa are fairly healthy.

CASE 2. This little patient you have also seen before, but some months ago. She then was suffering from a tight congenital stricture at the usual point, an inch and a half from the anus. I say "little patient," because she weighs scarce ninety pounds; but she has been married three years, had an abortion produced a few months after marriage, and was in hospital several weeks with peritonitis as a result. When she was sent to me she complained of great difficulty in defecation and much pain in the pelvis, all of which was easily accounted for by the stricture of the rectum.

This was cut in the usual way before the class, now nearly a year ago. At present she has regular daily passages, the stricture is kept well open by bougies, and, as far as the rectum goes, she has been greatly benefited.

Still, she is a chronic invalid. Sexual intercourse is almost impossible. She has frequent attacks of pelvic pain, which keep her in bed for days at a time; and she tells me sorrowfully that, though she is certainly better so far as the rectum is concerned, she is really no better in general health, and thinks there must be something else the matter. The "something else" is simply a double pyosalpinx due to her abortion, with an irritable caruncle in the urethra, which is exquisitely sensitive to touch.

We will now proceed to try to cure this patient also by opening the abdomen and removing the pus sacs. The caruncle we will leave till later. This, again, is an operation quite in the line of gynæcology, and yet absolutely necessary if we wish to relieve this patient.

You see that the two ovaries are quite healthy, and therefore we will leave them, acting on the rule of removing no more than is necessary. Both tubes are converted into pus sacs as large as eggs. The adhesions are slight, and easily broken, and the tubes come out without rupture. There has been no soiling of the peritonæum, and the abdomen can safely be closed again.

CASE 3. Sent to me from the western part of the state as a case of stricture of the rectum. The most superficial examination proved this to be an error, though the man had used bougies for years. He had no symptoms of stricture, but complained of a wearying pain in the rectum, which had reduced him to a condition of chronic invalidism. On closer questioning, we found the pain was also in the penis, in the testicles, and

along the left spermatic cord. There was also an irregular frequency in micturition. Sometimes the patient could hold his water for hours, again he was up six or eight times a night. There was no vesical calculus and no cystitis. Dr. Fuller kindly examined the patient with me. His diagnosis was chronic gonocystitis, the vesicles, especially the left, being larger than normal, very tender, and exuding bloody semen on stripping. Pressure on the left vesicle caused an immediate attack of all his painful symptoms.

To avoid, if possible, the serious operation of extirpation of the vesicles, I did a perineal section before you some weeks ago, at the same time thoroughly dilating the neck of the bladder. Temporarily there was marked improvement, but this lasted only a short time, and the patient is now as bad as ever. He is miserable, unfit for work at his trade, is willing and anxious to submit to anything that gives hope of relief, and I shall now remove one or both vesicles, depending upon how we find them when exposed. This is an operation still in its infancy. So far as my knowledge goes, it has been done only twice in this country, once by Dr. Weir, a general surgeon, and once by Dr. Fuller, who teaches you genito-urinary diseases.

On the cadaver I have tried the operation by a posterior median incision and removal of the coccyx exactly as in Kraske's operation. Although the vesicles can be reached in this way, the wound needs to be very deep, and the rectum, in order to remove both vesicles, must be completely lifted from its attachments. I shall, therefore, make in this case an incision across the perinæum just in front of the sphincter ani, and, with a sound in the bladder for a guide, gradually work my way upward between rectum and bladder till the vesicles are reached.

The operation, as you see, has been long, bloody, and manually difficult. In another case I should keep to the Kraske incision, which, though it seems unnecessarily large, renders the operation much more precise, and is attended by much less bleeding and risk of tearing the rectum, as we have done in this case. The perineal incision makes only a deep, funnel-shaped wound, and the small end of the funnel is blocked by the prostate, above which are the vesicles. I have, I think, completely torn out and scraped away the left vesicle, and I have in my hand a beautiful little calculus of the size of a pea which I will pass around. There were several in the vesicle, but the others were no larger than pin-heads, though the little stone quarry was easily appreciable to the touch, and formed the guide to the vesicle itself. Without them I never should have been certain in my own mind that I had really reached the diseased spot through this incision.

We will now suture the rent in the rectum, and, after putting in a few sutures to narrow the skin wound, leave the rest to heal by granulation.

And now, gentlemen, let me in a few words make the point to which all this leads. These patients all came to me as a specialist in diseases of the rectum, and they all had symptoms of disease of the rectum or they would not be sent. In two there was disease of the rectum, in the third only constant pain there, due to disease near by. All three of them I hope to cure, but not by operating on the mucous membrane of the lower three inches of the alimentary canal, and leaving the rest to some abler surgeon than myself. And this is why I so often impress upon you that a specialist in diseases of the rectum should be able to do something more than tie off piles or cut away a fistula if he wishes to be considered either a surgeon or even an ordinarily intelligent and successful practitioner. Would any gynæcologist worthy the name have done the work you have seen me do this afternoon, and then sent the patients to me, the one for the piles, and the other to have the stricture of the rectum divided? Because they would not account for the fact that gynæcology has a place of its own as a specialty. And because too many so-called rectal specialists do not do what the gynæcologist does as a part of his specialty, and try to cure their patients, but have reached the limit of their surgical knowledge when they have cured a patient's piles, is the reason why the specialty of the rectum has not yet won for itself a proper recognition in the profession. Some of you are here especially to study diseases of the rectum, and some to go home and practise as specialists in this department. If I have conveyed to you by this long afternoon's work what I think is involved in such a course, I shall be very happy. My own idea of a rectal specialist can be stated in few words: It is one who is prepared to cure the patients who come to him with trouble in the rectum.—*New York Medical Journal*.

THE PREVENTION OF SEASICKNESS IN SHORT VOYAGES.

BY M. CHARTERIS, M.D.,

Professor of Materia Medica and Therapeutics, University of Glasgow.

MOST passengers setting out for sea voyages, whether long or short, commence their trip under conditions unfavorable to exemption from seasickness. They eat heartily and unwisely. The result is, when the steamer gets under way and meets the ocean swell, their stomachs rebel and expel their contents. The irritated gastric state is communicated to the vomiting centre in the cerebrum, and when actual vomiting has ceased retching begins, which, in some instances, continues during the whole voyage.

In my opinion, it cannot be too strongly insisted upon that the diet for the first two days in a long voyage should be "dry" and "spare." No full meal should be indulged in. Soups and pastries should never be taken.

In short voyages, to which the following cases refer, the same injunction should be made, and the passenger should take no food or liquid if the voyage only lasts a few hours; if it be for a longer period, the smallest modicum of these should suffice.

But experience shows that diet, though very important as a prophylactic, will not be sufficient to guarantee exemption from seasickness. Other means must be adopted, and of these the most successful are: (1) A clearing out of the *primæ viæ*, not by a saline, but by a liver-acting aperient such as calomel or blue pill, which should be taken on the night before embarkation, and be followed on the morning by a saline purgative such as citrate of magnesium. (2) When on board the steamer, if the passage be by the night service, a full dose of the solution of chloralamide and bromide of potassium known as chlorobrom should be taken, and the passenger should at once retire to his cabin and rest and sleep. If by the day service, a minimum dose should be taken; the passenger should remain on deck. Only under exceptional circumstances is a second dose necessary.

The following cases, selected from numerous communications I have received, bring out the points mentioned. The truthfulness of these statements can be guaranteed.

CASE 1. "My wife succumbs to seasickness on the slightest provocation, but of late she has obtained relief by the use of chlorobrom. In the summer of 1893 we crossed from Harwich to the Hook of Holland by night. I heard sounds of distress from the cabin adjoining ours, but my wife, having taken a dose of chlorobrom, slept the whole night, and awoke next morning feeling quite well. In September, 1894, we crossed from Calais to Dover by day in a rough sea. Most of the passengers were sick, we escaped. Last autumn we left Dieppe for Newhaven in what the sailors called a quarter of a gale. Many on board were sick, and here again chlorobrom protected, but the administration of a second dose was, on this occasion, found necessary."

CASE 2. "I am a bad sailor; even the thought of going on board a steamer gives me a sickly feeling, and when on board my sufferings are intense. The sickness lasts until the voyage is over. In the autumn of this year I had to go to Shetland, and, though the sea was fairly smooth, I was very ill.

"On my return voyage from Kirkwall at 11 p.m. I took a tablespoonful of chlorobrom. I slept a dreamless sleep, which lasted eight hours. As the sea was very rough, I did not rise from my berth, but slowly ate a dry biscuit and took a teaspoonful dose of chlorobrom. Again I slept for three hours. When I awoke I felt hungry, and had a cup of tea, unsweetened, and two pieces of dry toast.

"I then took a turn on deck, but, as the accommodation for walking was very limited, I returned to my cabin, lay down, and took small doses of chlorobrom during the day. Though I did not sleep, I was contented and happy, and was able to read a novel until the steamer reached Aberdeen at 6 p.m.

"There I had a good square meal, and came back to Glasgow by train."

CASE 3. "I am such a bad sailor that I am unable to go for an hour's sail, either by boat or steamer, without becoming sick.

"Last summer I had occasion to cross to Belfast by the ss. *Adder*, which sails from Gourock at 8 a.m. Before the steamer started I took two teaspoonfuls of chlorobrom. The sea was very rough, and almost everyone on board was sick, but I did not feel at all uncomfortable, for I had a good appetite and was able to take an excellent dinner.

"As this was my first experience at sea during last summer, I considered my immunity from seasickness might be due to my health being better, and, to test this, when I went the same voyage in the autumn I did

not take chlorobrom. I regretted this, for I was very sick during the whole passage, although the sea was by no means rough."

CASE 4. A French gentleman, known to me for many years, two years ago told me that he had never crossed the Channel without being very sick. "I have tried everything known as a cure, but without benefit." He was advised on the evening before embarking at Leith for Rotterdam to take three one-grain calomel tablets, and, in the morning, a full dose of citrate of magnesium; then, when on board, to take a full dose of chlorobrom—*i.e.*, two tablespoonfuls.

The steamer sailed at 9 p.m., and he retired to his cabin shortly afterwards. He slept for ten hours, and rose next morning without a headache and free from any squeamishness or nausea. He was able to enjoy his food during the day, but he did not take any soup or pastry. In the evening he took another dose, and landed the next morning at Rotterdam perfectly well. He informs me that the sea has no terrors for him now.—*The Practitioner.*

Clinical Notes.

PERFORATION OF A GASTRIC ULCER, OPERATION, RECOVERY—RUPTURED ECTOPIC GESTATION —STRANGULATION OF INTESTINE.

By J. F. W. ROSS, M.D. TOR.,

Professor of Gynæcology and Abdominal Surgery, Woman's Medical College; Surgeon to
St. John's Hospital, Toronto General Hospital, and St. Michael's Hospital.

PERFORATION OF A GASTRIC ULCER—OPERATION—RECOVERY.

MISS D., æt. 26. The patient was a young woman who had suffered slightly from indigestion. She was, however, in her usual health, and feeling well.

On the night of January 28, 1895, took supper as usual, and went out at 7 o'clock p.m. While walking on the street, about ten minutes after leaving home, was suddenly seized with pain in the upper part of the abdomen, shooting through to the back, almost fell to the sidewalk in a faint, and was assisted by some passers-by into a neighboring drug store. Here she threw off her, as yet, undigested supper. Dr. Galloway, who was passing at the time, was called in, and advised her removal to her home. He advised that the family physician should be sent for. Patient was removed home in a carriage, but no physician was sent for, as they had lately moved into the city. She vomited through the night, and felt very ill. In the morning Dr. Galloway was again sent for. He found her complaining of general abdominal tenderness, found the pulse of the inflammatory type, hard and bounding, slight distension of the abdomen, and a burning at the pit of the stomach, especially after the patient took any fluid. He concluded that the case was one of perforation of gastric ulcer.

As the telephone service was demoralized, it was not until eleven o'clock at night that word reached me. I then saw the case in consultation, and advised immediate operation. It was difficult to obtain a nurse without making a midnight house-to-house visitation. Through the kindness of the lady superintendent of one of our hospitals, a nurse was obtained.

With every aseptic precaution, operation was performed at half-past three a.m., in the parlor of the young lady's home. An incision was made on the left side one inch below the margin of the costal cartilages, extending from the median line downwards and outwards four inches. As soon as the peritoneal cavity was opened the intestines were felt to be sticky, as if covered with escaped mucus. They were distended with gas, but not extremely so. The anterior wall of the stomach was examined carefully by being drawn out through the wound, and found to be intact. The two anterior layers of the omentum were then torn through, and the posterior wall of the stomach drawn out through the opening. A perforation, through which the tip of the little finger would readily enter, was found on the posterior wall near the lesser curvature, and near the cardiac end of the stomach. The edges were turned in by continuous sutures, the peritoneum was then brought over the opening by two layers of rapidly applied Halstead sutures. The abdominal cavity was then carefully washed out with a large quantity of water, and thoroughly dried with sponges passed down into the pelvis on long-handled forceps. A glass drainage tube was inserted through the opening in the omentum down to the pouch behind the stomach, and the wound closed with silkworm-gut sutures; this was dressed in the usual way.

The patient's pulse at the time of the operation was between 120 and 130; next morning it had dropped to 100. To relieve the thirst, and to produce peristalsis, large enemata of water and sulphate of magnesia were given every four hours. The patient was able to retain these, and within a few hours a free peristaltic action of the intestines set in; the bowels were well evacuated, and within twenty-four hours the distension had disappeared. Nothing was given by the mouth for three days and three nights, when a little albumen water was administered. The patient made an uninterrupted recovery.

I understand that this is about the twenty-fifth time that a perforated gastric ulcer has been closed by suture. Many of the cases have terminated fatally.

RUPTURED ECTOPIC GESTATION—INTRAPERITONEAL HÆMORRHAGE—
IMMEDIATE OPERATION—RECOVERY.

Miss G., æt. 28. Unmarried. While walking on the street with a companion on the evening of December 24, 1895, at 9 p.m., was suddenly seized with intense pain in the lower abdomen, and fell fainting to the sidewalk. Previous to this she had felt some pain in her right side. Had missed one monthly sickness; had consulted a doctor, who thought that perhaps she was suffering from a slight attack of appendicitis. With this exception she felt well. After she fell to the sidewalk, her companion immediately hailed a carriage, and had her driven directly to St. Michael's

Hospital. While entering the hospital she again fainted; was taken upstairs and placed in bed. When seen by the superintendent, he concluded that, in all probability, this was a case of ruptured extra-uterine pregnancy.

I saw her at 11 p.m., two hours after the rupture occurred. Advised immediate operation. I found her lying in bed with the peculiar appearance I have mentioned on previous occasions, but have been unable to describe. Concluded from her symptoms and her appearance that she was suffering from intra-abdominal hæmorrhage. The percussion note altered when she turned from her side to her back; it altered slowly, due, no doubt, to the fact that a large clot of blood slowly altered its position in the abdomen after she altered her position. I have never noted this symptom before, but it was quite marked in this case. Operation was done as soon as the patient could be prepared.

On opening the abdomen blood gushed out. A large clot was found lying in front of the intestines, the right Fallopian tube was found ruptured so that two fingers would enter, and the placenta was hanging half-way out through the opening. She was losing blood very fast. Pedicle was rapidly ligated, clots were removed, abdomen washed out, drainage tube inserted, and the wound closed. Within five hours after the rupture took place the woman was placed in a condition of comparative security by a cœliotomy. She made an uninterrupted recovery.

INTESTINAL STRANGULATION BY A BAND, IN A WOMAN IN THE FIFTH MONTH OF PREGNANCY—PREVIOUS OPERATION FOR ECTOPIC GESTATION—OPERATION FOR RELIEF OF STRANGULATED GUT—SUBSEQUENT DELIVERY—DEATH.

Mrs. M., æt. 35, mother of four children. One year and a half ago the patient was operated on by one of my confrères for extra-uterine pregnancy; the pregnancy was found to be tubal, and on the right side. After the operation what was diagnosed as a hæmatocele formed; this became gradually absorbed, and the patient made a good recovery. She has been in good health since. Five months ago she became pregnant; everything progressed favorably until February 12, 1896, when she was suddenly seized with pain in the abdomen and faintness. Vomiting set in; the pain remained acute. Dr. Cuthbertson, the family physician, saw her, and concluded that something unusual had happened.

I saw her with Dr. Cuthbertson in consultation on Thursday evening, February 13. She was then feeling much better; temperature, about 100°; pulse, 100; abdomen slightly distended. The tenderness, on pressure, had almost disappeared. An intra-uterine pregnancy was found at about the fifth month. No pelvic adhesions could be made out; the intestines could be felt gliding backward and forward in the cul-de-sac of Douglas, and there was no evidence of blood clot. Patient looked as if

there was not much the matter. We advised her removal to a hospital so that she could be carefully watched. This advice was not taken.

Patient was not so well on February 14. Early Saturday morning, February 15, vomiting became stercoraceous; pulse and temperature remained about the same. Abdomen became more distended. Patient looked blue and cyanosed. Notwithstanding the use of a high enema, and purgatives by the mouth, the bowels refused to act; no fæcal matter passed down.

I saw the patient again with Dr. Cuthbertson at five o'clock in the afternoon; found her very much altered. The vomited matters were stercoraceous, and very offensive; pulse, thin and soft. Concluded that a coil of intestine must have slipped through under an adhesion and become strangulated. Decided on immediate operation. Patient removed to Toronto General Hospital.

Abdomen opened in the median line at 8 p.m. Found colon pale in color, small intestine congested and red. Concluded that the band was around a portion of the small intestine. On the right side, deep in the loin, about half-way between pubes and ensiform cartilage, a firm band of adhesion was found with a large coil of intestine constricted beneath it. This coil was almost gangrenous, and very dark in color, but looked as if it might recover after the removal of the constriction. It had evidently slipped through from above under the adhesion. An intra-uterine pregnancy was found; the left tube and ovary were intact. At the right uterine cornu, the side from which the ectopic gestation had been removed, the appearance indicated that some adhesions had given away at a recent date. One long firm adhesion was found similar to that constricting the intestine. Several other similar adhesions were met with. There were no adhesions anywhere else in the abdominal cavity. The large band pressing on the intestinal coil was ligated in two places and cut through. Immediately the intestine filled out, and it was evident that the constriction had been completely relieved.

The abdomen was now rapidly closed, as the patient looked as if she would scarcely leave the table alive. The stercoraceous vomiting ceased at once. She improved through the night; but at twelve o'clock next night, or twenty-seven hours after operation, she miscarried, and died in six hours after. Had it not been for this complication she appeared to have a fair chance of recovery.

The case was an interesting one. It points out a danger in store for any woman who becomes pregnant after she has been submitted to cœliotomy. It also emphasizes the danger of abdominal operation upon a pregnant woman. Before undertaking the operation in this case I felt it was almost a forlorn hope, but believed it to be my duty to operate, and give her the only chance she had for her life.

LARYNGEAL DIPHThERIA TREATED BY CALOMEL
SUBLIMATION—REPORT OF TWO
CASES.

By R. J. WILSON, M.D., L.R.C.P.,
TORONTO.

E. K., æt. 9, female. When seen first, on November 27, 1893, membrane covered both tonsils and lower portion of uvula. Temperature, 102° ; pulse, 120; respiration, 26, but quite natural. The patient was at once isolated; an alkaline and antiseptic spray was ordered to be used every two hours, and an iron mixture containing small doses of hydrarg. bichloride to be given every other hour. This, with stimulants, was the sole treatment at this time. The treatment was continued for four days, when the throat was found quite free from any traces of membrane. On the morning of the fifth day the throat was inflamed, but free from membrane, the voice a little husky; pulse, 150; respiration, 48. The patient grew rapidly worse; all the symptoms of a well-marked laryngeal stenosis supervened; hoarse, barking cough; stridulous breathing; recession of suprasternal and supraclavicular notches; aimless movement; cyanosis, with extreme dyspnoea, rendered the prognosis almost hopeless. Intubation decided upon, and done by Dr. M. at 4 p.m., December 2. The tube was immediately coughed up, and with it came a small piece of membrane. The patient seemed relieved. We decided to wait before attempting reintroduction of the tube. The patient was at once placed in a small tent, made like the covering of a gypsy's wagon, and thirty grains of pure calomel vaporized. This was repeated every two hours for the five succeeding days. In the interval the alkaline steam was kept constantly going by means of a kettle and coal oil stove. The temperature, pulse, and respiration improved and gradually reduced (see chart), until the 8th of December, when we discontinued the use of calomel, though we continued the use of the steam for two days longer, when all symptoms of difficulty in breathing had ceased. She was quite well by the 16th.

H.M., æt. 3, male. On November 6, 1895, saw the patient for the first time. Small gray patches covered both tonsils; submaxillary glands enlarged; pulse, 90; temperature, 101.3° ; respiration, 24. Patient at

once isolated, and alkaline and antiseptic spray ordered to be used every second hour, and iron mixture to alternate with spray. Under this treatment the membrane, though it increased a little at first, had disappeared by the end of the fourth day. The patient was apparently well until the 15th, when his mother reported him a little hoarse; better on the 16th. On the morning of the 20th, or ten days after his apparent recovery, I again saw him. His pulse was quite rapid, breathing difficult, nails and lips blue, and yet he persisted in attempting to run around. At 3.30 p.m. I again saw him. Now respirations were 46, pulse 160, and, while present, the patient was suddenly convulsed—general clonic convulsion, so severe that I believed the patient must perish before we could give any relief. With the finger thrust in, an attempt was made to clear the throat. A small piece of membrane was removed, and the respirations, which for the time were arrested, resumed. Without delay the patient was placed in tent; a half-dram of calomel vaporized; this relieved the patient, and he fell into a quiet sleep. The alkaline steam was kept constantly going, the calomel vapor repeated every second hour until the 23rd. On morning visit I found my little patient collapsed; respiration 72, but quiet; pulse quite thready, and very rapid; violent diarrhoea, foetid breath, with great anæmia. On examining the gums I found my patient salivated. The nurse told me that his condition during the previous night had been so fearful that she had vaporized the calomel every hour. The vapor bath was at once stopped, and a wash for the mouth ordered, the whites of eggs in whisky given; the symptoms of collapse disappeared, to be replaced by the former difficulty in breathing. The calomel vapor was again resorted to cautiously, and its effects carefully watched. The difficulty in breathing gradually lessened (see chart). His condition improving at the end of five days, the vapor was no longer considered necessary, though the steam was continued until the 29th, or nine days from the onset of the laryngeal symptoms, or twenty-three days from the commencement of the disease.

In addition to the two cases above narrated, I show you the charts of two similar cases. In each there was the primary pharyngeal attack preceding the involvement of the larynx—in one three days, in the other five. In these cases, as in the others, the amount of membrane was comparatively small, and rapidly disappeared under the alkaline and antiseptic spray. The same treatment was pursued with the same results, all the four cases recovering. In my hands this treatment alone has proved of any value in these cases. I mean curative value. I have had in private practice twenty cases of laryngeal diphtheria. Of those, three died within six hours of my first visit, being *in extremis* when seen; thirteen intubations were done without a single recovery, four recovered. I need only

mention the indications for employing this treatment. All cases in which we have hoarseness of the voice, aphonia, stridulous breathing, recession of suprasternal and supraclavicular notches, retraction of infra-thoracic walls—all, or a major portion, of these symptoms occurring with lividity of the surface resulting from a deficient oxygenation of the blood—call for the prompt and energetic employment of this treatment. Watching carefully the result, I usually employ from ten to sixty grains for each dose, and keep the patient in the vapor from five to thirty minutes, according to the severity of the symptoms. This treatment should be supplemented by the steam kettle, as before mentioned, and ought to be continued until all the symptoms have disappeared, which is usual in from one to six days. The dangers are: salivation, excessive diarrhœa, especially great depression and prostration with anæmia. By carefully watching the symptoms, and by the timely administration of stimulants and nutrients, these dangers may be avoided.

DIPHThERITIC CROUP.

BY DAVID S. HOIG, M.D.,

OSHAWA.

THE treatment of diphtheritic laryngitis has been so eminently unsatisfactory, and the disease itself so fatal in its results, that the following account of a case occurring in my own family, and successfully treated by intubation and antitoxin, cannot, I am sure, fail to be of interest to that portion of the profession who have not had an opportunity of watching a case treated by O'Dwyer's method.

On the afternoon of the last Thursday in January last, my youngest child, a girl aged five years, developed symptoms of croup, and when, on examination, a small white patch was found on the left tonsil, the diagnosis of diphtheria in the larynx was made. Inhalation of steam, medicated with turpentine, eucalyptus, etc., was commenced, and kept up unceasingly during the night; but in spite of everything the disease progressed with terrible rapidity, the breath becoming quicker and noisier, the cough more frequent and more metallic in quality, and, at short intervals, attacks of severe dyspnoea, the pulse meanwhile getting weaker and more frequent. It had become evident that the child's hours were numbered, unless some operative interference was resorted to. After a consultation with my neighbor, Dr. Kaiser, I telegraphed for Dr. McDonagh, of Toronto. By the time of his arrival the little one's condition had grown so much worse, the dyspnoea so severe, the fighting for breath so painful to witness, that I looked forward to the tracheotomy, which I expected would be done, less with the hope of saving her life than to relieve her from the dreadful death by choking.

On Dr. McDonagh's arrival, and after examination, he proposed intubation, a procedure with which I was unacquainted, except through the journals, and against which anything I had read had prejudiced me. I agreed, however, and the tube was at once introduced, with (to my surprise) the least conceivable pain or inconvenience to the child. The change which now took place (to one witnessing it for the first time) was little short of marvellous. The child at once passed from a state of impending suffocation, the face cyanosed, the pulse becoming

rapidly uncountable, to a condition in which the breathing became perfectly calm and noiseless, the face pale and placid; an expression of the most perfect comfort replaced the hunted, anxious look of a few moments before, and in a short time she fell into a quiet sleep, the pulse gradually dropping until it was easily counted at 140.

A full dose of antitoxin was injected shortly afterwards. From this point the disease pursued a variable course for about ten days, our hopes rising and falling with the pulse and temperature; but from the moment the tube was introduced there never was another moment of threatened suffocation, or even dyspnoea, except for about two hours on the morning of the fourth day of its introduction, but the difficulty was quickly relieved by the child's turning its head from us and quickly plucking the tube out of its place by the cord. The tube was not replaced, and, after several days of anxiety lest the membrane might re-form, it became evident that the trouble from that quarter was past. Calomel vapors and the medicated steam were persisted in, at short intervals, for ten days, and stimulants were freely given. At the time of writing, five weeks from the date of seizure, the child is gradually forging back to health, but is still very weak. It is difficult to assign the exact value of the antitoxin in this case, but I am inclined to allow it some value in, possibly, neutralizing the poison in the system, for I have seen children with only slight dyspnoea die from the toxic effects in the system, and, judging from the rapidity with which the heart showed symptoms of exhaustion, I consider my little one to have had a full dose of the poison.

In conclusion, I shall never allow a patient to die from diphtheria in the larynx without giving it the chance of recovery afforded by intubation and, wherever possible, the intubation should be done by an experienced surgeon, and preferably by one making a specialty of the throat. I heard, recently, of a tube being introduced by a Toronto physician of large practice, and so unskillfully was it done that when the child died, twelve hours afterwards, he was still crying that the man was choking him. It is bungling of this kind which is, no doubt, responsible for the unfavorable reports that were at first published about the method.

A CASE OF MYXŒDEMATOUS DEGENERATION OF THE
PLACENTA, PRODUCING THE SO-CALLED HYDATID MOLE.*

BY C. J. C. O. HASTINGS, M.D.,
TORONTO.

MRS. A., æt. 23 years, married two years, first pregnancy. Was first called to see patient in November, 1895. She was then about two months pregnant. On questioning her, I found that she had been making every effort to restore the menstrual function, even to the extent of introducing a catheter and injecting water into the uterine cavity. She had been having a sanguineous discharge all this time. Fearing she had injured herself, she sent for me. After hearing the history of the case, I prescribed rest in bed, with uterine sedatives. The discharge continued more or less every day. After about four weeks I allowed her to dress and move around the room, as this did not seem to aggravate the symptoms. I then allowed her to go for a short walk every day. At no time did she soil more than one napkin a day, and sometimes that was very slight. The above condition continued until February 23, when I was sent for, and found the patient in labor. On examination, I found the os dilating nicely, and, as she was loosing very little, I left the case entirely to nature, gave the nurse the necessary instructions, and went and laid down in an adjoining room for about three hours, after which I made another examination, and found part of the mass had come away. The os being quite dilated, I passed my finger into the uterine cavity and cleaned away the remainder of the cyst—there was enough of the stuff to fill a pint jam-jar—and then cleansed the uterus and vagina with a bichloride solution, 1 in 1,000. The patient has made an uninterrupted recovery.

The term hydatid, as applied to this form of degeneration (which is still retained by our text-books, probably through the regard of the authors for the nomenclature of our forefathers in obstetrics), is somewhat misleading, as there are no true hydatids, but simply a proliferative, myxomatous, or mucoid degeneration of the chorionic villi, the contents of the sinus or cyst being mucin, together with albumin and salts. The cysts are attached to each other by pedicles, except the first of the series, which is attached to the

* Presented to the Toronto Medical Society.

outer surface of the chorion, and not attached to one common stem, as one would infer from the simile given by some authors as resembling a bunch of grapes, which is incorrect, that of white currants and grapes floating in red currant juice being decidedly preferable. As regards etiology, it is still very obscure. It is supposed to be maternal in origin, on account of the occasional recurrence in the same patient. Syphilis, cancer, and inflammatory decidual disease, are supposed to play a prominent part. I do not think that the attempts to produce a miscarriage had anything to do in the etiology, as they would be much more common if they had, and statistics at present place them as occurring one in about twenty thousand cases. (American Text-book of Obstetrics.)

An interesting feature in connection with this case was the size of the uterus, which corresponded to that of a normal pregnancy at five months. The absence of any cysts from the sanguineous discharge, also the absence of any feeling of discomfort or pain other than that of a normal pregnancy, made the diagnosis very difficult, together with the fact of it being a primipara, of which I cannot find any cases reported on this continent.

Progress of Medicine.

GENITO-URINARY AND RECTAL SURGERY.

IN CHARGE OF

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CAUSE OF VARICOCELE.

There are three principal causes: First—Anything that impairs the general vigor of the part, as (1) Lack of proper support from relaxed scrotum; (2) masturbation; (3) abuse of venery, ungratified desires, etc.; (4) chronic orchitis, or repeated attacks of acute orchitis. Second—Anything that produces pressure, as: (1) Abdominal tumors; (2) enlarged inguinal glands; (3) hernia; (4) trusses or belts worn around the waist; (5) accumulation of fat in the omentum and mesentery. Third—Anything that produces prolonged muscular effort, as: (1) Prolonged riding on horseback; (2) prolonged rowing; (3) prolonged exercise in running or waltzing; (4) excessive and violent muscular effort; whooping-cough, sometimes.—Rand, in *Medical Record*.

THE TREATMENT OF SOFT CHANCRE.

The *Centralblatt für Chirurgie* for January 25 contains abstracts of two articles on the treatment of chancroid. The first, by Neisser, was published in the *Berliner klinische Wochenschrift*, 1895, No. 36. Neisser says that for many years he has observed the best results from cauterization with pure carbolic acid. The application, he says, is absolutely painless; it destroys the floor of the ulcer thoroughly, especially under overhanging borders of skin; it generally cleanses the sore very rapidly, and—a point on which the author lays special stress—it does not set up any artificial hard infiltration, as nitrate of silver does, to be subsequently mistaken for the induration of a syphilitic chancre. After the cauterization he applies powdered iodoform and a two-per-cent. ointment of nitrate of silver. Neisser remarks that in four instances lately he has observed

sores having the character of soft chancres, occurring three or four days after coitus, which did not heal under this treatment, but after a number of weeks became transformed into serpiginous syphilides; the soft chancre, he says, had become "provocative" of the starting point of a tertiary syphilide, which was promptly cured with iodide of potassium. In such cases, says Neisser, one might readily be led to suppose that a reinfection had taken place; consequently mercury should not be given, for it cures primary, secondary, and tertiary manifestations alike, and thus makes the diagnosis impossible, while potassium iodide, which cures only tertiary affections, may be used with entire propriety.

The other article, by Frank, which appeared in the succeeding number of the *Wochenschrift*, seems to have been called forth by Neisser's. Frank uses formalin for effecting the destruction of the ulcerative surface. He says that after twelve hours it appears perfectly dry, as if frozen, and that in six days this dry layer is shed, and the sore is perfectly healed in one or two days more. Formalin, too, he states, does not give rise to any induration of the surrounding tissues, and the pain occasioned by its application is slight, and of but a few seconds' duration. In a few cases he has observed that after the shedding of the dried layer the sore showed a moist, glistening surface, without any tendency to heal, but in these cases induration appeared subsequently, together with other signs of syphilitic infection.—*New York Medical Journal*.

[NOTE.—We have used formalin with very marked benefit in these cases, and when not applied in too strong a solution it produces no local inflammation. One-quarter per cent. is the strength we use.—E.E.K.]

VARICOCELE.

Varicocele occurs on the left side in a proportion or ratio of 20 to 1. There are four good reasons for its frequency: (1) The left testicle hangs lower in the scrotum, and thus the veins support a heavier column of blood. (2) The spermatic veins on the left side are pressed by the sigmoid flexure of the colon when distended. (3) The spermatic veins of the left side join the renal vein at a right angle to the current of blood, thus impeding the rapid return of blood from the left testicle and veins. (4) The left spermatic vein is by some authorities stated to be poorly supplied with valves.—Rand, in *Medical Record*.

PÆDIATRICS AND ORTHOPÆDICS.

IN CHARGE OF

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SYMMETRICAL GANGRENE AFTER SCARLET FEVER.

A case of rapidly-developing gangrene of the face and sacral region after scarlet fever is reported by Dr. J. C. Wilson (*Archives of Pædiatrics*, September, 1895).

The patient was a lad six years of age, who was seized with scarlet fever, during the prevalence of a local epidemic, upon September 28. The case was described as quite severe, the form being scarlatina anginosa. The patient, however, did well, and was permitted to get out of bed about the tenth day, namely, October 7. From this time, for a period of ten days, the child seemed well, had a good appetite, normal secretions, and the urine is stated to have been free from albumin. There was abundant desquamation.

Upon October 17, the superficial cervical lymphatics began to swell. They were much enlarged upon the following day. Upon the 19th there were severe pains in the legs and ankles, with an abrupt decrease in the quantity of urine voided. Upon the 20th there was almost complete suppression of urine, with great pain along the urethra, intensified upon every attempt at micturition. Dropsy of the face and of the feet was absent. The temperature ranged between 101°-102° F. Upon the 21st the urine was slightly increased in quantity, and there was less pain in voiding it.

On the morning of the 22nd of October, the child complained bitterly of pain in the sacral region and buttocks. Upon examination at 7.30 a.m. the skin was found to be of a deep purplish color, almost black, over an area in the sacral region about two inches in diameter. Around the discolored portion there was a narrow, pink, inflammatory border. About noon upon the same day nose-bleeding appeared, at first profuse, after-

wards slight, and continuing until death. Shortly after epistaxis began, discoloration of the nose showed itself. There was at first lividity, attended with great pain. In the course of an hour the greater part of the nose had become bluish black, the area of discoloration being surrounded by a narrow inflammatory zone. 6 p.m. the same day, an irregularly symmetrical area of bluish-black discoloration occupied the nose nearly to the tip, and spread for an inch to the right and an inch and a half to the left side of the face. A similar area, but larger, situated over the sacrum. There were no other gangrenous spots. The skin over the discolored parts was dry and lustreless, presenting the appearance seen in rapidly-forming gangrene. Here and there at the margins were minute blebs. The patient died on the following morning.

TYPHOID FEVER IN YOUNG CHILDREN.

In the *Archives of Pediatrics*, January, 1895, Northrop reports four cases of typhoid fever occurring in children under two years. The cases occurred during an epidemic of the disease in the village of Stamphord in the spring of 1895. In all, there were 406 cases—194 in children under 15 years, and 68 under 5 years. There were, in all, 27 deaths. One of these was a child of 22 months. Autopsy showed swelling of Peyer's patches in lower ileum, enlargement of solitary follicles in large and small intestine, swelling of mesenteric glands, and enlargement of the spleen. The source of infection was found in the milk supplied. The man who supplied the milk obtained it from three dealers. He washed the cans with water from a dug well thirteen feet from and a little below a very foul privy.

ANTITOXIN TREATMENT OF DIPHTHERIA AT UNIVERSITY COLLEGE HOSPITAL.

During the year 1895, 75 cases of diphtheria have been treated by antitoxin injection at University College Hospital. A very complete report of these cases is published in the *British Medical Journal* for January 25, 1896, by Sidney Marten and H. R. Smith.

Administration of antitoxin. In 74 of the cases the antitoxic serum was injected subcutaneously in doses of 10 c.c. (5 cases), of 15 c.c. (4 cases), of 20 c.c. (32 cases), of 25 c.c. (5 cases), of 30 to 35 c.c. (12 cases), of 40 c.c. (8 cases), of 60 c.c. (4 cases), and of 80 c.c. (4 cases). In one case the injection (10 c.c.) was made intravenously.

The serum used in all cases was supplied by the British Institute of Preventive Medicine. In 32 cases a rash followed injection of the serum.

In 70 out of the 75 cases a bacteriological examination was made. In

65 cases the bacillus diphtheriæ was found. In 62 of these the culture was in the great majority of cases, whether taken from the larynx or fauces, a mixed one containing a few colonies of diplococci, staphylococci, and streptococci. In five cases no bacilli were found.

The following table shows the mortality of the cases treated by anti-toxic serum as compared with that occurring in the four previous years (1891-94):

	1891.		1892.		1893.		1894.		1895.	
	No. of Cases.	Deaths.								
Pharyngeal Cases.										
Under 1 year.....	—	—	1	—	—	—	—	—	1	—
“ 2 years.....	2	1	2	—	4	2	1	1	9	4
“ 3 “.....	6	3	4	1	11	3	2	2	7	3
“ 4 “.....	4	—	—	—	6	1	2	2	4	1
“ 5 “.....	2	—	5	—	5	—	3	—	4	2
“ 6 “.....	1	—	4	1	4	—	1	—	5	1
“ 10 “.....	3	1	4	2	10	1	8	3	6	1
“ 15 “.....	8	1	3	—	5	—	6	—	3	—
Over 15 “.....	6	—	3	1	19	—	7	1	4	—
	32 6		35 5		64 7		30 9		45 11	
	18.7 p.c.		14.3 p.c.		10.9 p.c.		30 p.c.		24.4 p.c.	
Laryngeal Cases.										
Under 1 year.....	3	2	2	2	3	3	2	1	—	—
“ 2 years.....	4	3	7	4	5	4	5	4	8	3
“ 3 “.....	5	5	2	1	11	6	4	3	6	1
“ 4 “.....	4	3	5	3	6	5	6	2	3	2
“ 5 “.....	9	5	5	4	7	6	9	3	6	1
“ 6 “.....	4	3	2	1	2	2	6	3	3	2
“ 10 “.....	1	—	2	—	5	4	2	—	3	—
“ 15 “.....	—	—	—	—	—	—	—	—	3	—
Over 15 “.....	—	—	—	—	2	2	—	—	1	—
	30 21		25 15		41 32		34 16		30 10	
	70 p.c.		60 p.c.		73 p.c.		47 p.c.		33.3 p.c.	
Total mortality of all cases.....	41.9 p.c.		33.3 p.c.		37 p.c.		39 p.c.		28 p.c.	

Forty-six cases were admitted between the first and fourth days of the disease; 28 were admitted between the fifth and seventh days of the disease, and later.

CYSTITIS IN CHILDREN CAUSED BY THE BACTERIUM COLI COMMUNE.

Ten cases, all occurring in girls, are reported by Escherich (*Jarbuch Kinderheilkunde*, 1895), three following upper urethral inflammation. Four of the patients were from seven to nine years of age. The symptoms were present from five to eight days before treatment was com-

menced, and consisted of frequent urination, with slight burning and pain in the region of the bladder. The urine was scanty, and contained a copious sediment. The microscope showed pus cells, bladder and kidney epithelium. Cultures made from the fresh urine showed unmistakably the presence of bacterium coli.

BACTERIOLOGICAL EXAMINATION OF ONE THOUSAND CASES OF SUSPECTED DIPHThERIA.

The following analysis of results obtained from bacteriological examination of 1,000 consecutive specimens of suspected diphtheria received at the British Institute of Preventive Medicine is reported in the *British Medical Journal*, February 1, 1896, by Hewlett and Nolan.

In 25 cases out of the 1,000, no growth appeared on the surface of the blood serum.

In 600 cases notes have been kept as to the organisms present in the cultivations, and are set forth in the following table :

The following organisms were present alone or associated with the Bacillus Diphtheriæ.	Cases in which the Diphtheria Bacillus was present alone or associated with other organisms.	Cases in which the Diphtheria Bacillus was absent.
Bacillus diphtheriæ alone.....	216	Pseudo-Diphtheria 2
Streptococci.....	6	32
Micrococci.....	55	79
Bacilli.....	19	41
Torulæ.....	9	1
Sarcinæ.....	6	2
Streptococci and micrococci.....	2	23
Micrococci and bacilli.....	9	19
Streptococci and bacilli.....	1	5
Torulæ and bacilli.....	1	3
Sarcinæ and bacilli.....	0	3
Micrococci (including streptococci) and sarcinæ.....	6	8
Micrococci (including streptococci) and torulæ.....	4	14
Many forms present together.....	19	15
	353	247

These results are only approximate, as they are based on the more or less brief examination necessary to determine the presence or absence of the diphtheria bacillus, and no special pains were taken to observe all the organisms which might be present. It is noteworthy that the diphtheria bacillus was obtained practically in pure cultivation in no fewer than 216 out of the 353 cases in which it was found. In only six was it associated with the streptococcus alone, but too much stress must not be laid on this point, for in a number of instances the mode of transmission of the specimen was not favorable to the vitality of the streptococcus, and in others it was doubtless overlooked, or perhaps included among micrococci. All the forms of the diphtheria bacillus have been met with, but,

as we are alone concerned with the bacteriological examination, we are unable to throw any further light on their clinical significance, or on the import of the so-called pseudo-bacillus.

NON-INTERFERENCE IN ABSCESS OF CHRONIC TUBERCULOUS DISEASE OF THE JOINTS.

Dr. Newton M. Shaffer, before the New York Academy of Medicine (*New York Medical Journal*, February 29, 1896), presented the conservative side of this question recently. He claims that notwithstanding the advance which has been made since the introduction of aseptic surgery, yet that abscesses which form from tubercular disease of joints are better without interference, provided that good mechanical support is given to the diseased structures. He emphasizes the difference between acute and cold abscesses, pointing out that in the latter there is a distinct condition, having the bacillus of tuberculosis as its cause. There is no apparent heat, and the general temperature is normal or nearly so. Pathologically, it is not a pyogenic abscess. Ogston, Cheyne, Collins, Warren, Senn, and Dr. John Dane have proved that these abscesses are sometimes absolutely sterile. The fundamental principle of mechanical treatment in chronic tubercular joint disease is: "*Protection to the diseased part with the maintenance of functional activity of the other parts of the body.*" He presents an analysis of the statistics of thirty-five cases treated upon these principles in the New York Orthopædic Hospital, with the following summary:

Of the thirty-five patients (all the abscess cases which have occurred in the hospital for over four years) twenty-six remained under the care of the institution for a sufficient length of time to test the value of the plan of non-interference.

Of these twenty-six patients three had each two distinct abscesses, making twenty-nine abscesses treated in all. In two of the double-abscess cases there were large bilateral ilio-psoas abscesses, and it is worthy of note, especially in connection with the cases of S. W. and J. B., that absorption of the abscesses occurred in all these cases.

Of the twenty-nine abscesses, eight (27.58 per cent.) underwent complete absorption; nineteen (65.51 per cent.), after opening spontaneously, closed under simple external dressings in periods ranging from two to twenty-one months; and in two (6.89 per cent.) there are still small sinuses discharging a few drops daily.

Of the twenty-nine abscesses, 93.09 per cent. have either closed or been absorbed.

Of the remaining nine patients, one was removed by her mother after our efforts, up to the time of removal, had failed to produce an adequate

joint protection on account of the location of the abscess. In one instance the abscess was nearly well when the patient entered the wards.

In seven instances the patients either entered the wards with phthisis pulmonalis, or had multiple joint disease, or were removed from the care of the hospital while under active treatment. Of these seven, five died, and two have small sinuses which discharge slightly.

In conclusion, I desire to say two things: (1) None of these patients were selected, and none were declined, on account of their condition at the time of their application. (2) I hope that others who hold different views, and especially those who practise incision, etc., will make reports of entire unselected groups of patients with tuberculous abscess of the joints. We shall then have a basis for intelligent comparison.

TENDON TRANSPLANTATION IN THE TREATMENT OF PARALYTIC DEFORMITIES.

Dr. Goldthwaite (*Boston Medical and Surgical Journal*, January 9, 1896) discussed this subject and presented the results in several cases before the meeting of the American Orthopædic Association.

Probably the first operation of this kind was performed by Nicoladoni in 1881, who attached one of the peroneal tendons to the tendo-Achillis. The cases selected for the operation are those in which one group of muscles has been destroyed, leaving the antagonizing muscles little, if any, impaired. This condition, if not treated, results in a definite deformity simply from the muscular activity, and this becomes more marked as the age of the patient increases. Almost any joint may present deformity from this cause, but the most marked and the most frequently occurring cases are in the foot. Some of the active tendons in such a case will really do harm and not good, so that a greater gain is effected if the muscles that are thus active could be made to exert their power on a part of the extremity where they may aid in lessening the deformity. It is thus possible to furnish better mechanical attachments of the non-paralyzed muscles in the treatment of paralytic deformity. The best results are to be looked for in the cases in which one group of muscles is paralyzed, leaving the antagonizing group unimpaired. Four cases are reported after at least three months had elapsed since the operation. One case, that of an adult, after a lapse of more than a year. In all there was a marked improvement. In three cases the peroneus longus was attached to the tendo-Achillis, and the peroneus brevis to the flexor longus pollicis. In two cases the anterior tibial tendon was attached to the peroneus tertius. The tendons were attached by splitting one and drawing the other through this, and suturing them with quilted sutures.

SLIPPING PATELLA.

E. H. Bradford (*Boston Medical and Surgical Journal*, February 20, 1895). This affection has received but little attention in surgical literature, although it is not of great rarity, and may occasion much discomfort. The affection is more common in girls and women than in men or boys. It is accompanied, as a rule, by little pain, but by a great sense of discomfort. Occasionally some effusion follows an attack. The patella can usually be replaced by the patient with proper movements of the limbs, but this is sometimes accompanied by pain. Sometimes an anæsthetic is necessary, in order to reduce the dislocation. There is a sense of insecurity in walking which may amount to a distressing disability. The affection is due to a lack of tonicity of the extensor muscles, and a laxity of the internal lateral ligaments passing from the internal condyle to the patella, and connected closely with the capsule. Absence of the ridge between the outer condyle and the articulating surface of the patella does not appear to be a cause. The accident takes place when the limb is in a flexed position rather than when it is straight.

Mechanical devices for retention have not been accompanied by much success; besides, they tend to exert pressure and produce atrophy of the muscles. No cure can take place except through the development of the muscles or altering the strength or length of the ligament, and massage and electricity must be looked to as important aids.

Bajardi described an operation which he performed upon a congenital case in a child of four, by excising a semi-lunar piece of the internal capsule and suturing the cut edges. The patient is reported as cured. He has collected thirty-four cases, but none of these were operated upon. In a case reported, a healthy young lady who suffered from slipping patella after the age of thirteen, various methods of treatment had been thoroughly tried, such as gymnastics, massage, electricity, and various forms of apparatus, without satisfactory advantage. Both knees were operated upon, and a semi-lunar incision was made along the inner side of the knee, one-half inch anterior to the tubercle of the internal condyle. The upper end of the incision extended three inches upward, and the lower portion curved so as to pass from the ligamentum patellæ at its insertion on the tubercle. The ligamentum patellæ was found one-half inch lower on the left side than on the right. It was also thinner than normal. It was, therefore, divided by means of an oblique incision passing from without inward and downward. The ligament was seized with forceps, and the patella pulled to the side without opening the joint, the serous surface of the synovial sac not being interfered with. The divided portion of the outer tissue forming the capsule and containing the ligaments was drawn to the inner side and stitched one-half inch nearer to the condyle. The

cut ligamentum patellæ was also drawn downward and inward one-half inch lower and slightly below the top of the tubercle of the patella. On the right side the loose capsular tissue was folded upon itself, and a pleat sewed at the side, half way between the patella and the internal condyle. The limbs were secured in plaster of Paris dressings. After removal of dressings mechanical supports were employed. The patient was allowed, at first, to walk with crutches, legs being kept stiff for two months. Appliances were discarded on the right side three months after operation, and on the left side five months after operation. Ten months after operation the patient appeared entirely well, has improved in strength and agility, and has been entirely free from any slipping of either patella.

GYNÆCOLOGY.

IN CHARGE OF

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Lecturer in Gynæcology in the Women's Medical College; Gynæcologist St. John's Hospital, Toronto General Hospital, and St. Michael's Hospital.

ICHTHYOL IN GYNÆCOLOGY.

Dr. Malcolm Storer, after an extensive use of ichthyol, has reached the following conclusions :

“First : While ichthyol is by no means the gynæcological panacea that some observers have claimed it to be, still it has sufficient approved value to deserve a high place in our list of remedies.

“Second : While its chief action is to relieve pain, it does possess certain resorbent qualities which, in some cases, are relatively powerful.

“Third : That its use is unattended with danger and discomfort.

“Fourth : That it has not yet proved that it has any gynæcological value other than as a local application.”

“In my own observations, made mostly in the gynæcological department of the Polyclinic Hospital during the past eighteen months, I confess to considerable disappointment in the results, or rather lack of results, obtained from the use of this drug.—*American Gynecological and Obstetrical Journal.*”

THE SURGICAL TREATMENT OF RETRO-DEVIATIONS OF THE UTERUS.

Dr. Augustin H. Goelet, of New York, in a paper read before the New York State Medical Society (Albany, January 28, 1896), declares that displacements of the uterus are not accorded the consideration they deserve, and that the routine plan of inserting a pessary and dismissing the case from further attention is an error too often committed. He thinks the majority of cases, especially those of long standing, where structural changes have taken place in the walls of the organ, require surgical intervention for their cure. The pessary alone is never sufficient, except, perhaps, in very recent cases. The concomitant metritis and endometritis must be overcome before a radical cure can be effected.

After discussing the merits of Alexander's operation and the intraperitoneal methods of shortening the round ligaments, and vaginal fixation, he described an operation for retroflexion which he had employed with success for the past twelve years.

The Alexander operation, which is only applicable in movable retro-deviations, he thinks unnecessary. Its chief disadvantage is the time it requires and the prolonged convalescence it entails.

Intraperitoneal shortening of the round ligaments requires more time for its execution, and the convalescence is longer than suspensio-uteri, and the results have not been so good.

Vaginal fixation is objectionable because it substitutes a fixed ante-flexion for a movable posterior displacement. The recent unfavorable reports of complications during labor following it offer another very serious objection to this operation. The best evidence of its inefficiency is that its originator, Mackinrodt, has abandoned it.

Where the uterus is fixed by firm adhesions, the author advocates opening the abdomen by means of a small incision, breaking them up, and suspending the uterus by its posterior face from the anterior abdominal wall. This does not fix the organ as when ventro-fixation is done. In time the uterus recedes from the abdominal wall, close to which it is at first suspended, and swings in an easy position of nearly normal ante-flexion. This he prefers to ventro-fixation because the uterus occupies a nearly normal position and is fairly movable. Its execution consumes less time than intraperitoneal shortening of the round ligaments. The results have been very gratifying.

When the adhesions are not very firm or extensive, they are broken up by manipulations under anæsthesia without opening the peritoneal cavity, and the case is then treated in the same manner as when the organ is movable.

The method of procedure which he advocates in place of Alexander's operation in movable retro-deviations has this to recommend it, viz., that it aims at a cure of the co-existing metritis and endometritis, the maintaining cause of the displacement, and requires but a week's confinement in bed.

For retroversion he dilates the canal, cures and packs the cavity with iodoform gauze. The vagina is then tamponed with the same gauze in such a manner as to throw the uterus into a position of anteversion. This dressing is removed every day, the cavity washed out with a one per cent. solution of lysol, and it is reapplied. This is done for a week, during which time the patient is confined to bed. Then a vaginal pessary is fixed to hold the uterus in a correct position. The cavity is irrigated twice a week until a healthy endometrium is reproduced.

For retroflexion the same procedure is adopted, but, instead of packing the uterus with gauze, a straight glass drainage-stem is used, which serves the purpose of a splint and keeps the uterus straight. It is then maintained in a position of anteversion by means of vaginal tampons of iodoform gauze. The gauze tampon and stem are removed every day, the cavity is irrigated to remove retained clots and débris, and, after cleansing the stem, it is reinserted. At the end of a week the stem is removed, a vaginal pessary inserted, and the patient is permitted to get up.

The success which he has obtained with this method leads him to believe that the other more complicated and hazardous operations designed for movable retro-deviations are unnecessary.

Editorials.

ONTARIO MEDICAL COUNCIL.

WE desire to call the attention of our readers to a resolution passed by the London Medical Association, which we have much pleasure in publishing in this issue. It calls attention to the fact that the Medical Council of Ontario maintains an efficient standard in matters pertaining to the medical curriculum, provides for proper registration, and puts forth strenuous efforts to prevent quackery and charlatanism on the part of licentiates and others. It also urges the members of the profession to pay their annual assessment fees for maintenance. We are quite in sympathy with those who favor economy of the most rigid sort, but there are certain necessary expenses which, at the present time, cannot be paid by the fees collected from the students. It also calls attention to the fact that it is not fair that a certain proportion should pay their annual fees, while others who refuse to pay should be allowed to defy the council in this particular. We hope that the great mass of the profession in Ontario will pay their fees as soon as possible.

CIVIC HEROISM.

ABOUT eighteen years ago the late Dr. Richard Zimmerman, of Toronto, after performing a tracheotomy, sucked the matter through the tube. Fortunately, this rash act did no harm to the doctor; unfortunately, it did no good to the child. It is difficult to decide whether, under such circumstances, an operator is entitled to praise or censure, or whether he should have a little of both. A writer in the *British Medical Journal*, February 29, in referring to a somewhat similar case, under the above heading, "Civic Heroism," speaks very sensibly on the subject, and we give his article in full:

"Dr. Ernest Helby, resident medical officer at the Croydon Fever Hospital, has lately saved a child's life by sucking the diphtheritic membrane from its throat after tracheotomy; he caught the disease, suffered some paralysis, and was for a time in danger of death. We are happy to say that he has now, under the antitoxin treatment, made good progress

towards recovery. It is difficult to say the right thing when one hears another instance of this act of devotion ; proverbs and texts fight in one's mind against each other, and it is hard to venture to blame him at all, and hard to praise him without reserve ; but of one thing we are sure, that he deserves and has won the respect and admiration due to a man who is ready to lay down his life for a child. There is a story somewhere in history of a man who saved his country by methods of his own, which did not meet with the approval of the government, and we may say at once that it was not the Transvaal. The government crowned him, honored him, and gave him a triumphal procession, and then executed him for breaking the law of the land. We would mix a little reproach with a great deal of praise for Dr. Helby, and tell him that other lives as well as the child's life are bound up with his own, and we hope he tried suction with a syringe before he put his lips to the tube, and did all that was possible to avoid the danger of infection. But it is pleasant to stop our criticism at this point, and to assure him of our most sincere admiration of his absolute devotion of himself to save the life of a child."

THE OVERLAPPING OF SPECIALTIES.

IN the present age of rapid advancement in medical science, it is practically impossible for any one man to keep abreast of the times in all branches of the profession, and specialties are therefore a necessity. Yet it is a most difficult task to delimit any speciality too strictly.

We republish among our selected articles a clinic delivered by Dr. C. B. Kelsey, of New York, on "The Relation of Rectal Surgery to other Specialties." This clinic very ably demonstrates the great difficulty in the way of confining one strictly to a particular branch, especially when the diseases common to that part of the body are frequently occasioned by some pathological change in neighboring organs. An editorial in the *New York Medical Journal* so thoroughly meets our approval that we extract the following portion :

"Specialism itself, even when liberally defined, is to some extent objectionable ; it is accepted in large communities, where alone it is practicable, because of certain counterbalancing advantages. Certainly that spirit of rigid specialism which would set up the recto-vaginal septum, for example, as a barrier not to be crossed by either the gynecologist or the rectal surgeon can in no wise be defended. Indeed, it is doubtful if so extreme a view, however it may tickle the laity, is held by any member of the medical profession ; nevertheless, it is edifying to have the necessity of the overlapping of specialties so lucidly set forth as it has been done by Dr. Kelsey. The clinical basis, too, is the one proper foundation for such

an exposition, showing as it does how disease of a particular organ or area is prone to lead to disease, or at least to prominent manifestations of disease, in adjacent organs or areas, or those having intimate nervous connection with the seat of the original trouble.

“Dr. Kelsey, however, has dealt only with the relations between rectal surgery and that aspect of gynæcology which often involves abdominal section; but that alone is suggestive enough to call up in the mind of the reflective reader the numerous other like correlations of specialties, and the practical inference cannot fail to be drawn that, in order to practise a specialty with justice to one's patients and to one's self, one must have something more than a dim remembrance of such reflex symptoms and their significance as are exemplified by pain in the knee and hip-joint disease—one must recognize, and bear always in mind, that lesions which he may discover or think he discovers in the domain that forms the subject of his own special study are not necessarily all that he has to concern himself about in the task of restoring health. He should continually ask himself what may be wrong in other parts of the patient's organism and be contributing to give rise to the symptoms of which the patient complains, and, if reasonable probability of the existence of such a contributory source of trouble appears, proceed to ascertain what it is and whether or not it is within his power to remedy, or else to settle once for all that the probability is not a reality. Of course there are limitations to what can be expected of a practitioner in this way; everybody who is not an ophthalmologist, for example (except the neurologists, and perhaps the ‘refracting’ opticians), stops short at the eye, knowing how absolutely incompetent he is to examine that organ.

“There is nothing new in all this, nothing that well-trained practitioners of medicine have not always recognized; but it needs to be presented now and then to those who are inexperienced. Assuredly it is appreciated by the general practitioner, that real head of the medical profession. If he is of the right kind, he starts in practice, not with the conviction that he ‘knows it all,’ but feeling that, however carefully he has been taught, he has still to educate himself. He sees that the first thing for him to do is to acquire the power of perceiving when he is getting into water too deep for him—when, in other words, he should ask for a consultation. When he has ripened he will ask for few consultations, but will always consent to one, unnecessary as he may know it to be, when the specialty-struck patient or his friends suggest it. In short, he is, or ought to be, oftener called in consultation by the specialists than he finds himself inclined to call on them for aid.”

Meetings of Medical Societies.

TORONTO MEDICAL SOCIETY.

THE regular meeting of the above society was held on February 20, 1896; Dr. William Oldright, the president, in the chair.

POPLITEAL ANEURISM.

Dr. W. J. Wilson presented a patient with a healed popliteal aneurism. Occupation, plasterer. Syphilitic history. One day, while standing at work at his bench, he felt a pain behind the right knee, which greatly increased in severity, so that next morning he was unable to walk. A tumor appeared at the seat of the pain, with expansive movement. It grew to the size of a hen's egg. Compression failing to relieve the condition, the femoral artery was ligated in the apex of Scarpa's triangle. The tumor disappeared, and in three weeks the patient was walking about. This was twelve years since. No tumor could be detected, but the scar was very plain.

LUPUS.

Dr. F. N. G. Starr presented a boy suffering from lupus of the left cheek. It commenced two years previous by the appearance of a purple spot. Others appeared in numbers on the face and legs. The boy's history and appearance pointed to the tubercular diathesis. The spots vary in size from a grain of sago to a split bean. They are quite nodular on firm palpation. Some of them are covered with desquamated epithelium, and others depressed in the centre. None of them are apple-jelly in character. Small white nodules like bubbles of mucus are to be seen on the nasal septum, the tips of the inferior turbinated bones, the soft palate, and the epiglottis.

EMPYEMA FOLLOWING PNEUMONIA.

Dr. A. R. Gordon read the report of a case in which empyema followed an attack of pneumonia and pleurisy of the lower lobe of the right lung. The pneumonic attack subsided by lysis; treatment on the expectant plan having been followed. No expectorants or antipyretics were required. The pleuritic effusion increased after the subsidence of the acute attack. Aspiration on the twenty-fifth day revealed pus, eight ounces, withdrawn

with considerable relief. But again continuing to form, aspiration was again done, with a similar result. Incision and drainage were then tried with success. The day following this the abscess burst into a bronchus, and large quantities of pus were expectorated. Physical signs disappeared. On washing out the cavity with peroxide of hydrogen the patient was suddenly seized with severe pain in the hands. Pulse was 108; dropped to 90, 80, 70, and 58 in the five following minutes; then gradually rose to 72, and remained there. Respirations decreased in rate from 26 to 14, rising to 18 or 20. Tingling over the distribution of the ulnar nerve followed the subsidence of the pain. On exploring the wound a cavity the size of an orange was discovered. Healing took place, and the patient gained forty pounds in two months. For the loss of sensation and muscular atrophy massage and galvanism were given with good effect.

THE regular meeting of the Toronto Medical Society was held on February 27, 1896; Dr. William Oldright, the president, in the chair. The minutes of last meeting were read and adopted.

CARCINOMA OF THE LIVER.

Dr. Gilbert Gordon reported a case of carcinoma of the liver. The patient was an energetic, active business man, whom he treated first on the 27th of July for a pain between the ribs and the ilium, and for constipation. The *æces* were made up of small scybalous balls. The pain increased, and was accompanied with hæmorrhage from the rectum, which, it was thought, was probably due to piles. There was a certain amount of prolapse of the bowels. The condition was relieved by astringent enemata. On a careful examination made about the 1st of September, the liver was found to be noticeably large and it increased in size rapidly, and soon a nodular condition could be noted on palpation. Malignant disease was suspected. Several eminent men of the profession were consulted, but none of them thought it was cancer. One of the most marked symptoms was constant dryness of mouth and throat, which caused a great deal of discomfort and was difficult to treat. All sorts of washes were tried, but without effect. This condition was probably due to an accompanying gastritis. The pain, which was particularly severe on movement, was easily controlled by morphia. The dose at first was a quarter of a grain; the amount reached before death six grains per day. He was able to continue at his business till four weeks before death. Restlessness and irritability were prominent symptoms. There was no jaundice present, except a slight passing attack on one or two occasions. Towards the last œdema of the lower extremities and ascites were quite marked.

Dr. C. J. Hastings thought the clinical history pointed strongly to cancer. He asked what other diagnosis had been made.

Dr. McPhedran said the absence of jaundice was not a matter of surprise, as none of the nodules there, doubtless, was any obstruction to the ducts.

Dr. Anderson reported on the post-mortem condition. The liver weighed twelve pounds, and was studded with carcinomatous nodules, which had begun to degenerate. The primary focus was found in the rectum. There was there a lacerated surface which involved the whole thickness of the wall. There was no obstruction to the lumen, as the cancer had sloughed away as it grew, so that the tumor in the rectum seemed comparatively insignificant. Microscopical section showed it to be a malignant adenoma. The tubules were filled with epithelium, which in many spots had broken through the membrane.

Dr. C. J. Hastings presented a specimen of myxomatous degeneration of the placenta. He said an interesting feature of the case was the difficulty of diagnosis. She had been married a year and a half, and this was her first pregnancy. The patient had used all efforts to restore the menstrual function. About six weeks ago he was called in, the patient complaining of having a slight bloody discharge. She had been drugging herself without effect, and had introduced a catheter and injected water, which had given rise to severe pain; but this had subsided. On examination, no dilatation of the os was found; there was a slight sanguineous discharge. She was ordered to bed and given uterine sedatives. Patient was kept in bed four weeks, but at the end of this time the condition was not improved, and, as her general health was suffering, she was allowed to get up. As far as he could learn, there was no discharge from the cyst. She went on to the fifth month. The uterus did not seem any larger than one would expect to find in a case of normal pregnancy. On examination, the cervix was found to be dilating satisfactorily, and, as there was little or no hæmorrhage, the case was left to nature. After six hours of pretty severe labor pains the doctor introduced two fingers, getting the mass away. He could not discover the fetus. He called attention to the fact that this condition had been improperly referred to as a hydatid mole. It was generally agreed that the vesicles were formed from the chorionic villi which had undergone proliferation, followed by myxomatous degeneration. The cysts contained mucin, albumin, and salts. He called attention to the fact that they had been improperly compared to a bunch of grapes. The cysts, instead of each having a separate connection, were each attached to the other by a pedicle. The condition must, of necessity, occur during the first ten weeks of pregnancy; after that date the villi become vascular and the placenta definitely formed. The causation was on the maternal side. It occurred very rarely in primipara. In the case reported he thought, in the efforts to bring on the miscarriage, the

ovum had been disturbed, and that a subacute inflammatory condition had been brought about in the endometrium, or in the membranes of the ovum itself, giving rise to the slight discharge. The health of the patient was very good all the way through. There were no pains in the lumbar region.

Dr. Oldright reported having seen a specimen before which was contributed by Dr. Winstanley to the pathological museum of the Toronto University.

Dr. A. R. Pyne reported having had a case in practice, occurring about the fifth month, which was very similar to the one presented.

Dr. W. J. Wilson said that he had seen one which was very much easier to diagnose than the one reported. The uterus enlarged very rapidly. He did not remember finding any foetus. In that case there was no attempt at interference.

Dr. Edmund E. King gave a demonstration of the apparatus used in producing photographs by the "X" rays. He described how Professor Roentgen had accidentally discovered this method, and detailed the experimentation that followed it. Hertz and Leynard had, some three years ago, found that a sensitized plate was affected by rays coming through an aluminium window in a tube of high vacuum. The doctor referred to the various experiments that had been made in photographing various parts of the body, and spoke of the possibilities of the discovery. Experimentation for the time was checked by the scarcity of the Crookes tubes. He referred to the advance in the method that had been made in the University of Toronto by reducing the time of exposure to a few seconds by the use of a bell-jar.

PATHOLOGICAL SOCIETY OF TORONTO.

THE regular meeting of the Pathological Society of Toronto was held on Saturday, January 25, 1896. The following members were present: Drs. Carveth, Thistle, W. Oldright, H. Oldright, McKinnon (Guelph), Graham, W. J. Wilson, Peters, Primrose, Cameron, and Reeve.

Dr. H. H. Oldright read his paper on

CARCINOMA OF THE COLON,

and presented gross and microscopic specimens of the tumor.

The specimens which I present to-night are from a cancer of the descending colon at its junction with the sigmoid flexure, with secondary growths in the liver, and accompanied by purulent pylephlebitis. The subject had for years taken alcohol to excess.

Was seen for the first time by a medical man five days before death, during which time he had febrile disturbance, and collapsed presumably from perforation of the stomach.

Post-mortem examination showed extensive atheroma and calcification of the arteries.

There was a perforation of the duodenum, but no peritonitis.

Colon was constricted above the bend of the sigmoid flexure from an ulcerated growth which also involved a gland next it.

The liver was enlarged—weight about ten pounds—studded all over the surface with umbilicated cancer nodes varying in size.

Cut section shows the same thickly set nodes in various stages of formation and degeneration. Small collections of greenish pus in some branches of the portal vein.

Peri-bronchial gland enlarged and calcified, measuring $2 \times 1\frac{1}{2}$ inches.

Microscopic section of the growth from the colon shows that the mucosa has been almost entirely replaced by cylindrical cancer cells, arranged with more or less regularity in the form of acini, some having one lining layer of cells, others with cells in the lumen.

In the submucosa the stroma of spindle-shape connective tissue cells is replaced at places by rows of acini, cut either in the long or transverse diameters.

In one part are seen two vessels side by side, with the growth encroaching on the adventitia, about which there is an extravasation of red and white blood cells, and a process of cancer cells is passing down into the angle where the two circumferences meet.

On the free surface of the growth is a detritus of broken-down cancer cells, pus corpuscles, and fibrin.

The microscopic section of the liver shows the same formation of cylindrical cells arranged like the acini of glands as in the growth from the colon.

There is in parts some sclerosis in addition to the cancerous invasion.

The acini are in parts thickly crowded together, in others isolated. Surrounding some single acini is the normal parenchyma.

In other places the hepatic cells have been pressed on and destroyed, then replaced by strands of fibrous tissue, which surrounds the new growth elements.

In one part of the section the capsule of the liver has not been invaded; then as we follow along its border the invasion increases in extent, and the thinnest part is the bottom of an umbilication.

In the centre of this umbilicated node fatty degeneration of the cancer cells has occurred. On the slide with the section of the intestinal growth are also mounted sections of the spleen and heart, the latter showing brown atrophy in the muscle cells.

Dr. Thistle presented a microscopic slide from a case of carcinoma of the breast. He had removed the tumor with the axillary glands three

years ago, and, although the glands were extensively involved, there had been no return of the disease so far.

Dr. McKinnon, Guelph, showed a cyst which was removed from the abdominal cavity. It had a connection with the small intestine.

Dr. George A. Peters exhibited a section of nerve which had been divided three years ago.

DEGENERATION OF NERVES AFTER SECTION.

Dr. George A. Peters: The specimen is from a lad aged about 18, whose ulnar nerve was divided just above the annular ligament by an axe, some three years ago. There was complete paralysis of all the muscles of the hand supplied by that nerve, viz., the little finger group, the adductor pollicis and half the flexor brevis pollicis, the two inner lumbricales, and all the interossei. The characteristic deformity resulted, viz., extension of the first and flexion of the last two phalanges of the fingers, and fixed abduction of the thumb. Sensation was perfect over the posterior aspect of the little and ring fingers, the dorsal cutaneous branch of the ulnar being given off above the point of section; but in the palmar aspect sensation was absent over the ulnar side in the parts supplied by the ulnar nerve. On cutting down, in order to suture the nerve, it was found that the ends were separated laterally to the extent of about three-quarters of an inch, the tendon of the flexor carpi ulnaris being interposed between them. This tendon had evidently been partially divided, and the scar tissue formed in the healing of the wound had drawn it towards the radial side so that it quite overlapped the lower segment of the nerve. The lower end of the upper segment maintained its normal relations to this tendon. This segment was very much enlarged, a bulb about five-eighths of an inch in length and three-eighths of an inch in thickness being formed upon it. This bulb is found to be made up of fibrous tissue, with few or no nerve fibres.

The lower segment was very easy to find, and seemed to be of about normal size. It had, however, lost the somewhat translucent, lustrous appearance of a healthy nerve, and appeared of an opaque yellowish-white color and somewhat less firm character than normal. Section of this segment also shows fibrous degeneration and total absence of normal nerve fibres.

Authorities state that nerves begin to degenerate very soon after section. Conductivity is lowered by the middle of the first week, and is entirely abolished by the end of the second week, failing to respond to either the constant or the interrupted current.

Direct excitation of the muscle shows lowered irritability to both the voltaic and faradic currents during the first two weeks. Subsequent to

this time the muscles fail to respond to the faradic current, but their excitability to the constant current becomes excessive, and remains so for several months, disappearing altogether in a year or more.

Degeneration sets in in the peripheral end of a divided nerve about four days after its separation from the nervous centres. The nuclei of the primitive sheath of Schwann proliferate. The medullary sheath undergoes segmentation, then breaks up into globules, and disappears in about a month. The axis cylinder breaks up later, but disappears in a few weeks. In the central end the degeneration commences later, and extends only a short distance, usually to the first node of Rouvier.

Dr. Graham asked: Does the irritation arise from peripheral sensory nerve plates, the supply of the motor fibres being cut off?

Dr. Carveth cited a case of section of the sciatic where the nerve had decreased to half the size, union having taken place.

Dr. Peters, in reply, said the nuclei proliferate and maintain the bulk of the nerve, and the axis cylinder is formed from these nuclei. He mentioned a case of restoration in forty-eight hours, even after two and a half years' separation.

The brain requires re-education, showing that the axis cylinders do not join their proper ends.

Sensory nerves have wide terminal anastomoses, but motor nerves not so.

Dr. Cameron presented a tumor of the ovary, papillomatous in nature.

The meeting then adjourned.

LONDON MEDICAL ASSOCIATION.

COPY of a resolution passed at a regular meeting of the London Medical Association, February 10, 1896.

Moved by Dr. Ferguson, seconded by Dr. Arnott, and resolved:

That the London Medical Association recognizes the services rendered to the medical profession by the Council of the College of Physicians and Surgeons of Ontario, in maintaining an efficient standard of medical education for students, providing for the registration of licentiates, guarding the rights of registered practitioners, prosecuting unlicensed practitioners, and erasing the names of practitioners guilty of infamous or disgraceful conduct in a professional respect.

This association accordingly holds it to be the duty of every member of the College of Physicians and Surgeons of Ontario promptly and loyally to pay the annual assessment fee levied, in accordance with the

provisions of the Ontario Medical Act, for the maintenance of the general expenses of the college; and it is further claimed that members of the college taking exception to any of the administrative acts of the council should seek reforms by way of the medical electorate rather than by attempting to withhold the payment of assessments authorized by the statute and indispensable to the very existence of the council.

Yet this association begs to protest against by-law No. 69, passed by the council on the 25th of June, 1895, which suspends the penal clause of section 41 of the amended Medical Act for Ontario until June 1, 1896, and then to come into force only "in case a sufficient amount of dues is not paid in to cover the bank liability." This association submits that said qualification is grossly unjust to members of the profession who have paid or may pay their assessment prior to June 1, 1896, and affords a loophole to delinquents who are disposed to shirk payment of their fees. The association recommends the Ontario Medical Council either to rescind said clause of the by-law, or, otherwise, to furnish every member, on payment of his fee, a guarantee that no other member shall be permitted to escape payment of his legal indebtedness to the council.

And resolved, further, that a copy of these resolutions be forwarded to the Registrar and to the medical journals of the province.

Book Reviews.

THE PRINCIPLES OF SURGERY. By Nicholas Senn, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College; Professor of Surgery, Chicago Polyclinic; Attending Surgeon to Presbyterian Hospital, etc., etc. Illustrated by 178 engravings and colored plates. Philadelphia: The F. A. Davis Company. Toronto: A. P. Watts & Co.

We have had before us for some time the second edition of this most popular work. Dr. Senn undoubtedly found a vacant spot in medical literature, and supplied an elaborate treatise to fill it. That he was successful is shown by the necessity of a second edition, in which the subject is brought up to date. The principles of any branch of medicine are the essential foundation of accurate and thorough work, and should be mastered by all. The operative technique is a part of surgery that is easy of application when the principles have been thoroughly grounded. The mastery of the principles enables one to grasp difficult situations readily. We can most heartily recommend this work to the practitioner or student. The reading matter is written in an easy style, that adds much interest to the subject. This work is an intimate companion to the "Pathology and Surgical Treatment of Tumors," reviewed in the January issue of THE PRACTITIONER. The illustrations of the volume, though, cannot be as highly spoken of as the letter-press. It is, in our opinion, better to have fewer illustrations, admirably and accurately executed, than to have a greater number indifferently done. These remarks apply to a large proportion of the medical works now put forward. It is a work that the value of any library will be increased by possessing.

The following books and pamphlets have been received:

MOVABLE KIDNEY. By Charles P. Noble, M.D., Surgeon-in-Chief, Kensington Hospital for Women, Philadelphia. Reprinted from *Gaillard's Medical Journal*.

NEPHRITIS OF THE NEWLY BORN. An address delivered before the Medical Society of the District of Columbia, November 28, 1895. By A. Jacobi, M.D., New York. Reprinted from the *New York Medical Journal* for January 18, 1896.

A CONSIDERATION OF CERTAIN DOUBTFUL POINTS IN THE MANAGEMENT OF ABORTION. By Charles P. Noble, M.D., Surgeon-in-Chief, Kensington Hospital for Women, Philadelphia. Reprinted from the *Therapeutic Gazette*, January, 1896.

A CASE OF DERMOID TUMOR OF BOTH OVARIES COMPLICATED BY A DEPOSIT OF BONE UPON EACH SIDE OF THE TRUE PELVIS, HAVING NO CONNECTION WITH THE TUMORS. By Charles P. Noble, M.D., and Joseph P. Tunis, M.D. From the *American Journal of the Medical Sciences*, December, 1895.

DISEASES OF CHILDREN. By J. Lewis Smith, M.D., Clinical Professor of Diseases of Children in the Bellevue Hospital Medical College, New York. New eighth edition; revised and rewritten; in handsome octavo volume, 988 pages, 273 illustrations. Cloth, \$4.50; leather, \$5.50. Philadelphia: Lea Brothers & Co.

THE FUNCTIONAL EXAMINATION OF THE EYE. By J. Herbert Claiborne, Jr., M.D., Adjunct Professor of Ophthalmology in the New York Poly-clinic; Instructor in Ophthalmology, College of Physicians and Surgeons, New York; Assistant Surgeon to the New Amsterdam Eye and Ear Hospital; author of "Theory and Practice of the Ophthalmoscope." 100 pages, with 21 illustrations. Price, \$1. Philadelphia: The Edwards & Docker Co., 518 and 520 Minor street.

SYPHILIS IN THE MIDDLE AGES AND IN MODERN TIMES. By Dr. F. Buret, Paris, France. Translated from the French, with notes by A. H. Ohmann-Dumèsnil, M.D., Professor of Dermatology and Syphilology in the Marion Sims College of Medicine; Consulting Dermatologist to the St. Louis City Hospital, to the St. Louis Female Hospital; Physician for Cutaneous Diseases to the Alexian Brothers' Hospital; Dermatologist to Pius Hospital, to the Rebekah Hospital, to the St. Louis Polyclinic and Emergency Hospital, etc., etc. Being Volumes II. and III. of "Syphilis To-Day and Among the Ancients," complete in three volumes. 12mo, 300 pages. Extra cloth, \$1.50 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street.

Medical Items.

DR. W. W. JAGGARD, of Chicago, died in that city of appendicitis on January 30.

VIRCHOW DECORATED.—The decoration of Commander of the Legion of Honor has been conferred upon Virchow by the President of the French Republic.

W. B. MCKECHNIE, M.B., and Thos. W. Jeffs, M.B., of the Toronto University class of 1895, have recently passed the British Columbia Medical Council examinations, and have located in the Pacific province.

TO KEEP HORSES FROM BALLING.—Many of our readers, compelled at this season to drive over snowy roads, will be glad to learn that when glycerin is applied to the soles of the horses' hoofs "balling" is effectually prevented.—*New York Medical Record.*

A DIFFERENCE.—Criticus: "I don't believe there's much difference between genius and insanity."

Struggling Author: "Oh, yes, there is; the lunatic is at least sure of his board and clothes."—*Tit-Bits.*

A SPECIFIC FOR HEADACHE.—In Paris a new novel entitled "A Victim of the Guillotine" is all the rage just now. It is advertised on large posters at the street corners. By a singular chance one of these posters was partially covered by the advertisement of some patent medicine, which made it read as follows: "A Victim of the Guillotine—no more headaches."

DR. A. F. A. KING has resigned from the staff of the Columbia Hospital in Washington because he would not countenance the unjust treatment of a member of the staff by a lay member of the board of directors. Dr. King's course, says the correspondent of the *Journal of the American Medical Association*, is cordially appreciated by the members of the medical profession in Washington.—*New York Medical Record.*

OUR friend Dr. John Campbell, formerly of Seaforth, and well known for many years as an active worker in the Huron, Ontario, and Canadian Medical Associations, is now practising in Brooklyn, N.Y., and we are glad to learn that his prospects are very bright—in fact, he is already doing a good practice, having bought the residence and good will of Dr. J. A. McLeod, 669 Leonard street. Dr. Campbell graduated in McGill in 1869, and became L.R.C.P. & S. Edin. in 1882. Since leaving Canada he passed the examination of the State

Board of New York State. His many friends in Canada, who regret his departure from this country, will be glad to hear of continued success in his new field of work.

PHYSIOLOGY.—The following composition by a twelve-year-old schoolboy was the cause of his being recommended to take a special course in physiology the next term. The theme given him was "Breath." "Breath is made of air. We always breathe with our lungs, and sometimes with our livers, except at night, when our breath keeps life going through our noses while we are asleep. If it wasn't for our breath, we should die whenever we slept. Boys that stay in a room all day should not breathe; they should wait till they get outdoors. For a lot of boys staying in a room make carbonic acid, and carbonic acid is more poisonous than mad dogs; though not just the same way. It does not bite; but that does not matter as long as it kills you."—*Bristol Medico-Chirurgical Journal*.

TO ABOLISH THE OFFICE OF CORONER.—A bill has been prepared under the auspices of the Medical Society of the State of New York abolishing the office of coroner when the present terms of those holding the office shall have expired. It will be presented to the State legislature without delay, and provides for the appointment by the appellate divisions of the Supreme Court of medical examiners and assistant medical examiners, four in each class, two of whom shall be an expert pathologist and an expert chemist respectively. The salaries of the principals are not to exceed \$5,000 yearly, paid by the State, while the counties in the different appellate divisions of the Supreme Court throughout the State pay the assistant examiners. The examiners and their assistants are to have all the power and privileges which are granted to the present coroners.—*New York Medical Record*.

PULMONARY HOSPITAL.—Notice has been given of an application to Parliament for an act to incorporate "The National Sanitarium Association," with power to establish, equip, maintain, and conduct, in such place or places within the Dominion of Canada as may be decided upon, a public institution, or institutions, for the isolation, treatment, and cure of persons affected with pulmonary disease. Applicants: Hart Almiron Massey, Toronto, manufacturer; Sir Donald Smith, K.C.M.G., Montreal; William James Gage, Toronto, publisher; James Ross, Montreal, railway contractor; Hon. Mr. Meredith, Chief Justice of the Common Pleas Division of the High Court of Justice; George Albertus Cox; George Washington Ross, Minister of Education for the Province of Ontario; Edward Gurney, manufacturer; Hugh Blain, merchant; Newton Albert Powell, physician; and Daniel Edward Thomson; all of Toronto.

STARVATION AMONG PARIS PHYSICIANS.—We learn from the Paris correspondent of the *British Medical Journal* that Dr. Langlard, after fifty years of honorable practice, found no other way of escaping starvation than suicide. It is estimated that there are twenty-five hundred medical men battling with starvation, borne down by heavy rent and taxes. Year by year the number of medical men increases, while, owing to the progress of hygienic science, and

still more to the disastrous competition of the hospital out-patient rooms and private gratuitous clinics, the number of patients decreases. It is the doctors themselves, says M. Lutaud, who have created their own misfortunes. They have taught lady patronesses of different societies to diagnose diseases, to dress and bandage wounds, to vaccinate their own children and those of their neighbors. Medical science is vulgarized in every way. Doctors write in important daily papers explaining how bronchitis and cramps of the stomach are to be cured, and in fashion journals they teach how to cure pimples and avert headaches. Furthermore, they have urged that hospital treatment be paid at the rate of 4s. 2d. per day; the middle classes profit by this tariff to become hospital patients, their conscience at ease since they pay. Five hundred thousand gratuitous consultations are given yearly in Paris dispensaries, and in this way a large amount of fees is diverted from the medical profession. M. Lutaud includes in his indictment the Associations des Dames, more or less patriotic, which send forth thousands of women who, because they have attended a few medical lectures and walked the hospitals for a few weeks, believe themselves to be something very like doctors, and treat their families and friends. This school of medical half-knowledge has been created and kept going by medical men, who are now being crushed by the work of their own hands.—*Medical Record.*

THE MORISON LECTURES, EDINBURGH.—The first of the series of six Morison lectures on "Nerve Tracts and Connections of the Special Nerves in the Spinal Cord. Mid and Hind Brain," was given at the Royal College of Physicians, on February 7, by Dr. Alexander Bruce, the lecturer for the current year. He discussed the entry of the posterior roots into the cord, their division, subdivision, and distribution as seen on transverse section; the formation of the postero-median column, and its constant relation of shape to the level of the cord; the relative positions of the long fibres of the various nerve roots within the postero-median column; the relative positions in the postero-external column of the entering fibres from the cervical and dorsal region; the analogy between the postero-median and postero-external columns, both containing fibres of long and also of shorter paths, but differing in the nuclei in which they terminate, and in the spinal nerve roots from which they arise; the descending fibres of the posterior roots occupying, in the cervical region, the comma-shaped area of Schultze, but in the lumbar region being much more diffused over the posterior column, and forming also a special tract, near the posterior median fissure in the "oval field of Flechsig." There was a very large attendance, including a number of ladies. The lecture was fully illustrated by magnified microscopic specimens and diagrams.

A NAVAL SCANDAL.

The Practitioner rejoices that Mr. Labouchere, that doughty champion of victims of the oppressor's wrong or the insolence of office, has entered the lists on behalf of Mr. Francis J. Lea, late surgeon in the Royal Navy, who was last May dismissed the service by the sentence of a court-martial. Mr. Lea has

been very badly used by the naval authorities for conduct which should have earned him their thanks. Briefly, the facts are as follows : Surgeon Lea, an old University College man, who entered the service in 1883, was appointed to H.M.S. *Ringarooma* on May 9th. On joining he received a hint from the surgeon whose place he was taking that the captain was of "strange temperament." Mr. Lea soon found that his superior officer's eccentricities were the talk of the ship. The captain had exalted ideas about his own powers and accomplishments, and in August, 1894, ran his ship aground on a coral reef, apparently owing to his wish to display his skill with the gun. Mr. Lea's uneasiness about him was increased by the discovery that a brother of his had been the inmate of an asylum near Sydney for more than twenty years. Mr. Lea consulted his colleagues in the other ships on the station as the opportunity arose, and they agreed in advising that if the captain got worse he should be sent to a hospital on shore, in order that his condition might be further investigated. As graver symptoms developed, Mr. Lea became more and more concerned about his patient. The crisis came on April 17th, 1895, when the *Ringarooma* was getting ready for sea ; on that day the captain, who was in an extremely excited state, gave Surgeon Lea an order to fix, with his own hands, a table which it took two strong men to lift, and four to place in position. Mr. Lea respectfully asked to have this extraordinary order given in writing. The *Ringarooma* was to proceed to sea on the following day, and Surgeon Lea, feeling strongly that the safety of the ship and the lives of the crew would be in danger if commanded by an officer in such a condition, felt it his duty to place the captain on the sick list. The captain refused to submit to this, and placed the surgeon under arrest. Mr. Lea was then tried by court-martial on a charge of "insubordination and contempt." The court ruled out all evidence relating to the captain's state of health as irrelevant, and treated the case solely as a matter of discipline. The result was that an officer of unblemished record, who was within a few months of completing a period of twelve years' service that would have entitled him to a gratuity of £1,500, was put ashore at Sydney to find his way home as best he could. The finding of the court-martial excited the greatest indignation in Australia, where the facts of the case were well known. A handsome subscription was got up by the medical profession to enable Mr. Lea to come home and try to get justice, and the New South Wales Branch of the British Medical Association passed a resolution of sympathy with him ; its honorary secretary, Dr. Ralston Huxtable, further conveyed to him the opinion of the Council that the course of procedure adopted by the court-martial was such as to deny him a fair trial on the real issues involved. This opinion will, I feel convinced, be shared by every reasonable man except certain martinets whose one idea of naval military administration is embodied in Mr. Bagnet's maxim, "Discipline must be maintained." The principle is sound enough, no doubt, but its application must be controlled by common sense, otherwise it is apt to become a screen for official tyranny and injustice. By refusing to receive evidence as to the captain's state of health, the court simply ignored the vital issue in the case they had to try. Justice is proverbially blind, but it is to be hoped that she does not often wilfully shut her eyes in this amazing fashion. The Admiralty

adopted the same policy, and in answer to a question by Mr. Henniker Heaton, in the House of Commons, Mr. Goschen implied that there were no grounds for believing that the captain was in a state of health that made him unfit to be in command of one of Her Majesty's ships. The First Lord of the Admiralty added that Mr. Lea should have asked counsel of the medical officers of the other ships on the station. Mr. Goschen ought to have known that this is just what Mr. Lea tried to do, but when, at his invitation, his colleagues came on board, they were not allowed to see him. It is a highly suggestive coincidence that a full statement of the medical aspects of the case was, for the first time, laid before the First Lord of the Admiralty on October 9th, and that among the Admiralty appointments in the *Times* of November 4th that of a new captain to the *Ringarooma* should be announced. The significance of this announcement lies in the fact that in the ordinary course the term of the captain's command would not have expired till the end of January. The matter cannot rest here. Englishmen boast that they love fair play, and Mr. Lea has not had fair play. Placed in a position of extraordinary difficulty, for which there seems to be no distinct provision in the Queen's regulations, this young officer did what he conscientiously believed to be his duty. By so doing it is not unlikely that he may have averted a terrible catastrophe. If he did wrong at all, the very height and front of his offending was an error of judgment which might fairly be imputed, not to an insubordinate temper, but to his anxiety about the welfare of his patient and the safety of the crew of which he was in medical charge. The Admiralty would be well advised, for their own sake, to reinstate Mr. Lea, for it is certain that if they do not do so the whole discreditable business will be exposed in Parliament.

 OBITUARY.

We regret to have to record the death of Mr. A. T. Collum, M.B., F.R.C.S., Assistant-Surgeon to Charing Cross Hospital, which occurred on Wednesday afternoon at this hospital after a brief illness from an obscure form of septicæmia. He was a young surgeon of brilliant promise, being not only an admirable operator, but very successful and popular as a teacher.

TIMOTHY E. POMEROY, M.A., M.D.—Dr. T. E. Pomeroy, of Tweed, county of Hastings, died twelve hours after an attack of apoplexy, January 5, 1896, at the age of 70. He received his degree of M.D. from Castleton Medical College in 1860, and that of M.A. from the American University of Philadelphia in 1868. He practised medicine in the village of Tweed for about thirty years, and was highly successful, financially and otherwise. He was for many years surgeon to the 4th Battalion, Hastings Militia.

ALBERT EDWARD YELLAND, M.D., M.C.—Dr. Yelland was a clever and promising young physician of Peterborough. He graduated in 1887 in Trinity University, after having completed his course of four years in Trinity Medical College. He was attacked by severe pain, due to appendicitis, on Friday, February 21. Dr. Jas. F. W. Ross, of Toronto, on receipt of a telegram on Friday, went to Peterborough, Saturday evening, and operated during the night.

He seemed somewhat better for a time, but a change for the worse took place on Monday, after which he sank rapidly, and died early on Wednesday morning, February 26, aged 31.

HERBERT JAMES SAUNDERS, M.D., M.R.C.S. ENG.—We have no words to express our regrets concerning the untimely death of Dr. Herbert Saunders, of Kingston, which occurred February 19, 1896, after an illness of nearly seven weeks. He first contracted septic pharyngitis and laryngitis, with which was associated œdema of the larynx. He suffered greatly for two or three days, after which a marked improvement of his condition occurred. His friends hoped that all danger was passed; but, unfortunately, pneumonia developed. At this stage Dr. J. E. Graham, of Toronto, was called to consult with his medical advisers. For a time only one lung was involved, but the other one was soon invaded, and all hope was gone.

Dr. Saunders was born in London, England, in 1847, but came to Canada when a lad with his father, who was a Church of England clergyman. He attended Queen's College, and graduated in medicine in 1869. He then went to England, and got his M.R.C.S. in 1870. He practised for a time in Deseronto, and then in Montreal. After remaining a short time in the latter city he returned to Kingston, where he entered into partnership with Dr. Yates. He was Professor of Medical Jurisprudence in Queen's for about ten years, but last year was appointed Professor of Clinical Medicine. He was decidedly one of the best sort—an honest man, a cultured gentleman, a very able, practical, and scientific physician. This country possesses few such men. In fact, his type is not common in any country. His death means a sad loss for Kingston, a sad loss for Canada. What does it mean for his widow and eight children who survive?

LAUGHLIN MCFARLANE, M.D.—When I first met Laughlin McFarlane, about thirty years ago, he was a student in the Toronto School of Medicine. Among his most intimate associates were J. H. Newton (deceased), Friend Eccles, of London, and George Wright (deceased). They frequently had "grinds," and I (then an arts student) happened to be present at some of them. I cared but little for the exhibitions of medical lore, but I enjoyed greatly the free and easy talks which ensued after they had *knocked out* anatomy and physiology. McFarlane was one of the best students in the school, and he, Eccles, Sparks, Palmer, Harbottle, and Newton were the medallists in the graduating class of 1867. Dr. McFarlane had left his father's house when a lad of thirteen, and for some time was engaged as a clerk in a store in the township of Caledon, where his relatives lived. He, at the same time, pursued a course of studies with a view of preparing for teaching. When eighteen years of age he took charge of a public school in Caledon, and conducted it with success for a number of years. He saved more than enough, while teaching, to carry him through his course in medicine. While he had charge of his school he was continuously reading, and when he decided to study medicine he had sufficient knowledge to fulfil the requirements for matriculation in all the subjects excepting Latin. He came to Toronto six weeks before the examination for matriculation in the University of Toronto took place, and studied Latin with a blind

old man of St. John's Ward (I forget his name) as his tutor. After this short preparation he went to the examination with considerable fear and trembling ; but, to his surprise, passed with good standing. His career, as a student, was somewhat uneventful. He was studious and well liked by his fellow-students. After graduating he had a few hundred dollars left, and decided to settle in Toronto. There was nothing startling about his success in his early career as a physician. In his first six months he made in cash exactly five dollars. In the summer of 1869 practice was quiet with him and his friend George Wright ; and the two decided to take a course in the military school which then existed in Toronto. The principal inducement was the bonus of fifty dollars given to each successful graduate. Their uniform—a scarlet serge tunic (I think that was the name of the unsightly smock or jacket), blue serge trousers, and a little cap—was not specially becoming ; but showed their figures, which were somewhat similar, fairly well. Their success was not at all brilliant, but they managed to submit to the bullying of the sergeant-major as they passed through the "goose step" and other stages of their course with perspirations and groans, and finally graduated in eleven weeks. Their martial ardor was somewhat limited at the time of graduating, and I never heard of them indulging in any military pursuits afterwards.

In 1871 I had a conversation with Dr. McFarlane in his office. He had just gone over his books, and found that his practice was worth something like nine hundred dollars a year. That was to him a large sum at that time. He bought a horse and carriage, and was a proud man when he commenced to drive his not very fiery steed in his daily rounds. That horse, however—and he was not very much of a horse either—appeared to bring him luck. His fierce struggle was over—practice increased rapidly—and he soon had all the work he could possibly attend to. He became, almost suddenly, one of the most busy practitioners in Toronto. A fair idea of the enormous practice which he did may be obtained from the fact that he sometimes attended more than three hundred obstetrical cases in a year. In the year 1869 he was appointed one of the demonstrators of anatomy in the Toronto School of Medicine. He was appointed a member of the visiting staff of the Toronto General Hospital in 1881, and very soon came into prominence as a clinical teacher of surgery. When the Medical Faculty of the University of Toronto was re-established in 1887, he was appointed professor of clinical surgery in that institution, and held that position until the time of his death. He was a member of the Senate of the University of Toronto for about twenty-three years. He was honored in many other ways by his brethren in the profession. He at various times occupied the position of president of local medical societies, and, in 1894, was president of the Ontario Medical Association. His conduct in the chair at that meeting was able, judicious, and impartial.

The career of Dr. McFarlane furnishes a striking example of the possibilities for success which are open to any poor but worthy boy. He fought the world, single-handed, for many years with heroic courage, and swept aside all obstacles that were thrown in his way. A friendless youth from rugged and hilly Caledon came to Toronto, acquired his profession, attained signal success, and received the highest honors which are open to medical practitioners.

Generally speaking, he was a man of peace, but he did not shrink from war if opponents endeavored to injure him, or oppose his methods. He always had the courage of his convictions, and feared no man. When forced into anything like a contest he always supported his friends in a loyal way, and never used any but the most straightforward methods in hitting his opponents. In private practice he always exhibited singularly good judgment. He had faith in therapeutics, but was inclined to be conservative. He gained the confidence and love of his patients. He never boasted of his kindness to the worthy poor, but those who knew him best can testify to the many charitable acts which he performed in the most unostentatious manner. The inner side of Dr. McFarlane was singularly good; and that his intimate friends well knew. In social life, poor, dear "old Mack," as he was frequently called, was genial, overflowing with fun, and, at the same time, kindly and sympathetic. How much we will miss him none can tell. We can scarcely realize yet that he is gone. Of his lonely, childless widow I will say nothing, excepting that in the midst of the appalling circumstances connected with the great disaster of her life she had a very lively appreciation of the kindness shown by friends to her dying husband, and a very deep feeling of gratitude for the numerous and graceful tributes to his memory which have flowed in like a mighty river since his death.

He was fifty-six years, and had generally been healthy. In 1891 he received a compound fracture of his leg in New York on his return from an extended trip in Europe. There was considerable delay in union, and he was always lame, to some extent, afterwards. In 1892 he had a severe attack of la grippe, from which he never entirely recovered. Since that time he suffered during the winter months from occasional attacks of pains in his extremities, which he always called his "grippe pains." These were sometimes so severe during the past winter that he seriously contemplated spending the latter half of it in a warmer climate. His last illness (the particulars of which are given elsewhere) caused a profound sensation in Toronto. He himself and those in attendance appreciated the gravity of the case from the first appearance of symptoms, and a strong fight was made against the enemy. The contest, however, was a short one, and the enemy prevailed. His death brought out very prominently the fact that his friends were not confined to any class or school. The outside profession, the "school men," and the students of Trinity and Toronto alike, all united in honoring his memory. The great kindness and consideration of Trinity faculty and Trinity students were especially pleasing to those who loved McFarlane—including the students and members of his own faculty. In accordance with a general request, the remains were on view for a greater portion of the day on which the funeral took place. There was a constant stream of people passing in front of the house. I watched the procession for a long time with great interest, until I could bear no more of it. Old men and old women who could scarcely climb the steps—young men and young women—boys and girls—all sorts and conditions—came, not from idle curiosity, but evidently to say their last silent good-by. The tear of one, the sob of another, the sigh of another, the evident heartfelt grief of one and all, showed that each one felt that he or she had lost a good friend. As I gazed on that sorrowful crowd, most of whom were unknown to me, I wondered what

he had done to make so many tears flow. I do not know. I am afraid none of us has any adequate conception of how much good that hot-headed, hard-headed, big-hearted Canadian Scotchman did in the fair city of Toronto.

A.H.W.

HISTORY OF DR. M'FARLANE'S ILLNESS.

On Friday, February 21, at 3 p.m., Dr. McFarlane was operating on a patient in the Toronto General Hospital. The case was one of gangrene of the toes from frost-bite, and amputation of certain of the toes was performed. Whilst inserting the sutures, Dr. McFarlane ran a needle into the palmar aspect of the terminal phalanx of his left index finger with considerable force, the needle reaching the bone. He washed his finger carefully in carbolic lotion.

There was no pain or uneasiness in the finger until the following morning (Saturday, February 22). The pain in the early morning was considerable, and he also complained of severe pain in the limbs; he took a dose of morphia, and subsequently went about as usual visiting his patients. He returned home at midday, and then complained of increased pain in the finger; this grew more severe, and early in the afternoon he was suffering greatly. He now complained of pain throughout the body generally, but particularly in the lower extremities and in the back; at 3 p.m. he was suffering agony, the pain in the limbs far exceeding that in the injured finger; gr. $\frac{3}{8}$ morphia was administered hypodermically. The temperature at this time was normal. Under cocaine the palmar aspect of the index finger, which was slightly swollen, was incised with four parallel incisions down to the bone; there was scarcely any bleeding from the cuts; there appeared to be almost complete stasis of the circulation. The hand and forearm presented no swelling, but tenderness was noted on the extensor aspect as high as the middle of the forearm. The arm was placed in a carbolic bath (1-50). The pain in the limbs returned at night, and gr. $\frac{3}{8}$ morphia was administered at 10.45 p.m. The temperature at midnight was 103° ; pulse 114. The bath was kept warm, and iodine was used alternately with the carbolic acid.

In the morning (Sunday, February 23), the index finger was black and gangrenous up to the second joint; the back of the hand was somewhat swollen, and was very tender to the touch. Under cocaine some five or six parallel incisions were made in this region; some large veins bled freely, but the tissues presented a choked condition on section, having a gelatinous appearance. He had some slight tenderness over the back of the forearm and a little tenderness over the inner side of the arm, about three inches above the elbow-joint; this latter was attributed to the pressure of the arm upon the edge of the bath. His general condition excited alarm; his temperature at noon was 102° , pulse 115. His complexion was somewhat dusky, and he appeared a little flighty at times when conversing with one. Towards evening, however, he seemed decidedly better. The temperature at 8 p.m. was $100\frac{2}{3}^{\circ}$, and pulse 109. He had been troubled somewhat during the day with nausea.

On Monday, February 24, the tenderness had increased considerably on the back of the forearm. Ether was administered, and some twelve or fifteen incisions, each from $1\frac{1}{2}$ to 2 inches in length, were made over the back of the forearm; the incisions were carried down to the deep fascia; the same choked,

gelatinous condition of the tissues was found. A portion of this tissue was removed for the purpose of a bacteriological examination; cultures were made, and were found to consist of streptococcus pyogenes and staphylococcus pyogenes albus. Improvement again followed operation, and the temperature at 1.40 p.m. was $98\frac{1}{2}^{\circ}$; the pulse, however, was 104. Nausea, continued more or less all day, despite all efforts made to control it.

Tuesday, February 25. The tender spot on the inner side of the arm above the elbow was found to be hard and brawny. Ether was administered, and several parallel incisions were made into this; the tissues presented the same gelatinous appearance. The nausea, from which he had been free for some hours previous to the operation, returned after the administration of the ether. Towards midnight hiccough began, and became troublesome. Morphia was administered and he fell asleep, but the hiccough continued during sleep nearly all night long.

Wednesday, February 26. At 7.20 a.m., the temperature was $103\frac{1}{2}^{\circ}$; pulse 116. The hiccough ceased about 9 o'clock, and during the remainder of the day he was almost entirely free from it. He expressed himself as feeling better, and his attendants thought his condition decidedly improved. In the evening his temperature was 102° , pulse 116. Towards midnight, however, the hiccough returned; he was delirious at times, and became restless. He had a dusky complexion, and his pulse was 120, very compressible; respiration 24. The hiccough kept up all night long.

Thursday, February 27. The hiccough was very distressing for the greater part of the day; pulse very weak; he perspired very freely. Towards evening he was quite delirious, but he could be roused when spoken to, and would answer questions rationally. The wounds have shown no reaction whatever since incision. To-day, however, there was an angry red edge about each incision, presenting a very unhealthy appearance; there was no indication whatever of suppuration. Throughout there had been no recognizable affection of the lymphatic glands. The hiccough continued almost constantly.

Friday, February 28. The pulse this morning was very weak, and was 140 per minute; the hiccough was most distressing and constant. At midday 200 of Edson's aseptolin were injected, with no appreciable effect. He had taken nourishment fairly well throughout his illness, and the bowels had been kept fully active by the administration of purgatives. Towards night the pulse increased in frequency, running as high as 152, and was very weak; the hands and feet became cold. He was delirious, and was continually muttering and talking in an incoherent manner. Towards midnight he became very restless; he could be roused, however, when spoken to, and recognized his friends. Morphia was administered, and he then became quiet; the hiccough was not so constant. He gradually became weaker, the respirations became irregular, and he died on Saturday morning, February 29, at 6.20 a.m.