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THE RELATION OF THORACIC TYPE TO LUNG CAPACITY.

BY

R. TAIT MCKENZIE, M.D.

Senior Demonstrator of Anatomy, Medical Director of Physical Training, McGill University, Lecturer in Artistic Anatomy, Art Association, Montreal.

The continual repetition in daily conversation of such terms as "broad-chested," "deep-chested" and their opposites, "narrow, flat or hollow-chested," brings forcibly to mind the importance of the shape and carriage of the thorax in our estimate of the human figure.

While the muscular development has something to do with the outward appearance of the chest wall, it is upon the configuration of the ribs and sternum, and the curvature of the spinal column, that the real type of the thorax must be based. There are infinite varieties and individual peculiarities to be found in the course of a large number of examinations; still, for the purpose of this paper I would direct attention to two well marked types (1) the broad and flat thorax, that, looked upon amongst athletes as characteristic of the vaulter, jumper and hurdler; and (2) the round, barrel shaped thorax that is found in the wrestler, swimmer and fighter.

These two kinds of thorax insensibly merge, and one finds in a large number of individuals many who occupy a sort of middle ground, but the great difference that is commonly found can be well shown diagramatically in two typical cases, taking the breadth and depth as sides of a rectangular figure.

In one case the depth exceeds the average by 1.1 inches, and the breadth falls below the average by .5. In the other, the depth falls 1.4 below the average, and the breadth exceeds it by 1.1. These two examples may be taken as fair representatives of the two types under discussion, and the capacities 260 and 265 cubic inches are about the same.

The estimation of the part played in respiration by the various muscles has enjoyed the attention of anatomists from the earliest times; even before the time of Galen it was discussed, and the action of the diaphragm was fairly well understood.

Galen himself made a long series of experiments on animals, in some of which he cut the nerves to the intercostals, cutting through pectorals, serrati and scaleni, and concluded that this great muscle pulled the lower ribs upward and outward. Vesalius, who usually lost no opportunity of combatting any view of Galen, admitted this action, and called it a muscle of inspiration, but claimed that in this part of the respiratory cycle it went up into the thorax and pulled the ribs up with it. His own words are, "the movement of elevation and expansion of the diaphragm is so evident in vivisection, that the muscle pulls itself up into the cavity of the thorax and draws after it the liver and the stomach."

The true mechanics of the diaphragm were worked out by Duchenne of Boulogne, who by electrical stimulation of the phrenic nerves in the neck showed its action to be the raising upward and outward of the lower ribs and the lowering of the thoracic floor, increasing its lateral diameter to a very considerable extent, and its antero-posterior diameter but very slightly. He found that if the animal were eviscerated the muscle pulled the ribs downward and inward, and hence he concluded, that the abdominal viscera give a solid point d'appui for its action in raising the ribs in inspiration. Beau and Massenet had previously concluded that the pericardium furnished the fixed point for this action of the diaphragm on the lower ribs.

The elevation and outward rotation of the upper ribs as proved by Duchenne's experiments, is due to the action of the intercostal muscles both acting in inspiration, and each pair acting on the inferior rib from the one above; the fixed point being the first rib, which is connected with the vertebra by the scalene muscles and to the cranium by the sterno-mastoid. These muscles do more than fix the upper ribs, for in forced inspiration the upper end of the sternum is raised from 1 to 1½ inches, a very remarkable variation, when we consider the influence that would have on the slant of the lower ribs.

As we pass downwards we find the direction of the ribs becomes more and more oblique and their length increases up to the 8th or 9th. The lower end of the sternum is also much farther from the spine and in forced inspiration its lower end is projected forward about an inch. As Duchenne's experiments showed that the diaphragm alone had little influence in projecting it forward, we must conclude that this change of position is due to the general raising of the thoracic wall,

the pushing forward of the long oblique ribs by the action of the scaleni and the intercostals.

There is another action of the ribs that must be considered, a rotation on their long axis. At the level of the 7th rib in the mammary line an increase of one inch was noted in the breadth of the thorax, in forced inspiration, showing the outward rotation of the rib itself to be very considerable, while in the mammary line the 8th rib is raised two inches. The extent to which these various muscles enter into the respiratory act varies a good deal according to circumstances.

According to Dr. George H. Fitz, the thoracic form of breathing is found in all individuals, independent of sex, who wear clothing that limits the free action of the abdominal walls, which have to be free for the unhampered action of the diaphragm. Before his investigations on the subject, one of the favourite theories for the predominence of this type of respiration among women was, that nature had thus provided for the necessities of child bearing. It would seem from his observations to be more due to the corset than to the Curse of Eve. The abdominal form predominates in all races and individuals independent of sex who are untrammelled by constricting clothing, and either form can be cultivated to an extraordinary degree by a training of the co-ordination of various groups.

We are all familiar with the experiment in which the upper part of the thorax is contracted so that a hat is placed between it and a strap that had been tightly buckled about the expanded chest; also, with the other in which the abdominal walls are shoved out before the contracted diaphragm in inspiration, and the liver and other abdominal viscera displaced upward till the abdominal aorta can be felt or even seen pulsating through the anterior abdominal wall, all by relaxing this muscle and contracting the transversalis, internal and external obliques. These two experiments may be said to illustrate the extremes of thoracic and abdominal breathing.

Great lung capacity is usually associated with extreme development of both methods of breathing, but it was to find out if there was any relation between the configuration of the thoracic cage, and chest mobility or capacity, whichever it may be called—that the present investigation was undertaken. Is the broad, flat chest more likely to show a large capacity than the narrow deep one—or vice versa?

I must confess to a preconception that the broad one favoured a high record for capacity. It seemed self evident that the forward movement of a broad chest must greatly overbalance the rotation of the ribs and the broadening of a narrow one. I had in mind several cases of unusually large capacities in men having chests of that type, and others

had been reported that seemed to lend colour to the assumption that the flat chested man had at least this advantage to counterbalance his other defects. But we are prone to accept a plausible explanation of a doubtful theory, and carefully weighed evidence sometmes refuses to bear out what seems at first sight almost self evident.

The observations were made upon 500 young men of the student class, for the most part candidates for the athletic teams at McGill University, and as all the measurements have been taken by my own hand during the last six years, and without the intention of proving anything, the personal equation of error must be fairly constant. It is not so simple a matter to get correct and impartial measurements as would at first sight appear to one unaccustomed to such work. For the ease with which figures may be made to bear false witness, one has only

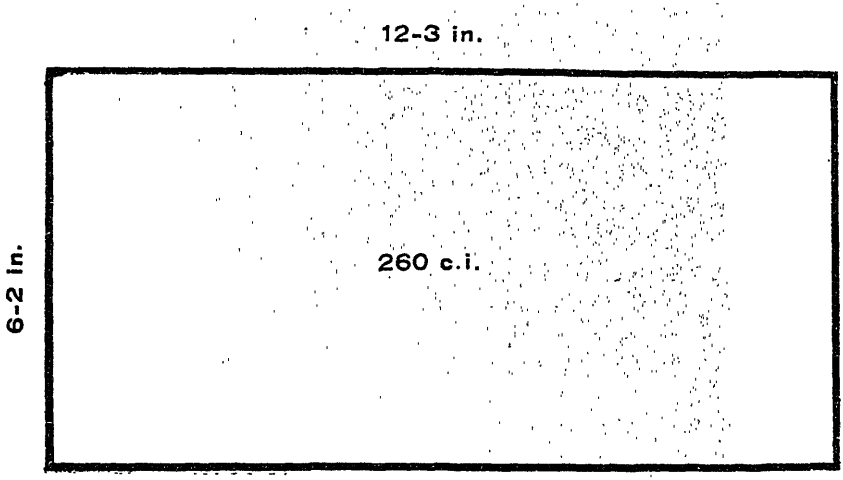

FIG. A.

to consult the results so temptingly shown on every magazine's advertising pages, or to check over the measurement card of one of the many physical culture systems with whch every town is now amply provided. The measurements taken were seven in number.

1st. The depth of the thorax quiescent, at the nipple line measured by calipers.

2nd. The breadth of the thorax quiescent, muscles relaxed at the same level, measured from behind by a sliding caliper. The relation of these two measurements gives the thoracic index, the average being 7.60-11.19 or 68 per cent.

3rd. The girth of the chest in forced expiration above the nipple line.

4th. The girth of the chest in forced inspiration above the nipple line.

The third and fourth measurements are of doubtful value, as much depends upon the condition of the latissimus dorsi and the pectoralis major. In inspiration the girth can sometimes be raised two or three inches, by causing these two muscles to spring out in contraction after a full breath has been taken in.

5th. Girth of the thorax in inspiration below the pectoral line.

6th. Girth of the thorax in forced inspiration at the same level.

These two are of much more real value as indications of true thoracic expansion, because the sources of error from the contraction of the superficial muscles is reduced to a minimum. The average expansion at both levels was found to be 3.2, but one would expect a higher figure at the lower level, owing to the increased obliquity of the ribs and the roominess of the thoracic cavity.

7th. The capacity of the lungs by the wet spirometer was recorded in cubic inches.

This represents the difference between inspiration and expiration. It can be greatly improved by practice, more particularly by cultivating the power to move the abdominal contents up after the relaxed diaphragm by contracting the abdominal muscles in forced expiration.

The increased power of using the abdominal muscles in this way shows an improved co-ordination and a high development of muscular intelligence, a valuable indication of control, and hence although not perhaps a perfect test of lung capacity, per se—it has a very real value.

The averages obtained from these measurements were as follows:—

Breadth of chest	11.19
Depth of chest	7.60
Girth of chest above nipples, inspiration	36.08
Girth of chest above nipples, expiration	32.86
Girth of chest below nipples, inspiration	33.98
Girth of chest below nipples, expiration	30.78
Capacity of the lungs	251.65

To find the influence of the thoracic index on the expansion, all cases were taken in which the thoracic index was above 7.60-11.19 or 68 per cent. Only those cases in which the breadth was under and the depth was over the average were used. Out of the five hundred, 94 such deep, narrow chested men were found with an average of 259.3 cubic inches, or 7.7 inches above the average capacity of the whole five hundred. A second table was compiled including all cases in which the

thoracic index was below 7.60-11.19 or 68 per cent. Only those cases were used in which the breadth was over and the depth was under the average. Of these broad, flat chested men, 58 in number, the average chest capacity was only 243.7 cubic inches, an average of 7.9, nearly 8 inches under the average, for the whole 500. These results would indicate that the broad, flat-chested man is at a disadvantage with his deeper but narrower chested competitor in so far as chest capacity or thoracic mobility is concerned. The sitting height of both sets of men was practically the same, 35.5 (deep) and 35.7 (broad). In weight, 137.7 (broad) and 138.9 (deep).

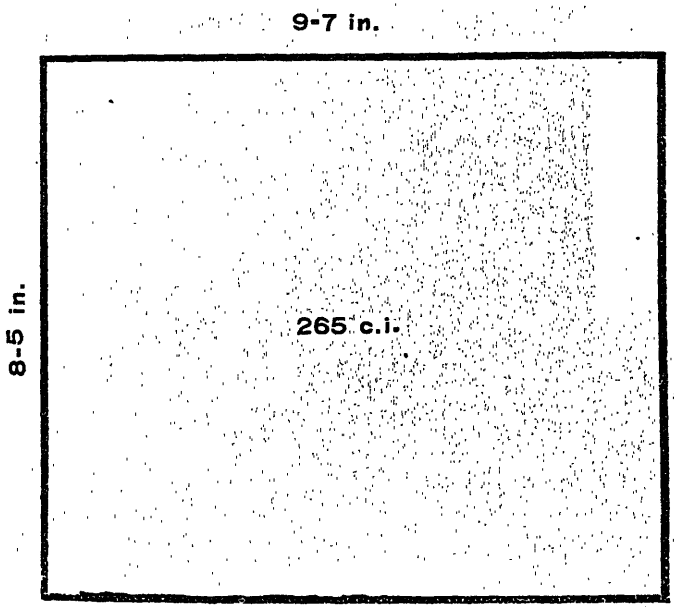

FIG. B.

With a view to find if capacity kept pace with the expansion as noted at the ninth rib, a table was compiled of those cases in which the measurement in expansion was over the average, while the girth contracted was below it. These cases would thus avoid all very large and all very small men, but all would have an expansion above the average. The capacity averaged 263.3 or 11.7 inches above the general average.

Another table containing cases in which the girths expanded and contracted taken at the same level fell within the general averages, for both their measurements showed a capacity of 241, or a falling below the average capacity of 10.6. These results are not conclusive perhaps,

but show an increased tendency to high capacity with increased expansion, and a decreased tendency to low capacity with low expansion.

Among these cases many curious exceptions occurred; one with 2.5 had 300 cubic inches, another with 4. had 245. One with only 1.5

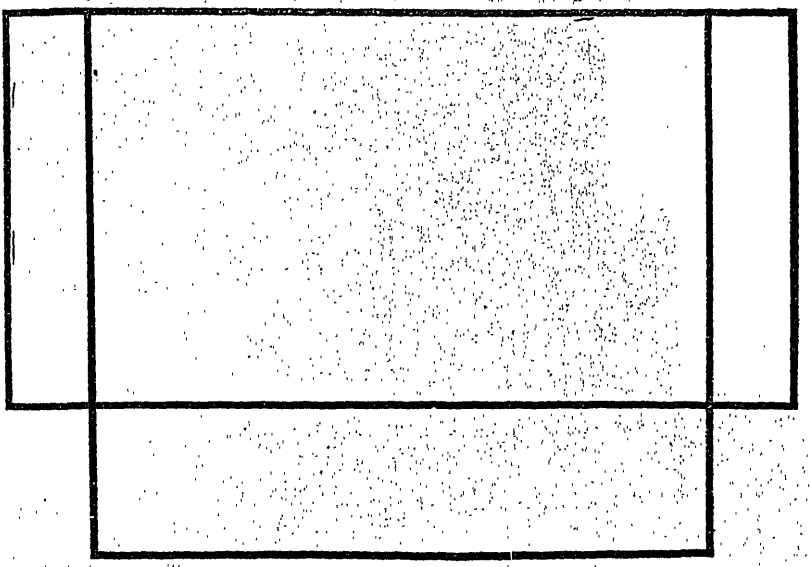

FIG. C.

expansion had 270 in capacity, nearly 20 inches above the average capacity with less than half the average expansion.

Some experiments were also made in constricting the thorax by a tight bandage to find the difference in capacity between the constricted and unconstricted chest, but they were inconclusive, going to show that in cases having large capacity the effect of constriction was unduly great, and in those of a small capacity, scarcely noticeable; they would tend to show the importance of thoracic breathing in registering a large capacity. The results obtained then would show that the deep-chested man has a better shaped thorax for securing mobility and capacity than his fellow whose thorax is broad and flat, and as it is a type usually associated with great vitality and staying power, it may safely be looked upon as a better type of thorax to possess. From the purely æsthetic standpoint of beauty it is more highly considered. In this theory I find support from the measurement of the thoracic index of certain well-known statutes by Greek sculptors. While we have not any anthropometric tables to go on, we have the concrete results of both

their observation and intention, in the ideal figures representing their purest conception of manly beauty and grace.

In earliest Greek sculpture we have the so-called Apollo of Tenea, a figure in which the limiting influences of Egyptian art still linger. In it we find the thoracic index to be 64, or 4 per cent. below our average; but when we come to the group of athletes, the work of Polycleitus and his school, early Greek, 550 B.C., we find it running from 68 to 75; in five statues measured 68, 70, 74, 75, 75, respectively. The Doryphoros, long taken as a canon of proportion for the ideal man, showing a young athlete or warrior of more mature years than the students observed, had an index of 75. The Antinous of the same sculptor has also an index of 75. The Discobolus of Myron, allowing for correction due to pose, has an index of 71.

In the group of figures, made by Lysippus and his school 100 years later, characterized by small head and long limbs, the most noted the Apoxyomenos, also a canon of proportion, shows an index of 73, and another of the same group shows the same. The stooping figure known as Jason falls to 64.

The ideals expressed by the work of Praxiteles are the most generally accepted as the flower of human beauty and his Hermes, perhaps his masterpiece, has an index as high as 79, the deepest chested statue I have found in the twenty measured. But the slender boy-like form of his Apollo Saroktonos shows a flat-chested youth having an index of only 64 or 4 per cent. below our average student, while the Dancing Faun shows an index of 69.

The fighting gladiator of Agasias is also below our average by 7 per cent., allowing for correction due to the pose. Of the Italian work, Donatello's David exceeds our average by 2 per cent, but shows a younger and more boy-like form.

The chest is usually deeper and more rounded in the athletic ideals of the Greek, and this type may be said to have formed for them a higher ideal of manly beauty and strength than the one actually found among us. It is interesting that their intuition should be borne out by the results obtained by the tape line, calipers and spirometer.

It has been remarked before this, that the Anglo-Saxons as a race are characterized by the broad and flat type of chest, and whether this is a racial trait or not, would require a much longer and more thorough investigation than we have given the subject, certainly the Italians and Greeks seem to be more rounded and less angular than the English or Americans.

In the anthropometric tables of Yale University the average student

has an index of 69, the measurement being 10.7 and 7.4, the depth taken after natural inspiration and the breadth from in front at the nipple line. This will account for the slight difference in the averages.

At the University of Wisconsin it is 67 per cent. (279-187), and at Washington and Jefferson College it is 68 per cent. (270-184) as in our own. So that we find the results culled from these widely extended fields agreeing with considerable exactitude. In the statuette of an athlete whose measurements and proportions were determined by taking the average of 400 picked athletes from Harvard, the observations extending over a number of years, the index is 68.6, corresponding pretty closely to the 80 per cent. man in a table of all students taken indiscriminately from the same college. Perhaps the hampering influence of clothing has flattened the chest, and the lost art of deep breathing, cultivated by an out-door life spent in the exercises of the field and forest has had something to do with it.

If increase of capacity goes with increase of relative depth, the moral might be drawn that development of the habit of completely filling and emptying the lungs would result in the improvement of the thoracic index; certainly the deep breathing will do good in many ways, and this will be not the least of them.

FLOATING KIDNEY AND APPENDICITIS ASSOCIATED WITH PELVIC DISEASES.

BY

A. LAPTHORN SMITH, M.D.,

Surgeon in Chief of the Samaritan Hospital for Women; Professor of Gynæcology in the University of Vermont, and Professor of Clinical Gynæcology in Bishop's College, Montreal.

My attention was first called to the association of appendicitis and prolapse of the kidney with disease of the pelvic organs, several years ago, when having treated during a whole year at the Montreal Dispensary a nullipara about thirty years of age for retroversion of the uterus and disease of the ovaries and tubes, with little benefit, I finally decided to take her into the Western General Hospital for the operations of removal of the ovaries and tubes and ventrofixation of the uterus. I was loth to remove these organs in such a young woman, but she had suffered from dysmenorrhœa, which was worse on the right side, ever since she was a girl, and from recurring attacks of pelvic peritonitis ever since her marriage; she had never become

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pregnant and she was complaining of indigestion, constipation and nervous attacks, during which she became very despondent, so that in her own words she was a trouble to herself and to everyone else.

As I have performed either Alexander's operation for shortening the round ligaments or ventrofixation of the uterus for retroversion many times, and have treated many more cases with pessaries and tampons; and have seen the reflex nervous disturbances disappear in the course of a few months in nearly all of them, I assured this patient, as I did all the others, that she could almost surely depend upon being greatly improved if not absolutely cured by the operation. She readily consented, in fact she had been urging me to operate much sooner; but it is my general rule not to remove ovaries from women under forty years of age, unless they have been treated unsuccessfully by their own doctor or by myself for at least a year.

When the abdomen was opened, the omentum was found adherent all around to the brim of the pelvis, and on detaching this, the uterus was seen lying retroverted in the hollow of the sacrum with the ovaries and tubes lying under it, all matted together with adhesions. In freeing these I did not notice, as I always do now, whether the vermiform appendix was attached to the tube or not, and I did not see it or look for it.

The ovaries were small and covered with a thick capsule as well as a network of shreddy adhesions. In fact they were sclerotic, the ovarian tissue and nerves being compressed by the contracting fibrous capsule, and would have been suitable for the operation recommended by Dr. Howett of Guelph, of scarifying the capsules so as to relieve the pressure. But at that time I removed all such painful ovaries, especially when the tubes were closed as they were in this case. Both ovaries and tubes were removed and the uterus was fastened up, the operation only requiring about twenty minutes, and the patient making a good recovery from the operation. Soon after I attended the meeting of the American Gynecological Society and had a conversation with Edebohls, who had been devoting a great deal of attention to floating kidney, and I remembered his telling me that when the repair of the cervix and the replacement of the uterus failed to cure reflex symptoms, that floating kidney would be found to be the cause. On my return from this meeting, I found the patient sitting up and almost ready to go home, but she assured me that she was only a little better and that she still had the pain in her right side. I at once examined her kidneys and found the right one movable and prolapsed. The patient was quite willing that I should fasten it up, and this was accordingly done. Much to my disappointment, however, she

claimed that she still had the pain in her right side, although it was now lower down and more localized. Instead of putting her hand all over the right half of the abdomen, she now pointed to the right lower quadrant, as the seat of her trouble.

At first I thought that it might be due to the adhesions which had been broken up, and to the stitches in the right broad ligament, but she was completely relieved of the pain in her left side which had been sewed in exactly the same way. I now felt convinced that she was suffering from appendicitis, but hardly liked to broach the subject of another operation, but the patient herself requested me to try once more, which I did and without much difficulty dug the appendix out of a mass of adhesions, cut it off level with the colon, stitched the fibrous coat of the cæcum together, and covered the wound in the bowel with a layer of peritoneum. She made a good recovery, and when last seen had gained in weight and was doing all her own work.

The next case that impressed me was a private patient, who, while on a pleasure trip around the world with her husband, was taken so ill on the steamer, that on her arrival in Montreal she had to be carried to the hotel. She told me that she had been under the care of several celebrated gynæcologists of London for some womb trouble, but did not know exactly what, and as she had been suffering for several years and was a nervous wreck, they at last advised her husband to take her for this trip. The last examination in London had brought on a severe attack of vomiting, as well as causing her excruciating pain. From this history I suspected a swollen and perhaps a cystic ovary with a retroverted uterus, but every attempt to examine her was unavailing, as she would immediately commence to vomit violently. I proposed an anæsthetic, but her husband would not consent. I kept her in bed under the care of a trained nurse, who gave her three hot douches a day, and I gave her bi-polar fine wire vaginal faradism, which soothed her greatly. Finally, after a month of treatment I was able to reach the top of the vagina with my finger, and at once felt the retroverted uterus lying on top of a swollen and most exquisitely sensitive ovary. As she described it, it was like a ball of fire, and the slightest pressure on it made her sick. I proposed to remove the ovary and perform ventro-fixation of the uterus, but after consulting with friends in England by cable, I was requested to get her well enough to return home so that she might be operated on there; but it required several months of treatment with iodine and tampons before she was able to travel as far as Portland to the steamer. As Mr. Greig Smith had already attended the husband for several years without their knowing that he was an authority on

pelvic diseases, I advised the patient to put herself under his care, and I wrote him an account of her illness and my diagnosis which did not include floating kidney. I heard from him shortly after their return, saying that he had removed the right ovary and done ventro-fixation of the uterus and fixation of the right floating kidney, all at the one sitting: before she left the nursing home, Greig Smith himself had taken pneumonia and died. On my next visit to England I learned that the lady had been greatly improved in health, as regards her nervousness, but that she still had some pain in her right side which in the light of my subsequent experience, I have no doubt is due to a mild chronic appendicitis.

Since that time, now about six years, I have examined for floating kidneys a great many times and have found the right one prolapsed probably in about twenty per cent. of them. Manton, of Detroit,[1] states that in two hundred consecutive gynæcological cases he found that the right kidney showed an abnormal mobility in thirty-six per cent., and in twenty-four of these a diagnosis of chronic appendicitis was also made; a diagnosis which had since been confirmed by operation in seven of them. Manton says that while practitioners are familiar with the symptoms and diagnosis of acute appendicitis, but little was as yet known of the chronic form, which was often productive of great physical distress and suffering, and that he believed, with Edebohls, that movable kidney was one of the most frequent causes of appendicitis.

Edebohls' first paper on movable kidney was published nearly ten years ago and attracted little attention at the time, but his views are generally adopted all over the world at the present day. In this paper, he said: "the vermiform appendix receives its blood supply from the ileo-colic branch of the superior mesenteric artery. Its blood is returned by the superior mesenteric vein, the large trunk of which ascends along the right side and in front of the corresponding superior mesenteric artery, passes in front of the transverse portion of the duodenum, and unites behind the upper border of the pancreas with the splenic vein to form the vena porta." One of the first things that a movable right kidney must do, is to dislocate the duodenum and head of the pancreas, compressing the superior mesenteric vessels between the head of the pancreas and the bodies of the spinal vertebræ. The interference with the circulation of the appendix soon leads to chronic congestion of the organ, and that once established, the way for appendicitis is paved. Dr. Manton[2] says:

[1] American Journal of Obstetrics, January, 1903, page 119.

"The plausibility of this theory is evident if we take into consideration the anatomical structures of the appendix. The abundance of lymphoid elements in its mucosa and its low vitality predispose it to inflammatory states, which will be more than likely to result from impeded circulation."

Robert E. Morris,[3] of New York, puts the matter very clearly as follows: First, the large branches of the sympathetic nerves which go to the kidney are irritated, and we have various reflex phenomena, chiefly referable to areas of distribution of the nerves closely associated with the semilunar ganglia. Thus the patient may have mucous colitis as a functional neurosis proceeding from peripheral irritation to the kidney. We are apt to have irritation of Auerbach's and Meissner's plexuses, with the resulting intestinal fermentation, that is intractable under medical treatment until the kidney is fixed. The second set of symptoms common with loose kidney depends upon pressure upon other organs. A loose kidney may press upon the pyloric region of the stomach and cause gastric dilatation. It may press upon the common bile duct and give symptoms closely simulating the passage of gall stones. It may press upon the superior mesenteric vein, and by backing up the blood in the cœcum cause a congestive appendicitis. A third set of symptoms associated with loose kidney depends upon torsion of the pedicle. Smetimes the ureters are thus dammed and we have renal colic. Sometimes the veins are twisted and we have congestive nephritis."

Whether the anchoring of a movable kidney which has already caused a chronic appendicitis in this way would cure the condition of the appendix it is impossible to say. If the trouble had not advanced very far it might remain in "statu quo," or it might even improve on account of the better circulation. But if it had gone as far as the stage in which lymph had been thrown out and adhesions had been formed, it is doubtful whether these latter would be absorbed, and if they are not, then the reflex disturbances of digestion which we know are caused by the appendix being bound down and struggling to empty itself, would still continue to keep the patient a chronic invalid, even after the cause of the appendicitis had been remedied. I fear that an appendix once diseased is always diseased, and that instead of depending upon the anchoring of the kidney to cure it, it would be better to fix the kidney and remove the appendix at the same sitting, as I have done half a dozen times, and as I have been taught by disappointing experience in the past to do in every case,

[2] Harper Hospital Bulletin, August, 1899.

[3] American Journal of Surgery and Gynecology, January, 1904, page 100.

in the future, where the kidney is displaced and the patient complains of pain in the appendical region. Manton, who has come to the same conclusion, illustrates his contention with two cases which are so much to the point that I will quote them here.

"A highly nervous young woman, aged 23, who was referred to him by Dr. Charles D. Aaron. When ten years old was run over by a carriage, the wheels of which passed across the abdomen just below the ribs. She suffered a great deal at the time from contusion and shock, and has never been well since. After a great variety of medical treatment it was discovered that both kidneys were movable, and an operation was undertaken two years ago for their fixation. This proved eminently successful, and the patient was greatly benefited, being especially relieved from a constant backache from which she had previously suffered. Of late, however, she had grown worse, was extremely nervous, and complained of a great variety of ailments, chiefly referable to the abdomen and pelvis. Examination showed a retroverted uterus, and an enlarged left ovary which was prolapsed. The abdomen was very sensitive, especially over the appendical region. Although the appendix could not be definitely made out by palpation, a diagnosis of chronic catarrhal appendicitis following right movable kidney was made. The patient entered Harper Hospital where the appendix was removed, together with a small cyst of the left ovary, the displaced uterus was fixed to the abdominal wall. She made a smooth recovery and left the hospital on the 21st day, and is now relieved from all her former sufferings, and is perfectly well."

"The appendix removed was considerably elongated, thickened, and quite rigid, but was not adherent. The lumen contained a few drops of pus." In my opinion, had the appendix been removed at the time that the kidneys were anchored, the patient would have been saved a great deal of subsequent distress, and the nervous symptoms which still continued to trouble her would have been either cured or greatly ameliorated. Another case which he reports in the same paper is also interesting: The patient, a pale and delicate little woman, aged 32, had had two children; the last three years ago, and one miscarriage. Six weeks after the birth of the last child she took a long walk for one in her enfeebled condition, and was soon after seized with attacks of fainting, and suffered from gastric and nervous disturbances. Shortly after this she had severe pain in the abdomen, which later became localized in the right iliac region. Five attacks of this trouble have occurred at intervals, the first two being mild, the third more severe, confining her to the bed for thirteen weeks, while the last two have been more like the first. At one time she

is said to have passed almost perfect casts from the bowel. For the past year and a half she has almost constant pain in the right iliac region extending down to the knee. This is especially noticeable after exercise or indiscretions in diet. She has lost flesh and is especially miserable, being unfitted by her condition to participate in the active duties and pleasures of life. Two relatives, one a sister, have died from obscure conditions much resembling appendicitis.

On examination the right kidney was found to be movable several inches downwards and the appendix was thickened, very sensitive and could be felt by palpation situated low down in the iliac fossa. There was great sensitiveness at McBurney's point. The patient was sent to Harper Hospital where he anchored the right kidney, and three weeks later removed the appendix, besides doing several other minor operations for the restoration of the parturient tract. Recovery was uninterrupted and the patient left the hospital sixteen days later in excellent condition. The appendix was found to be much thickened, coiled on itself spirally like the whorls of a shell and contained pus.

It is sometimes almost impossible to tell which of these organs, the kidney or the appendix, is the cause of the pain. Such, for instance, was a case sent to me at the Samaritan Hospital by Dr. Sharp.

Mrs. H., 56 years of age, mother of four children, and two miscarriages, last pregnancy fourteen years ago. Menopause at fifty. Had good health and did all her own work until a few days before admission, when one day while working at the wash tub, she was suddenly taken with a severe pain in the right side and was barely able to crawl into bed. She began vomiting, and when Dr. Sharp saw her a few hours later she had a temperature of 103 and a pulse of 120. On examination there was a tense swelling larger than an orange, the centre of which was exactly situated at McBurneys point. The right side of the abdomen was tender and tense; it was dull on percussion and fluctuating, and all those who examined it had little hesitation in saying that it was a case of appendicitis which had reached the abscess stage and was walled off by adhesions, and all agreed that it should be opened and drained without delay. This was done, the incision being made exactly over McBurneys point. In going through the layers, the tense pus sac was reached and a large trochar was driven into it, when at least a pint of thin pus escaped. The trochar was removed, the opening enlarged with the finger and the cavity thoroughly washed out, some debris of cellular tissue being removed

by the fingers. My rule in these cases is not to break down the wall of defense, and as the appendix could not be readily found, the search for it was abandoned before any harm was done. At the bottom of the abscess a round dark solid body could be seen and felt, which was evidently the right kidney apparently prolapsed, and I remarked to Dr. Sharp that prolapse of the right kidney was recognized as a factor in causing appendicitis. Two pieces of drainage tube were inserted and gauze was packed around them to keep away the intestines, for a healthy coil of the latter had come into the incision towards the end of the operation. The good results of the intervention were immediately apparent; the pain ceased; the pulse and temperature fell to normal, and the patient was making a rapid recovery during three weeks when she was to have been allowed up, had there not been a sudden return of all the symptoms. This time, however, the swelling was four inches higher up and double the size of the first one. The abdomen was again opened by extending the original incision upwards and backwards, when without opening the peritoneal cavity the abscess sac was reached and emptied with a trochar, more than a quart of pus escaping this time. The trochar was removed, the opening enlarged with the fingers and the cavity explored with the hand in it, when it was found to be the right kidney distended to such a size that one could feel almost every part of the abdomen through its thin sac-like wall. The question then arose whether to leave it and drain or to remove it. Before deciding on the latter course the other kidney was easily felt normal in size, through the wall of the diseased one. The sac was easily seperated from its adhesions, and the pedicle tied in several segments. After tying the artery and vein and when pulling up the ureter to ligature it, a calculus the size of an almond was felt and could be seen through the wall of the ureter, which appeared to be ulcerated almost through, for no sooner was the slightest pressure applied, to see if the stone could be pushed back into the kidney, than it came through the ureter leaving a hole about the size of a ten cent piece. The ureter was tied a little lower down and dropped, when the kidney came out as easily as an ovarian cyst. The patient made a good recovery and went home three or four weeks later. The probable course of events in this case was that a stone had formed in the kidney, got blocked in the ureter, which latter it ulcerated through by pressure in the same way that a stone in the appendix ulcerates through, and the dammed back pus and urine which had distended the kidney and ureter above the obstruction, poured out through the opening in the ureter into the cellular tissue, causing the rapid rise in pulse and temperature and the swell-

ing at McBurneys point, which it was so easy to mistake for appendicitis. The kidney which was seen at the bottom of the incision at the first operation, was not there because it was prolapsed, but because it was still enormously distended. The second swelling occurred because the opening in the ureter was blocked by the packing and manipulations of the first operation, causing the kidney to refill. There was no pus in the urine, because that kidney was shut off from the bladder by the calculus.

When we come to consider the relation of appendicitis to diseases of the tubes, especially of the right one, medical literature of the last two years contains many reported cases of appendicitis bieng diagnosed as pyosalpinx, and vice versa, and still more in which both conditions were diagnosed as co-existing and were removed at one operation. Dr. McLaren, of Minneapolis, was the first to point out in a paper read before the American Gynecological Society the frequency with which the vermiform appendix, being heavy from inflammatory exudation, drops into the pelvis and infects the tube, in some cases causing a pus tube. It is well that this possibility should be generally understood, because when a young girl has a pus tube the natural and prevailing inference is that she has had gonorrhœa, which might not at all have been the case. These girls are generally very constipated, and their pain, which is generally on the right side, is very much worse during their menstrual period. It is also important to keep it in mind, because when such a girl suffers so much from disease of her appendages, in spite of every treatment carried out during a year, that she is becoming a chronic invalid and unable to work, and an operation is at last decided upon, it is very important to look for the appendix which will generally be found like a round coil, densely adherent to the right tube, or as I found it in one case to the left tube. In such a case on no account should the abdomen be closed until the vermiform appendix has been removed.

The condition of the tube most frequently mistaken for appendicitis is tubal pregnancy, of which quite a number of cases have been reported. I will briefly refer to a few of them. Dr. J. H. Stealy[4] records the following: Mrs. ——, 29 years of age, was five months pregnant and had been suffering from pain in the right side and a diagnosis of appendicitis and normal pregnancy had been made. The doctor diagnosed the real condition tubal pregnancy, but deemed it wiser to wait till the child was dead. He operated when she was 11 months pregnant and the tubal pregnancy was found and removed.

[4] American Gynecology for May, 1903, page 417.

The next case gave no history of previous pelvic trouble. At six weeks pregnancy she was taken with severe pains and some discharge of blood. The attending physician diagnosed appendicitis. These attacks continued up to seven and one-half months when she had a severe hæmorrhage, and on having the abdomen opened a tubal pregnancy was found and removed.

The next case had been married but a few months and had a previous history of appendical trouble. On vaginal examination the doctor made out the enlarged appendix as well as a tumour the size of an orange close to it. She had reported being unwell eight days previously and the doctor did not think of an ectopic gestation. But on opening the abdomen for appendectomy, a ruptured tubal pregnancy with much blood in the abdomen was removed, as well as the vermiform appendix.

During a discussion on tubal pregnancy at the meeting of the New York Obst. Society, 13th October, 1903,[5] Dr. S. Marx reported a case of tubal pregnancy which had been treated for appendicitis for two days before he took charge of the case and operated; while Dr. Willis E. Ford, of Utica, reported two cases which he had operated on for tubal pregnancy, and they proved to be abscesses from appendicitis.

I remember some years ago being called in consultation by three medical friends to decide if possible the nature of the disease in a woman who had been in poor health for some years, but who was suddenly taken with severe pain and symptoms of collapse. Her family doctor, who was first called, finding her with a swelling over McBurney's point, a low temperature and a fast pulse decided that she was suffering from rupture of an appendical abscess, and he urged immediate operation. This the family would not consent to until the diagnosis had been confirmed by another doctor, and one was called who was also a friend of mine. He at once made a vaginal examination and found a nodular mass in the right half of the pelvis completely filling it and extending up to the swelling over the appendix. As it was tensely fluctuating he gave his opinion that the whole trouble was due to the twisting of an ovarian cyst with hæmorrage into its sac. This he thought would account for the low temperature and the fast pulse and signs of collapse which the first doctor had attributed to rupture of an appendiceal abscess into the peritoneum. He told the family that they were both agreed that an operation should be performed immediately, but they differed as to the nature of the trouble. The family said if the doctors did not know what was the matter they must have another opinion, so

[5] Annals of Gynecology, 1903, page 700.

another physician who had seen quite a number of tubal pregnancies operated on at the Samaritan Hospital was called, and on carefully going over the case, he felt satisfied that there was a tubal pregnancy, especially as he elicited the fact which had escaped the others that the last two periods had been different from any others the woman had ever had. It was now the turn of the medical men to ask for a consultation, and as they were all three friends of mine I was selected. After having carefully examined the case by the abdomen and by the vagina, and having heard the history and the argument of each of my friends, I could come to no other conclusion than that they were all three right. This satisfied the family and the patient was removed to the Samaritan, where she was operated on next day. On opening the abdomen I at once came upon the omentum matted to everything in the right lower quadrant. After tying it in many segments and freeing it from the bowels which were also matted, I succeeded in digging out a fallopian tube surrounded with black clotted blood and as large as an orange. Imbedded in it was the vermiform appendix, so deeply, that I did not take the time to dissect it out but cut off the appendix even with the cæcum, and closed the hole in the latter as I would a bullet wound in any other part of the bowel. I afterwards showed this specimen before this Society. On again introducing the hand into the abdomen a nodular irregular mass was felt just below the place from which the tube and appendix had been removed, and with some difficulty a papilloma of the right ovary was extracted which had ruptured at its lower surface and allowed the warty masses to project, thus giving a nodular feeling in the vagaina. Although the oozing was very considerable and the operation lasted over an hour the patient made a good recovery. In this case it was impossible to make an absolutely accurate diagnosis. The tubal pregnancy was the most important factor and the appendicitis the least so, but I have no doubt that the appendix had been diseased for a long time, and that its being imprisoned in the diseased tube interfered with its vermicular movements and gave rise to the colicky pains and digestive disturbances from which the patient had suffered for some time. The result of the operation justified the opinion in which we had all concurred, that no time should be lost in removing the cause of the trouble whatever it might be, for the patient made a splendid recovery and has been in good health since.

In the presence of nephroptosis and appendicitis what should be our course as to operation? Should we fix the kidney and remove the appendix at the same sitting, or should we remove the appendix

first and fix the kidney later, or should we fix the kidney first and remove the appendix later? My own practice has always been, or at least since I had been so taught by experience, to fix the kidney first and at the same sitting remove the appendix. Neither of the operations are dangerous or difficult, and they can both be done in about an hour. Even when there is displacement of the uterus I perform ventro-fixation and even deal with the ovaries and tubes if they are diseased, at the same sitting. In order to save time I make the median incision, so that I can remove the ovaries and tubes and the vermiform appendix and fasten up the uterus in about twenty minutes. If it is necessary to dilate and curette the uterus and repair the cervix and perineum, I do them before fixing the kidney. During the last few months I have several times performed these combined operations with good results and without any mortality, the operations being performed in the following order: 1, dilatation; 2, curetting; 3, amputation of the cervix; 4, repair of the perineum; 5, fixation of the kidney; 6, removal of the appendix; 7, removal of the ovaries and tubes; 8, ventro-fixation. They have generally taken me an hour and twenty minutes. I do not as a rule like to do more at one sitting than I can do in an hour and ten minutes, but I have found all my patients so much in dread of undergoing a second anæsthesia, that I make an effort to accomplish all that is required with one anæsthesia. I have been surprised to see what a small quantity of the A.C.E. mixture has been sufficient to keep the patient under; sometimes only two or three ounces. When a woman has retroversion of the uterus and prolapse of the kidney and appendicitis, it is difficult to recognize the triple nature of the cause of her reflex disturbances; for any one of them is sufficient to explain all her symptoms, for the cure of which, however, all three causes must be remedied.

Dr. Herman Hayd, of Buffalo, says:[6] "We all know that in a given case of pelvic suppuration, it is impossible for us to say that in this case the appendix is adherent to the pelvic mass and is diseased and requires removal, while in another such a complication is not to be expected. I have frequently delivered a large pus tube or ovarian abscess and found that I had torn away or stripped off the peritoneal coat from the appendix, in fact so mutilated the organ that I had to resect it close to the cæcum and close up the bowel opening. This experience was not confined to the right side alone, for sometimes I have found the appendix long and adherent to the left tube or ovary,

[6] American Journal of Obstetrics, November, 1902.

and its coats so infiltrated that I had to resect it close to the bowel attachment."

This to my mind is a strong argument against doing pelvic surgery through the vagina; I can corroborate the above statement of Dr. Herman Hayd's, for I have found the appendix diseased and firmly attached to the left tube, so firmly that it was torn in two in separating it, in one case, and at least twenty times I have found the appendix imbedded in the right tube. It might be disastrous to the patient if when working in the dark, as all vaginal pelvic surgery necessarily must be, one should tear the end of the appendix off without knowing it and thus leave it open in the abdominal cavity; while even if one knew it, the vaginal route could hardly be said to be the best one for the performance of appendectomy.

The difficulty of diagnosing appendicitis from disease of the right tube and ovary, and even from certain diseases of the uterus has been recognized by others.

Dr. Seymour,[1] of Troy, speaking of the difficulty of making these diagnoses, mentions a case of a woman nineteen years of age, who was delivered of a dead child by forceps on the 26th of December, eleven days later she was transferred to his care and almost immediately had a chill and high temperature. The next day the temperature was a hundred and three and a half, and the pulse was a hundred and twenty; marked tenderness under McBurney's point, no dulness, some muscular spasm. Vaginal examination negative, except that the pain was referred to right side. His diagnosis was septic infection of probably the tube and ovary of the right side with a possible involvement of appendix. Immediate operation disclosed absolutely normal tubes and ovaries, no involvement of the appendix, but a sloughing gangrenous fibroid the size of an English walnut, in the right anterior wall of the uterus below the attachment of the round ligament. This was enucleated and after cleaning out its bed it was stitched over, and the gauze drain put in, the patient making good recovery.

Another case was a married woman, age 23, who four months after delivery, was operated upon by a colleague for an abscess of the right iliac fossa, which was supposed to be an appendicular abscess which was evacuated and drained. No appendix was found, so it was not certain whether the abscess was appendicular or tubal. Four months later this incision was still discharging pus, when she came under Dr. Seymour's care at the hospital. She was suffering intense pain in the right iliac fossa, tenderness under McBurney's point, rigidity of the rectus muscle, and an extensive mass immediately beneath the

[1] American Journal of Obstetrics, November, 1902, page 694.

cicatrix of the former operation. He believed that he had to deal with a recrudescence of the appendicular abscess. At 11.30 a.m. her temperature was a hundred and three, and her pulse a hundred and twenty. At 2.30 p.m. her temperature was a hundred and seven, and her pulse a hundred and eighty. She was given a hypodermic of morphine and atropine, and an oblique incision made parallel to the former scar but internal to it, and the belly entered and walled off with gauze. After evacuating several ounces of offensive pus he enucleated a solid suppurating tumour of the right ovary the size of the closed fist, gauze drainage was used and the patient made a good recovery.

The third case was a woman twenty-five years of age, who had always suffered from dysmenorrhœa and was taken with symptoms of appendicitis, and Dr. Seymour was called in to operate. There was a distinct mass in the right iliac fossa and a marked tenderness under McBurney's point. As her pulse and temperature were normal, and as the mass was closely connected with the uterus and it followed closely upon a painful period, he diagnosed an ovarian tumour with a twisted pedicle, which was removed and the patient recovered.

Henry P. Newman, of Chicago, says:[8] "To-day the diagnosis of appendicitis is easy and sometimes made by the laity. But occasionally, even now the family doctor does not recognize the condition, chiefly because it is associated with some pelvic disease."

He mentions the following case: "A young girl of about sixteen, healthy in appearance, but nervous and slightly anæmic, suffered from recurrent attacks of pain and soreness in the lower part of the abdomen; attacks associated with her menstrual periods; lasting but a few days; hence regarded as of ovarian or uterine origin. Careful examination showed no pelvic lesion, but trouble at the appendix. Some months later the elongated inflamed appendix was removed, being found attached to the right ovary, though there was no pelvic lesion. Prompt and complete relief followed the operation.

Rostovzeff, of St. Petersburg, insists on great care in examining the entire pelvic field at the time of operating; in salpingitis look for an inflamed appendix, in appendicitis look for disease of the adnexa. The same author calls attention to the intensity of the infection caused by pus from an abscess in the appendix as compared with that from pyosalpinx. In his experience, general peritonitis due to appendicitis is invariably fatal, whereas a number of cases of general peritonitis originating in the genital organs terminated favourably.

[8] American Journal of Surgery and Gynecology, January, 1904, page 101.

As the inflamed end of the appendix may be situated even in the left side of the pelvis, the mistaking of it for disease of the tubes is quite excusable. A number of authors cite instances of large collections of pus low in the pelvis, due to a diseased appendix which was evacuated through the rectum or vagina. I am opposed to the vaginal method of dealing with pus in the pelvis, and one of my reasons is that if we operate by the abdominal incision we can deal with any condition that may be present, but if, when operating by the vaginal incision, we find that the appendix requires removal it would be exceedingly difficult to do it by the vagina.

Deaver takes the same view and believes in operating by the abdomen. He says the symptoms of pyosalpinx due to appendicitis are those of appendicitis in the pelvis, with dysmenorrhœa and irregular menstruation added.

Cumston, of Boston, has had several cases in which concomitant symptoms of appendicitis and tubo-ovarian abscess made diagnosis difficult. In a number of others lesions of the adnexa were taken for appendicitis.

Peterson, of Ann Arbor, reports eighty-seven cases of abdominal section, in nearly all of which the appendix has been examined as a routine procedure. At first it was only examined, but was not removed unless grossly diseased. Later it was removed as a routine practice, whether it was diseased or not, whenever the condition of the patient warranted it. In his last thirty-four consecutive cases the appendix was thus removed, and in just half the number it was found diseased.

Newman from the work of others and from his own observation comes to the following conclusion: 1st, the abdomen should be examined in all important pelvic cases and vice versa; 2nd, functional disturbances in the pelvis will produce disturbance in the neighbouring abdominal viscera; 3rd, in opening the abdomen for pelvic disease the appendix should always be examined; 4th, if catarrhal, adherent or containing concretions, it should be removed, 5th, it is not sufficient to break up or separate adhesions of an attached appendix; 6th, as the macroscopic examination of the appendix is not always conclusive its removal or "prophylactic appendectomy," when the abdomen is already open, should be determined by the best judgment of the surgeon and the condition of the patient in each individual case.

Kelly states that in a hundred cases of removal of pus tubes and ovaries, he found the appendix implicated in twenty-seven of them, and I could cite many others to show that appendicitis and pelvic

diseases very often go together and should be treated accordingly by removal in the majority of cases.

One of the most difficult conditions to diagnose correctly is that of a suppurating appendix bursting into the ureter or bladder. Of the latter result of an appendicitis there are a great many cases on record, one of them being that of a medical friend of the writer who was treated for a year for cystitis, when the removal of the appendix would have cured him in a few days. The rupture of an appendical abscess into the ureter is one of the most puzzling things we can meet with, if we do not suspect the real condition. I only know of one such recorded case, and the patient was treated for a year for cystitis and then for pyelitis, and finally had first one kidney and then the other explored without any disease being found, until at last the appendix was removed and then a complete cure promptly followed. We know that appendical abscesses burst through into the pleura and from there ulcerate through into the lungs, the patient coughing up quantities of pus; it may also burst into the bowels, the fallopian tubes, ureters and bladder, so that I may sound a useful warning by stating that whenever a patient is passing pus, either upwards or downwards, and we don't know where it is coming from, we should think of the vermiform appendix. Just as a number of my friends and I have had the pleasure of saving twenty-seven lives of women who were found in a state of collapse from internal hæmorrhage simply by thinking of tubal pregnancy, so do I believe that many lives and much suffering can be saved simply by thinking of appendicitis in every case of abdominal or pelvic disease.

I trust that by calling your attention to the co-existence of displacement of the kidney with appendicitis and diseases of the pelvic organs, the diagnosis of many obscure cases may be cleared up and ultimately be confirmed by operations promptly undertaken, which will as promptly restore the patient to perfect health.

MALIGNANT ENDOCARDITIS FROM GONOCOCCUS INFECTION.

BY

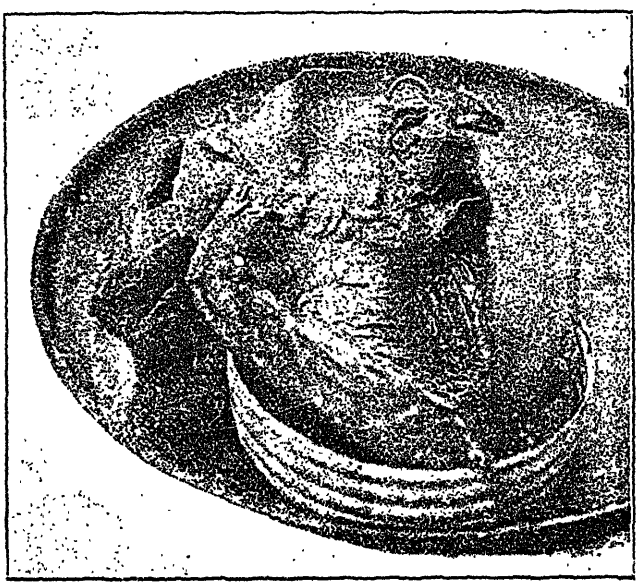
F. G. FINLEY, M.D., AND JOHN McCRAE, M.D.

J. K., aet 23, a sailor, was admitted to the Montreal General Hospital on October 10th, and was first placed under Dr. Hutchison on the surgical side, owing to certain syphilitic manifestations. He complained of sore throat, chilly feelings and pains in the legs.

He has followed the sea since the age of 13. Three years ago he had malaria for five weeks in Calcutta, the symptoms being chills and

fever. On January 28th, 1903, he first noticed a gonorrhœal discharge, and was confined to hospital in Aden for five weeks. Twelve days after his discharge he noticed a sore on the under surface of the penis, which took seven weeks to heal. He had a sore throat about the middle of March, which continued till the first week in July, and there was a cutaneous eruption on the legs and back of the neck during the latter part of this month. Mercurial pills were used from the appearance of the primary sore.

The present illness began on board ship the night he left Manchester, September 22, when he was awakened by a chill, lasting a



Photograph of heart of Gonorrhœal Endocarditis, showing vegetations on aortic cusps.

short time and followed by sweating. These symptoms were accompanied by severe, agonizing pains in both shins, extending from the knees to the toes on front of the legs, and lasting all night. He struggled on deck next morning, but was too ill to work and was sent to bed. Pain continued with great severity in the legs, especially the right and in the right hand for a week. He first of all stated that the legs and hands were paralyzed, but careful questioning elicited the fact that he could move the limbs, but dreaded to do so on account of the increase of pain. Four days after the onset of the first pains the joints of left fingers and hand became very sore, but there was no evidence that there was any swelling.

During his illness on board ship his temperature was very high, and one or two severe chills occurred daily. Vomiting was occasionally present after a chill, and pain in the back and left side of the head.

On reaching Quebec he was up for a day or two, but pains in the feet and ankles prevented him from walking. An eruption was present on the abdomen and arms, and he had taken potassium iodide on board ship.

On October 10th, chills recurred and he was sent to hospital. The eruption was regarded as syphilitic and he was admitted to the surgical ward under Dr. Hutchison. Here he was observed to have a papular and pustular eruption on the abdomen and thighs; the superficial glands were enlarged; there were a few sonorous râles in the lungs; the cardiac dulness extended to the nipple and the second sound was muffled, but there was no murmur. The pulse was large and dicrotic, 98 to 112; the spleen was enlarged and felt below the costal border. The tonsils were enlarged and the pharynx reddened; the tongue was clean. There was no urethral discharge. The temperature 98 4-5 to 100 4-5 on day of admission. The urine was negative. There were four rigors, with rises of temperature to 104 and 105 2-5 during the ten days he remained in the surgical ward. He was treated with mercurial inunctions, potassium iodide and quinine gr.v.t.i.d. during this period. On October 19th, one of us saw him and found a musical diastolic murmur at the base of the heart, and a diagnosis of malignant endocarditis was made. He was then transferred to the medical side.

His condition was then noted as follows: A well nourished young man, face flushed. The skin is hot and dry, the subcutaneous fat scanty, and the muscles large and firm. The colour of the finger nails and mucous membranes is normal. The post-cervical, epitrochlear, femoral and inguinal glands are enlarged and hard. A few rhonchi are heard in the lungs.

The cardiac impulse is feeble, rather indistinct, and in its normal site. Relative dulness of normal size. At the apex the sounds are distant and feeble, especially the first which is almost inaudible. At the base both sounds are extremely ill heard; a soft musical diastolic murmur, heard loudest about the aortic and pulmonary regions, and transmitted up to the episternal notch and down over the whole sternum. The pulse is rather large, soft, slightly collapsing and visible at the wrist. No capillary pulsation.

The lips are dry, the tongue is slightly coated and dry in the centre. The right tonsil presents a few small white patches, and an elongated patch in front of the right faucial pillar. The abdomen is somewhat

tense. The spleen is palpable for two fingers' breadth below the costal border. The liver dulness extends one finger's breadth below the costal border, but is not palpable.

The lower extremities show no evidence of paralysis and are not tender. The knee jerks are increased, no ankle clonus, plantar reflexes present. There is no disturbance in the functions of the bladder or rectum and no decubitus. A few erythematous macular spots are present on the outer extensor surfaces of the forearms and the left flanks. The testes are normal; a pigmented area is present on the glans penis inside the frænum. There is no urethral discharge. The urine is acid; s.g. 1023, contains neither albumen nor sugar. There are a few granular casts and pus cells, but no gonococci on staining.

The temperature was irregular, with frequent elevations to 104 and 105, some of these rises being accompanied by severe rigors and sweating. The pulse ranged from 82 to 108 during the earlier part of his illness, and gradually increased in rate to 100 to 132.

The heart showed slight enlargement, and the diastolic murmur presented a series of changes. Thus on October 26th its musical character was lost, and on the following day a short systolic murmur appeared at the aorta. On November 2nd the diastolic murmur had a low pitched musical character, and on November 10th this musical character again disappeared.

Nothing developed in the lungs beyond a few rhonchi.

On several occasions erythematous blushes appeared on the skin. A slight yellow tinge of skin and conjunctivæ was noted on November 15th, and on the 16th, the day of death, an abundant miliary petechial eruption on the abdomen and back, and to a less extent on the thorax and limbs.

There were severe pains lasting several days at a time, in the heels, wrist, ankles and along the front of the tibiæ, and although very tender none of these areas presented any swelling.

The parotid gland was slightly enlarged and tender on October 25th.

Loss of flesh was considerable; emaciation and anæmia were very noticeable. The following were the blood counts:—

October 19.—W.b.c. 19,600.

October 26.—R.b.c. 4,560,000, w.b.c. 19,600, Hg. 60 per cent.

November 9.—R.b.c. 3,400,000, w.b.c 36,200, Hg. 55 per cent.

Three cultures taken by Dr. McCrae proved sterile.

There was vomiting for 48 hours from October 10th. The urine constantly contained granular casts, but never showed albumen.

An ophthalmoscopic examination by Dr. Stirling showed marked ocular pulsation, and hazy reddish discs.

Death took place on November 16th, the total duration of the fatal illness being 55 days.

The autopsy was performed 36 hours after death, and the following facts bearing upon the case may be noted.

External Examination.—The entire body, front and back, and all the limbs dotted by small, one to three mm. diameter, purple petechiæ; the external genitals show no scar or signs of urethral discharge. The pericardium contained one ounce of clear fluid of icteroid tint, which showed no micro-organisms upon smears.

Heart.—Weight 370 grm.; all chambers are moderately and apparently uniformly, dilated, and the slight degree of hypertrophy is also distributed uniformly; the left ventricle contains a small yellow ball thrombus. The muscle is pale, soft and slightly mottled, but sections fail to show any histological change of note. All valves are healthy save the aortic, upon the free edges of which are seen irregular vegetations of firm consistence, and but slightly friable. The anterior cusp is most affected, and the vegetation measures roughly 2 x 1.5 x .75 cm. in bulk; on the other two cusps appear much smaller similar vegetations. No loss of valve substance can be seen to have occurred. Smears from all parts of these vegetations show pus cells, some disorganized, crowded by diplococci, many of which can be seen to be definitely crescent-shaped, negative to Gram's stain. Parts of the field bear an exact resemblance to a smear made from urethral pus in gonorrhœa. The coronary arteries and the base of the aorta show a slight degree of arterio-sclerosis.

Lungs.—There is considerable œdema and evidence of recent aspiration of vomitus in the bronchi and bronchioles.

Spleen.—This organ weighed 730 grms, was much enlarged, the capsule being tense, the tissue pulpy, soft and showing many infracts.

The kidneys indicated moderate parenchymatous nephritis; the urethra showed a slight diffuse reddening, and gonococci were found in smears from its lining membrane.

Cultures taken at autopsy from the heart blood and from the spleen were negative; from the heart valve cultures showed diplococci, positive to Gram's and bacillus pyocyaneus.

Attempts to grow the gonococci failed throughout, the heart valve cultures showing abundant growth of the diplococci, positive to Gram's and of bacillus pyocyaneus. Sections of the vegetation showed a mass of fibrin, partly organized, with localized infiltrations of leucocytes. Sections stained by Gram's showed many diplococci, but by no method of staining (mainly carbol-thionin and decolorization methods) could the gonococci be distinguished in the tissues.

The complete anatomical diagnosis is as follows: "Acute vegetative aortic endocarditis (gonococcus), hypertrophy and dilation of heart, moderate arterio-sclerosis; acute catarrhal bronchitis (aspiration), œdema of lungs; acute splenitis; fatty infiltration of liver; chronic parenchymatous nephritis, with cyst of kidney; urethritis (gonococcus)."

The diagnosis of malignant endocarditis was readily made from the septic character of the symptoms associated with a diastolic aortic murmur which developed under observation. The course of the disease fully bore out this diagnosis, and it was also favoured by the frequent changes in character of the murmur. The possibility of a gonorrhœal origin was considered during life, but was not thought probable. No evidence of gonorrhœa, except a few pus cells in the urine, and no gonococci were discovered. The long period of time, eight months, elapsing between the onsets of the two maladies was also regarded as rendering this view improbable.

In Thayer and Lazear's paper *Journ. of Exp. Med.*, 1899, the writers however, state that there is no special relation with regard to the time of onset and the attack of urethritis. In some instances endocarditis comes on almost immediately after the onset, or there may be an interval of weeks and months. In looking over the 32 cases collected by these writers, so far as dates are given, in the great majority of instances endocarditis set in within a few weeks, and only in three or four instances did it appear at an interval of several months. Although the majority of the cases are accompanied by arthritis, this feature is by no means constant; and in the present instance arthralgic pains were at times prominent, but there was never any articular swelling.

It is certainly remarkable that a gonorrhœa treated in hospital for five weeks, and apparently completely cured, should be the origin of a fatal endocarditis after such a long period had elapsed. The discovery of gonococci in the urethral mucosa after death, identical with those in the cardiac valve, is sufficient evidence of the origin of the fatal malady. That the organisms were gonococci is shown by their characteristic biscuit shape and intracellular character; by their decolorization with Gram's and by their failure to grow on ordinary media.

One previous case has been exhibited to this society (*Mont. Med. Jr.* XIX., p. 702). In 1890 the late Dr. Wyatt Johnston showed a heart, which is still preserved in the McGill Museum, in which he found diplococci, resembling gonococci in shape and size. They were negative to Gram's, and failed to grow in agar-agar. They occurred in small groups, each pair of cocci being slightly separated from the

neighbouring ones, but they did not lie in the substance of the cells. No gonococci were found in the urethral mucosa, although the patient had had several attacks of gonorrhœa, and two attacks of gonorrhœal rheumatism. Dr. Johnston did not believe the proof of the organisms being gonococci was conclusive, owing to the absence of cultures, but with the light thrown on this subject by numerous cases subsequently recorded, there can be little doubt that the bacteria were gonococci.

DOUBLE TUBERCULOUS PYO-NEPHROSIS WITH CALCULUS.

BY

J. ALEX. HUTCHISON, M.D., AND JOHN McCRAE, M.D.

T. A., 45 years of age, was admitted to the Montreal General Hospital on October 26th, 1903. He was born in Newfoundland and had resided in Montreal for the past fifteen years.

Twenty years ago the trouble began with pain in the left loin, the pain being paroxysmal in character, and referred down the leg, with frequency of micturition followed by an opaque discharge usually blood stained. The condition was sufficient to require him to take to his bed for a few days. There was vomiting and nausea. The attacks recurred at irregular intervals; at one time a period of freedom lasted nearly eight years.

For the past few years the attacks have recurred at intervals of three months, and for the past six months there has been an attack each month, and urine has been blood-stained during this latter period.

Several small stones have been passed during the last year, some of them accompanied by very severe pain referred down the left thigh and scrotum. There has been nausea, but no vomiting until the last attack before coming under observation.

During the more recent attacks he has been under medical observation, and an elevation of temperature has been noted.

On admission, patient was found to be markedly emaciated and suffering from septicæmia. In attempting to palpate the left kidney it did not appear to be enlarged, but there was in its neighbourhood some resistance and tenderness on deep pressure.

The specific gravity of the urine was 1010, alkaline, albumen present, 2 grams to the litre, with pus in abundance.

On October 29th, 1903, under ether anæsthesia, an oblique left lumbar incision was made and the kidney explored. The perinephritic fat appeared healthy, the kidney seemed larger than normal, the capsule was punctured and the kidney opened at its convex border.

Read before the Montreal Medico-Chirurgical Society, 4th March, 1904.

A small fairly smooth calculus one cm. in diameter was found. No pus, but some blood-clot, and a large quantity of calcareous material was found in a much dilated pelvis. There appeared to be a large mass immediately above and closely adherent to the upper part of the kidney, which did not communicate with the pelvis.

The wound was packed with gauze, a large rubber drain being left.

Patient recovered from the operation well, but did not improve. He died on November 9th, or eleven days after operation, from septicæmia.

PATHOLOGICAL REPORT BY DR. MCCRAE.

Left kidney consists of two parts, probably a congenital condition, the lower of which has been incised and explored, and a stone removed from it at operation. The pelves of both parts are dilated and contain pus and blood-stained material; lying ventrally to the region between these two is a large mass 12 cm. in diameter, with vessels running over the peritoneum, which is adherent to its surface, on section, the mass is much broken down and has pus in its substance. The kidney substance is nowhere more than 15 cm. in diameter, and the pelvis contains purulent fluid; there are small abscesses in the perinephric tissues at the lower end of the kidney.

The right kidney is large, the tissue thin, the organ fluctuating and contains a large phosphatic calculus 4 by 3 by 3 cm. in size; there is much pus, much phosphatic debris and the wall is thickened. The ureters are dilated. The bladder contains purulent urine. All cultures are mixed. On microscopic section the tumour is found to be tubercular.

As bearing on the primary focus of the disease, the glands of the right lung were found calcified.

CHILDBIRTH COMPLICATED WITH ECLAMPSIA.

BY

J. J. ROSS, M.D.; W. W. CHIPMAN, M.D., AND J. R. GOODALL, M.D.

DR. ROSS:—During the past year I have had in my practice two cases of multiple pregnancy associated with renal symptoms. The one, is the case which we record this evening wherein all prophylactic treatment had been neglected. In the other, the treatment advised was carried out systematically, and the patient was safely delivered at term of living children and has suffered no subsequent complications.

During the early part of September I was consulted by Mrs. G., aged

Read before the Montreal Medico-Chirurgical Society, 19th February, 1904.

24 years, who requested me to attend her during her confinement. She was apparently a strong, muscular, well nourished woman, claims never to have been ill beyond a slight attack of influenza a year ago. Mother died from consumption; father living and healthy; three sisters and one brother living and healthy; one brother died in early childhood.

She married in November, 1902, having previously worked as a laundress. She became pregnant about the month of April, 1903, after which she had a great deal of gastric disturbance, vomiting frequently during the day and occasionally during the night. There was frequency and urgency of micturition day and night, which I interpreted as the usual pressure or reflex symptoms.

The patient engaged me the first week of September, which was then the 5th month of pregnancy. I examined her urine then, but found no albumen. I did not see her again until November 2nd, when she was entering the 8th month. I found her then with considerable œdema of the lower extremities, with some slight swelling of the hands and fulness of the face, which she claims came on gradually after my first visit. I examined a specimen of urine, but found no albumen. I called next day and put her on liquid diet, with daily morning salines and requested her to lie down as much as possible during the day. I left orders with her to advise me at once if she had headache or any peculiarity about her eyesight. After keeping up the treatment for one or two days she discontinued it, declaring herself to feel entirely well. I did not go back, but felt that she would give me future trouble.

On the night of the 16th November, 14 days after seeing her, being the 8th month of pregnancy, the husband came for me by night, stating that he thought his wife had taken a fit. I was not at home at the time, but when I returned between 12.30 and 1 a.m. he was back, stating that his wife had taken several fits. Suspecting they were convulsions I immediately telephoned for the ambulance. When I reached her, 15 minutes afterwards, I found her actually in a convulsion, which I was told was the eighth. I gave her half a grain of morphia as soon as possible, and with inexperienced assistance began the administration of chloroform. Upon examining, I found the os dilated the size of a fifty cent piece, with the breech well engaged. Without waiting, I immediately converted it into a foot presentation. By this time Dr. Goodall arrived with the ambulance, when by his assistance I delivered the arms and aftercoming head. On examining further we discovered we had to do with a multiple pregnancy with the head presenting. Without taking time to determine the position I applied the forceps, and after considerable traction discovered I was attempting to deliver a child "face-to-pubes." Relaxing and putting

the patient in the lithotomy position delivery was accomplished fairly easily, and with comparatively little laceration. The after resuscitation of the infants which were slightly apnœic and the lacerations repaired, they were all taken to the hospital, where the mother is still under treatment. The children who are both males were exceptionally well nourished, they throve and are now strong and well grown.

DR. GOODALL:—Having heard the early history of Mrs. G. by Dr. Ross, let me invite your attention to a few remarks upon the condition of the patient when admitted to the Royal Victoria Hospital, also a few words upon the subsequent course of events.

Shortly after delivery mother and children were transferred to the hospital. In the ambulance she made constant endeavours to sit up, and a constant low muttering delirium was present and she had frequent vomiting.

Her condition upon being admitted was as follows: Arrived at hospital 4.15 a.m. Patient is a woman of very large frame, very well nourished and of fair complexion. She presented a general appearance strikingly suggestive of grave renal disease, face and eyelids markedly œdematous, as were also the dependent parts of the body. Feet and legs greatly swollen, hard, as if œdema had been present for some considerable time. She was in a semiunconscious state with low muttering delirium; she had bloody froth about the mouth, tongue slightly bitten; no evidences of paralysis present. Pulse 84, temperature 97, respiration 22. Fifteen ounces of urine, somewhat turbid, were withdrawn. Upon examination this was found to have the following characters: acid, 1015, almost solidified on boiling, no sugar. Blood casts, finely and coarsely granular casts very numerous, urea, eight grains per ounce. The uterus was well contracted, and other organs presented nothing abnormal on physical examination.

Consciousness slowly returned; patient was given an ounce of magnesia sulphate by Hey's method, and this was repeated in one hour. She seemed to improve slowly, when at 8 a.m. she was seized with a violent prolonged convulsion. This was preceded by several efforts at vomiting, the last of which was productive of a large amount of brown fluid. An enema proved very effective, and at 9 a.m. she was put into the first hot pack, during which she had a second severe spasm; pulse not so bounding, but much more rapid. Patient did not regain consciousness between seizures. Large submammary saline injection of 35 ounces was given. At eleven a.m. there occurred a very violent seizure and a similar one at 1 o'clock, one-fourth grain of morphia was given hypodermically twice during these seizures. Packs were

repeated every three hours, and the response to them was quite beyond the ordinary result achieved. Heart grew quite rapid, 110, and sounds much weaker. Respirations 20, patient quite unconscious.

Owing to the inability to control the spasms and owing also to the rapidity of the pulse rate, it was deemed advisable to begin use of veratrum viride. Fifteen minims were given hypodermically every half-hour for a few doses, and subsequently every hour. Patient was soon under the influence, for in eight hours the pulse rate fell from 110 to 50. The magnesia sulphate was continued as consciousness returned, and by five p.m. the bowels had acted very freely. Lochia was copious. Submammary salines and free purgation and hot packs every four hours characterized the subsequent course of the treatment.

It will be interesting to note here the effect of the veratrum viride upon the respiratory system. When patient had 90 minims drops of the drug the pulse rate fell to 50, and the respirations became very irregular and very slow. At times there would be but eight to the minute, and they consisted of two deep respiratory efforts and a long period of apnœa, and the throat had to be frequently swabbed to remove a thick, tenacious, ropy, mucous, secretion, which greatly impeded the normal functioning.

During the first 24 hours patient passed 104 ounces of urine, owing to the large amount of subcutaneous salines administered; and the effect upon the total daily elimination is well represented on the chart diagramatically, as is also the fall in the amount of albumen per litre owing to this active diuresis and dilution. During the subsequent two days nothing of importance occurred; the excretory organs were functioning very well. Total amount of urea was markedly increased and the albumen diminished. Perspirations were drenching in character and the heart was quite regular, as were also the respirations, and by November 19th her face was free from œdema, though there still remained considerable anasarca of the legs and back. Until November 19th patient had had packs every four hours, submammary salines in large quantity and free purgation with magnesia sulphate and calomel. The total excretion of urine during November 19th was 140 ounces. It was considered advisable to stop the packs, and patient it was thought was well on the way to recovery.

Her general condition seemed to improve with equal rapidity during November 20th, and my bedside notes state that she is mentally quite bright and frequently asks about her children and her husband. She has no headache and no loss of vision.

On November 21st, patient complained of severe temporal headache which comes and goes, and her general condition suggests that she has

not improved in the last 24 hours. Urine is slightly diminished in amount and she is not thirsty, nor does she take her nourishment as previously. On November 22nd, patient complains of severe temporal headache, nausea and vomiting and of dimness of the field of vision. Eyelids somewhat puffy, and œdema of lower extremities has shown no diminution during the last 24 hours. Patient's mental state shows more clearly the remarkable change coming over her. She is dull, lethargic and mentation is slow, and the receptive centres are much dulled. She must be spoken to very loudly to get her attention, and her central nervous system responds even then but for a moment to very strong afferent stimuli.

At 6.30 p.m., without further premonition patient was suddenly seized with a severe convulsion, in fact, one of the most violent since the onset of her illness, and in twenty minutes she had had four severe seizures. One had hardly passed off before she was thrown into another. She was controlled at last by chloroform inasmuch as one-quarter grain of morphia, even when repeated failed to exert any influence. Free purging, packs and salines, subcutaneously administered, were again resorted too, and patient responded very freely to the packs. Involuntary stools and urination occurred during and after the spasm.

Previous to the attack the pulse was full, bounding and only 60 to the minute, and the heart's action varied but little even after the four attacks had passed off. The respirations had been somewhat irregular during the whole of the day, and after the first seizure there would be two or three rapid respiratory movements, followed by a period of apnœa varying in duration from 35 to 45 seconds, and there was thick mucous in the throat. In view of the slow pulse and impeded respiration it was not deemed advisable to resort to veratrum viride.

I stated above, that, without further premonition the convulsive seizure set in; now let me enumerate the premonitory signs. They were: Headache, nausea, vomiting, abnormally slow receptivity and cerebration, dimness of vision, arrest of the disappearance of œdema from dependent parts of body, and appearance of it in eyelids, diminution in excretion of urine, diminution in specific gravity of urine, diminution in total output or urea as appears from the diagram, and increase in amount of albumen and casts.

The unconsciousness and stertorous breathing lasted well on into the following day, when consciousness slowly returned. During November 23rd she had occasional vomiting, complained of severe headaches and of inability to see. She was very dull throughout the day, but on the next morning at 2 a.m., a very remarkable change occurred in the

mental state of the patient. As I entered the room the contrast of that which I then saw in the patient, with the condition present two hours previously could not have been greater. The patient rose in bed, watched my every movement, would turn over in bed so as not to lose sight of anyone in the room. All her movements and actions bespoke suspicion. Palpebral fissures were wide, pupils widely dilated and eyes staring, in a word, from a condition of hebetude and lethargy with slow receptivity and mentation, together with almost complete apathy, she was suddenly changed to a state of alertness, vivacity, restlessness and sleeplessness, she was most of the time apparently deeply absorbed. Her speech was quick and jerky, a contrast to her slow normal staccato speech. She frequently asks what is the object of those about her.

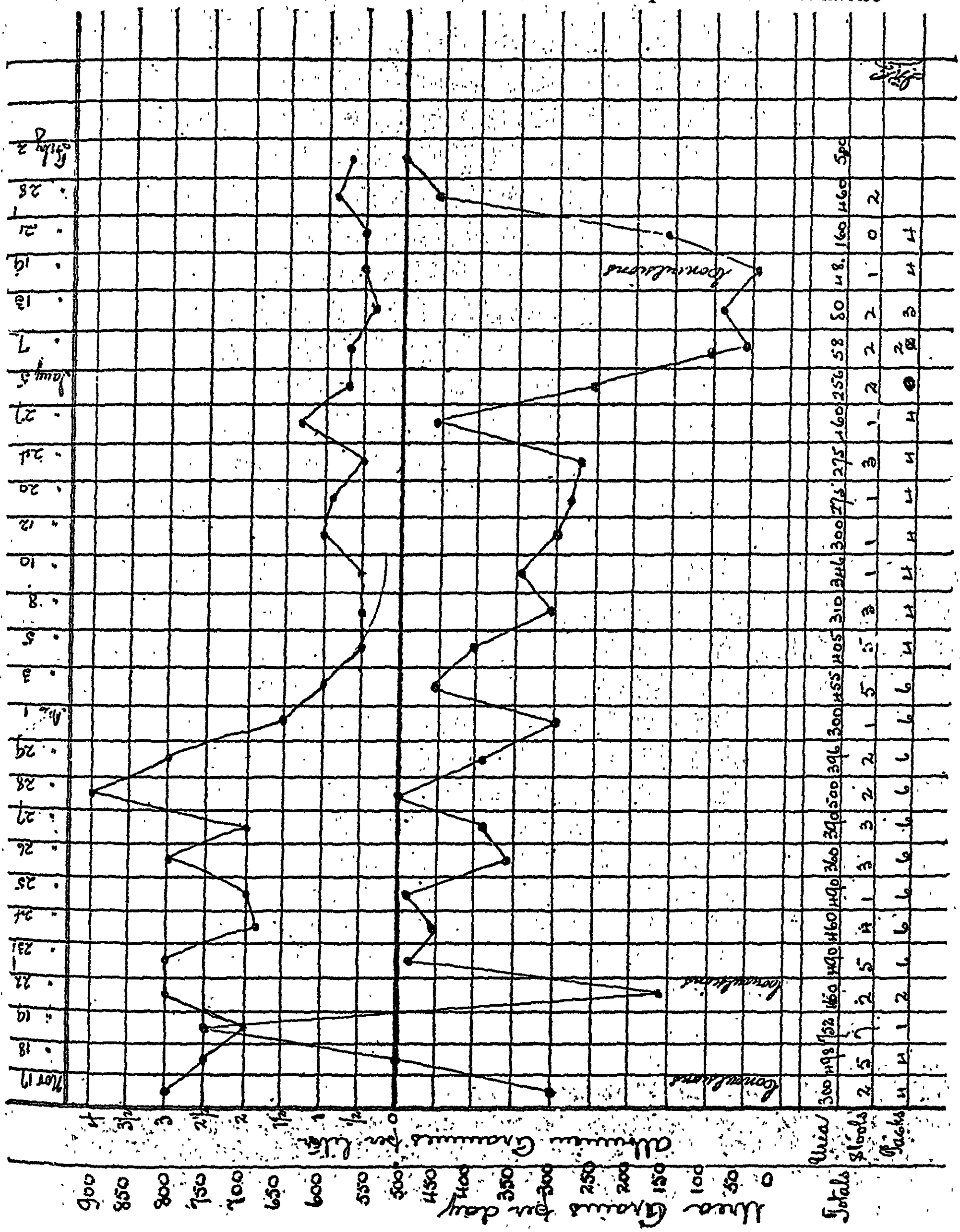
During the day the mental state showed but slight change, but the amount of urea became greatly increased and the œdema showed signs of decrease. During that evening patient had hallucinations of sight and illusions of hearing. Frequent involuntary stools and micturition occurred.

On November 25th, patient's mental state shows slight improvement. Her general condition also shows improvement. She responds freely to the packs, and the total output of urea is increasing, as is also total excretion of urine. Patient made rapid progress during the succeeding day, so much so, that on November 27th the special nurse was discharged. Ten minutes after her departure a heavy fall was heard, when the nurse rushed to ascertain the cause, she found patient sitting up erect in bed endeavouring to disentangle herself from among the blankets, and in her struggles had thrown a hot water can from off the bed. She was quite irrational and fretful and frequently had illusions of hearing.

Throughout the 28th there was but little change, she was always preternaturally active both mentally and physically; this continued for some days and gradually disappeared. The subsequent course of events may be summed up in a few words. She improved slowly in every way, until the daily output of solids and of urea became about normal for one on such low diet. The œdema totally disappeared, and mentally she was quite recovered, but her condition became stationary, and in that state she still had one-half gramme of albumen to the litre and numerous finely and coarsely granular casts. Dr. Hamilton was asked to undertake the further care of the case, and on December 15th, 28 days after admission, she was transferred to the medical side.

A short note on the subsequent course of events will probably not be without interest. She ran an uninterrupted course for almost one month, when she developed acute tonsilitis from which she quickly recovered.

Her improvement had reached such a degree on January 18th, that she had ceased to be purged so violently as previously, packs had been stopped and she was up and about the ward. On January 20, having been up and well on the previous day, she complained of headache



after her breakfast. She soon became nauseated and some vomiting followed. She also complained of dimness of vision and of profound weakness. At 11 a.m. violent convulsion came on very suddenly, and she was immediately put into a hot pack, during which procedure she had a second seizure. She was purged shortly afterwards with magnesia sulphate and pilocarpine was given hypodermically. She soon regained consciousness and she suffered from violent headaches.

Let us now for a moment turn our attention to the prodromata of this sudden onset. Were there, when lacking in symptomatology, sufficient evidences on physical examination to show that she was growing progressively worse in spite of the fact that she felt quite well? A glance at the chart will show that there was a steady but rapid decline in the amount of urea excreted, or to be more exact—a decline in nitrogenous products even more marked than was shown in the first attack. It will also prove of interest as showing the relative importances of urea and albumen estimations, to know that the amount of albumen was not appreciably altered.

She improved slowly for a few days, then had another convulsion during and after which she was energetically treated. Since then she has slowly improved, and though she is now, from general appearances, fit to sit up, yet the urine shows a decided trace of albumen with finely and coarsely granular casts, and the amount of urine excreted is small. She had had irreparable damage done to the renal tissues, and the case has developed into one of chronic parenchymatous nephritis. In view of these facts, it has been proposed that she submit to operation for decapsulation of the kidneys. The patient and her husband have consented, and it is but a matter of time when this will be undertaken, and I sincerely hope that the surgeon may make a further report of the case while she is under his charge.

In conclusion, allow me to state that our reasons for presenting this case are manifold. Firstly, we think it of exceptional interest owing to the numerous complications, namely, twin pregnancy in a primipara, the numerous mental changes and the relapses into convulsions. Secondly, we present the chart of urinalysis in the endeavour to find a more certain premonitory sign of impending eclamptic seizures. We do not argue, owing to the rapid fall in nitrogenous products preceding an attack, that they are causal factors, but that it is more reliable than is albumen estimation. The accompanying chart shows this rapid fall of nitrogenous excretion preceding the attacks. The convulsive seizures correspond in time to the rapid decline in nitrogenous excretion.

DR. CHIPMAN:—There need be no apology for bringing to your

attention the report of this case this evening. Eclampsia is by no means a rare condition and its mortality continues to be, as always, in the neighbourhood of 25 per cent. Our object in bringing this paper before you is to give a carefully prepared clinical report of a case which we have had under our care in the Royal Victoria Hospital for three full months. Our object is merely to give an accurate and detailed clinical report and to add this to the cases which in the literature of the subject have been reported. As you will see from the chart shown by Dr. Goodall, daily examinations of the urine have been made for a period of some weeks, special attention being paid to the secretion of urea and the amount of albumin. We have taken the urea as an index of the total solids excreted by the kidneys. My own feeling is that more profit is to be derived from the careful study of such cases than from the formulating of any new theories upon the subject and the great need of the future is for further detailed clinical observation.

Eclampsia, as Zweifel has said, is a disease of theories, and I do not propose to-night to go at all into the numerous and varied theories which have been advanced since the early days of the last century, when Roger and Lever first demonstrated the presence of albumin in the urine. As you all know the old clinical theory is now discarded and the toxæmic theory of one kind or another holds sway. I wish merely to speak of the theories that have been advanced during the last ten years, and chiefly those of (1) Veit and Bandler, (2) Oliphant Nicholson and (3) Stroganoff.

1. Veit, as many of you are aware, chooses to regard the placenta as a secreting organ; certain enzymes are thrown off from the placenta together with cellular elements, trophoblastic, either from the syncytium or Langhans layer, and these are carried into the maternal blood streams and may, under certain conditions, give rise to a condition of toxæmia and eclampsia.

2. Oliphant Nicholson regards the thyroid gland as an important organ in this connection. A deficient secretion from the thyroid gland means that the proteid substances in their metabolism are not carried to the stage of urea formation; the result is the formation of certain "half-way" products which accumulate in the mother's blood, and may give rise to a toxæmia. This substance Nicholson calls iridothyrin, and claims to have used it beneficially both as a prophylactic and therapeutic agent in cases of eclampsia, claiming that this iridothyrin ensures the complete metabolism of all products.

3. Stroganoff regards eclampsia as an infective fever, giving as his reasons (a) that there is fever (b) one attack confers an immunity, (c) it is more frequent in primipara, and often seems to occur in

epidemics, being also more frequent in certain districts. In this connection I may mention an experience of which I was made aware when a resident in the Maternity Hospital, Edinburgh. During one month, namely December, six cases of eclampsia were brought into the hospital; these all came from one district, Stockbridge, a small thinly populated suburb, and the singular thing is that this same district has furnished to the hospital as many cases of eclampsia for a period of years, as the rest of the City of Edinburgh and suburbs put together.

In the pathology of eclampsia we find also little exact knowledge and much that is conjectural. The need here also is for careful and accurate observation in all cases that come to autopsy. Early in the beginning of the present century the kidneys were the organs supposed to be chiefly at fault. This view was gradually abandoned when it became known that only a small proportion of women with chronic nephritis suffered from eclampsia, and again, that in eclampsia the urine does not always contain albumin. The pathological findings which are generally met with are as follows:—

Kidney:—In the kidney there is often only a slight change; usually they are those of an acute nephritis, the kidney being large, soft and congested; there is hyperæmia and often marked death of the epithelium, the changes being the coagulative necroses of any infective disease. The epithelium of the tubules and the vessels immediately outside them seem to be the structures chiefly affected.

Liver:—Schmorl has done a great deal of valuable work upon the liver. The changes consist of minute hæmorrhages, while the liver on section shows reddish or whittish areas which are visible to the naked eye. These areas are necrotic, the necrosis being caused by thrombi in the small liver vessels. Larger hæmorrhages may occur under the capsule.

Brain:—In the brain there is usually œdema with flattening of the convolutions; punctiform hæmorrhages in the cortex and basal ganglia are frequently found, and sometimes larger hæmorrhages. This represents, in short, the changes which are found in a patient previously healthy who has died from eclampsia.

The present status of the question may be summed up in these words: "The clinical history and anatomical findings afford presumptive evidence that the disease, eclampsia, is due to the circulation of some poisonous substance in the blood, which gives rise to thrombi in many of the smaller vessels with consequent degenerative and necrotic changes in the various organs. But at the same time we are absolutely ignorant concerning the nature of the offending substance, and, besides, the experimental evidence thus far adduced in favor of such an etiological factor is not convincing."

We have nothing new to present in the way of treatment. Morphia was used in this case in small doses, as you have heard, but I confess to employing it always with hesitation. It seems at times necessary to give a dose of morphia, as it certainly exercises a quieting influence upon the patient, but my own feeling is that the less morphia is given the better. We used largely subcutaneous saline injections, placing beneath the skin as much as two or three pints at a time. This acts very soon in most cases as a powerful diuretic, and at the same time must dilute the toxine whatever it may be which is circulating in the blood. The rational treament must always be that which tends to increase and to strengthen the eliminative process, and I know of no more potent factor to initiate and maintain elimination than a subcutaneous saline injection. In the later weeks of the disease we in this case used the infusion of digitalis, one-half ounce dose given every four hours, and given hot. The diet of the patient has always been carefully watched, and while it was at first largely devoid of proteids, at the same time it was made as generous as possible. In the late weeks we have endeavoured to feed the patient as liberally as the kidney condition would admit.

Such is the history of the case as we have given it. You will see that this patient has undoubtedly an organic lesion in her kidneys, a parenchymatous nephritis. She gave no history of previous kidney trouble, and I think it is fair to assume that before the onset of the eclampsia her kidneys were healthy. This is one of those cases where eclampsia has determined definite organic change, and the ultimate prognosis for the patient herself is by no means satisfactory.

The annual exhibition of pathological specimens in the McGill Medical Museum opened on the 23rd March, and will continue till the 15th April. The more noteworthy new specimens are a series of eyes mounted after the Greff method, three specimens mounted in imitation of the Buchlolz process, an iniencephalic monster and microscopic sections. After the exhibition the specimens will be placed upon the shelves.

The Medico-Chirurgical Association, of Joliette, held its last meeting on the 14th of March at Assomption, under the presidency of Dr. Albert Laurendeau. There was an official reception by the mayor, and the question of the tariff of medical fees came up for discussion. The president read a paper on Uterine Curettage, and the secretary, Dr. J. M. Aumont, discussed the prophylaxis of tuberculosis.

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EDITED BY

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THE CAPACITY OF THE CHEST.

Another illusion is gone. The broad-chested heroes of fiction and common speech have been removed from their high place. Dr. McKenzie did it with his calipers, tape measures, sliding scale and spirometer. He measured five hundred young men and divided them into two classes, those with broad chests and those with deep chests. Then after his usual manner he made diagrams drawn to scale, and proved to a conclusion that the narrow-chested man has a breathing capacity of nearly eight inches above the average of the whole five hundred, and that the broad-chested man has a capacity of nearly eight inches below the average. In one case the capacity was 259 cubic inches; in the other it was 243 cubic inches.

Another valuable demonstration which Dr. McKenzie afforded to the Society, is that the ability to throw a chest is no indication of vital capacity, which goes to confirm the suspicion that chestiness is not conclusive proof of intellectual greatness. The young god, which he

exhibited before the meeting had an expansion of six inches, which was increased two inches more by the familiar device of allowing the pectoral and dorsal muscles to spring out the tape by their contraction. Yet, when he was measured at a point below the influence of these muscles, the expansion was barely four inches, and by the spirometer, the actual capacity was determined to be only 243 cubic inches.

Dr. McKenzie's passion for the facts, which underlie the canons of beauty, led him to take measurements of such examples of Greek sculpture as have come down to us, and he found them in singular agreement with his results, that vital capacity goes with the deep narrow chest, rather than with the variety which is classed as broad.

These experiments open up other enquiries; whether the high thoracic, the thoracic or the abdominal method of breathing is the most effective in singing, whether the thoracic breathing, habitually found in women, is a provision associated with the main function of the female, or is a habit acquired from the exigencies of modern dress, whether in short it is the outcome of the curse of Eve or of the curse of the corset.

A JURIDICIAL INNOVATION.

The quarrel which the profession has with persons, who claim that they possess secret preparations for the cure of disease, or occult systems of treatment, arises from this very secrecy. We say that if a man has acquired anything which he thinks is of value in alleviating the miseries of his fellow-men, whether he has obtained it by long study, by inheritance, by accident, by a deep knowledge of the herbs of the field, or by commerce with the Indians, usually of South America, who appear to be the repositaries of all things of medicinal virtue, he should instantly disclose it for the illuminating of those of us who sit in darkness.

Some of these systems have in them an element of truth; but for the most part, their efficacy depends upon the mystery with which they are surrounded, and when they are dragged into the light, all virtue has gone out of them. They have their widest application in those cases in which moral disorder is associated with physical disease, as in alcoholism and other addictions to poisons. In reality, drunkenness is merely a manifestation of impaired will power, a giving over of the control of the nature to its baser elements, a replacement of the higher by the lower. That is also the explanation of those actual degenerations of tissue, which may be recognized by microscopic section.

We have no desire to speak ill of the magistracy; yet there is no excessive display of contumacy in saying that there are some social

problems, whose solution is *ultra vires* of the intelligence of a police magistrate's court. It has always been the perquisite of a judge to hand over the dead body of a criminal to be anatomized by the physicians; it is a new reading of the criminal code, that he may assign a living culprit to endure a secret treatment which is unauthorized by those who know most about the treatment of disease.

From statements publicly made, it would appear that persons convicted of drunkenness before the civic courts may in future have the option of going to jail, or undergoing a secret physical treatment for their moral evil. They may not have heard of the potency for harm of "black jags," which we believe are a feature of most secret cures, and with the weakness of will peculiar to them, they may elect that doubtful incitement to abstinence rather than the sure restraint which a term spent in jail will afford.

We have been at some pains to ascertain the facts about this juridicial innovation, but our researches have not been productive of knowledge; indeed there was a singular reticence on the part of the officials at the City Hall, of whom enquiry was made. One thing we may promise; if, out of this secrecy, events should arise, which become fit subject for inquiry before a Coroner's court, or before a court dealing with the assessment for damage for injury caused by bizarre medication, we shall render to the courts what assistance we can.

THE REGISTRATION OF BIRTHS.

The profession in New Brunswick has gained a victory over the law. Some few weeks ago a number of physicians in St. John were haled before the police magistrate for refusing to report the births, which had occurred in their practice. This action was taken under and by virtue of the Vital Satutes Act recently enacted by the Legislature, but upon representation by Counsel, the information was withdrawn, on the ground that the exclusive right to legislate upon vital and statistical matters belongs not to the local legislature, but to the Parliament of Canada.

Dwellers by the sea are ever lovers of liberty, but other causes than the regard for abstract justice must have been at work to import so much bitterness into the controversy. The registration of births is a necessary adjunct to a civilized way of life, and it becomes the profession to devise some means less offensive to them, by which that desirable end can be secured. To our mediæval mind there does not seem to be anything abhorrent in the idea of recording the fact that a child has been born into the world; rather it is a feat to be proud of, and one of increasing rarity save in the Province of Quebec. It is worth a little forbearance to prevent physicians and the law getting at cross purposes.

THE STUDENTS' UNION.

Readers of this JOURNAL, whose memories go back to a time two months ago, will recollect that a strong plea was made for a drawing together of the Young Men's Christian Association and Students' Union. The burden of the plea was that the university had need of the association, and that it could best fulfil its mission within the pale, by touching the student life at all points. Assurance was given at the same time that the Union would be built, and that speedily, even though at the moment all the money was not actually in hand. This assurance has been converted into a reality by the events which happened on Thursday of last week, upon the occasion of an address given before the undergraduates, by the president of the Cambridge Union, who is now on a visit to this country.

The vice-Principal, to whom the announcement was entrusted, conveyed the pleasing intelligence that a never failing friend of the University had voluntarily come to the help of the graduates, by contributing one hundred thousand dollars to the fund. The means have, therefore, been secured for the immediate erection of an edifice in harmony with the noble pile of buildings which has grown up around McGill during the past century. The gift has been given without condition; all that remains is that it is left to the honour of the graduates to continue their efforts and so provide a fund which will go to the maintenance of the union in perpetuity. The graduates also have done well. Almost without solicitation they have contributed of their money, and what is more significant they have evinced their gratitude and loyalty towards the university, to which they owe so much. To have made a complete canvass of the graduates, however useful from an educational point of view, would have consumed valuable time, and this splendid gift permits of the immediate undertaking of the work; the graduates can at their leisure acquire merit by continuing their contributions. There is a plot of ground at the corner of Sherbrooke and Victoria streets, and it only requires the exercise of a little imagination to see the Students Union upreared upon it. With the association building at the corner of the avenue, the needs of the undergraduates will be well supplied.

Sir William Macdonald has done great things for the university; if proof were required of his beneficence one has but to look around. This latest effort of his will crown his labours, for it marks a new era, in which all the interests of the university will be consolidated.

The communication by Dr. Charles H. Higgins, in the March number of the JOURNAL, entitled Human and Comparative Medicine, was

read before the Medical Society of Ottawa, not before the Ottawa Medico-Chirurgical Society as therein stated.

The second Congress of French speaking physicians of North America, to be held in the halls of Laval University in June, will be enriched by the presence of Paul Segond, surgeon of the Salpetriere, who will come as a delegate of the Faculty of Medicine. Prof. Pozzi is also expected as a representative of the University of France.

We have to chronicle, this month, the untimely death of Dr. M. J. Brennan and of Dr. W. B. Burland, two men long and well-known in their several walks in life. Dr. Brennan served the poor for twenty years and was loved by them—that is the highest distinction to which a surgeon can attain. Dr. Burland's work lay in a smaller circle, and he will be bitterly lamented by those who have endured the loss of their trusted physician. Of the "heavy change" to their immediate families we forbear to speak.

The more foolish amongst the public, who obtain their medical advice from the newspapers and drug stores, should take warning by the fate which overtook Raoul Moisan. In company with his brother and a chemist he entered a drug store, which was owned by his brother, and after due consultation all three partook of something, "that would give them an appetite for dinner." All three were seriously affected, and in a few hours Raoul Moisan was dead. The extravagant claims made for the contents of a drug store have bred contempt in the minds of those who know. If drugs are not as efficacious in curing disease as the public think, they are as potent for destroying life as they were in the time of Socrates.

Reviews and Notices of Books.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Original Articles. Edited by A. O. J. KELLY. Vol. IV. J. B. Lippincott Company, Philadelphia; Charles Roberts, Montreal.

This volume, like its predecessors, is full of interest in the variety of its contents and by the freshness with which each theme is treated. These Quarterlies are looked for with expectation, and nothing more is demanded of the reviewer than an enumeration of the contents.

TREATMENT:—The clinical features and treatment of Ulcer of the Stomach, by James Tyson, M.D.; the treatment of Pneumococcic infec-

tion of the lung, by John H. Musser, M.D.; the treatment of Chronic Bronchitis, by Thos. A. Claytor, M.D.; subcutaneous injections of Mercury for Syphilis, by Louis Julien, M.D.

MEDICINE:—On the importance for students of Physiognomical Diagnosis in disease, by Sir Dyce Duckworth, M.D.; some clinical aspects of Diseases of the Kidneys, by H. B. Favill, M.D.; the clinical manifestations and treatment of Chronic Nephritis, by L. F. Bishop, M.D.; Tropical Dysentery, with remarks on the diagnosis, prognosis and treatment, by Andrew Duncan, M.D.; Palpitation, Abnormal Rhythm, and frequent Pulse, by Thos. F. Satterthwaite, M.D.; the parallelism between the clinical symptoms and the pathological lesions of Rheumatic Fever, by F. J. Poynton, M.D.; Angioneurotic Edema, its clinical varieties, with typical cases, by James Burnet, M.D.; Syphilitic aortitis, by Robt. B. Preble, M.D.

SURGERY:—A case of interilio-abdominal amputation for Sarcoma of the Ilium, and a synopsis of previously reported cases, by W. W. Keen, M.D., and J. C. DaCosta, M.D.; Vesical Calculus, Thrombosis of the spermatic veins, Cervical tuberculous lymphadenitis, Sarcoma of the submaxillary gland, Syndactylus, traction injury of the perineal nerve, paralysis of the circumflex nerve, Rachitis, Acute osteo-myelitis of the os calcis, adenomatous goitre and ganglion, by Nicholas Senn, M.D.; the radical cure of Prostatic Hypertrophy; by J. Albarran, M.D.; Stricture of the Œsophagus, by M. F. Coomes, M.D.; the differential diagnosis of acute abdominal conditions which require surgical treatment, by W. H. Battle, M.B.; Acute Phlegmon, Lipoma, Multiple abscess of the kidney, Nephrectomy, by Wm. C. Dugan, M.D.

GYNÆCOLOGY AND OBSTETRICS:—The non-surgical treatment of Displacements of the Uterus, by F. H. Davenport, M.D.; the technic of manual surgical cleansing, Salpingectomy, Ovarian resection, Celloidin wound closure, by F. H. Wiggin, M.D.; Hysterectomy in acute Puerperal Infection, by A. Pinard, M.D.; Gonorrhœal Vulvitis, its dangers and treatment, by Louis Frank, M.D.

NEUROLOGY:—Hemiplegia in the young and in the old, by Alex. James, M.D.; Multiple sclerosis and Delirium Tremens, Cerebral hæmorrhage and right-sides hemiplegia without aphasia, Tabes Dorsalis, by Daniel R. Brower, M.D.

ORTHOPEDICS:—Congenital dislocation of the hip, Infantile cerebral paralysis, Congenital Club-Foot, by J. L. Porter, M.D.

OPHTHALMOLOGY:—The preparation of the patient for Cataract Extraction, by Casey A. Wood, M.D.; the diagnosis and treatment of Acute Glaucoma, by E. Valude, M.D.

PATHOLOGY:—The present state of our knowledge of Immunity, by Joseph McFarland, M.D.

DISEASES OF THE GALL-BLADDER AND BILE-DUCTS, including Gall-Stones. By A. W. MAYO ROBSON, F.R.C.S., assisted by J. F. DOBSON, M. S. (Lond.), F.R.C.S., third edition. London, Baillière Tindall and Cox; J. A. Carveth & Co., Toronto.

The name of the author would seem to be a guarantee of the quality of the work. Few men are more widely and favourably known in the department of surgery which deals with the bile passages and pancreas. The present work is quite up to the standard of his previous publications.

After devoting a chapter to the anatomy of the bile passages, the author enters fully into the physiology of the bile and its secretion, which by the way he regards as almost wholly an excretion. From his experience in animal experimentation and with numerous patients with biliary fistulæ persisting for a time sufficient to enable accurate observations to be made, he concludes that the old ideas regarding the influence of well-known drugs as cholagogues is erroneous. It would seem, for example, that calomel and rhubarb rather retard than excite a flow of bile; in fact the salts of soda stand almost alone as excitants of the biliary flow, and that only to a limited degree.

Mr. Robson has collected and described most of the abnormalities including congenital absence of the gall-bladder and ducts. He is inclined to regard the occlusion of the ducts sometimes found in infants as probably secondary to cirrhosis.

Infection and inflammation of the bile ducts and gall-bladder receive the attention which they merit, and this chapter is most complete. He clearly defines and differentiates simple empyema or suppurative catarrh of the gall-bladder, which is closely allied to suppurative cholangitis from phlegmonous cholecystitis which, however, is also associated with pus in the gall-bladder. The clinical history of each is clearly delineated.

The view that all biliary calculi have a bacterial origin is certainly gaining ground. It would seem that they result from a milder and more attenuated infection of the bile passages than occurs in phlegmonous angeocholitis, and more particularly from infection by the typhoid and colon bacilli.

Mr. Robson gives Professor Beck's results in demonstrating the presence of gall-stones by skiagraphy, and describes the technique that has given the best results.

In speaking of the difficulties encountered from hæmorrhage, the

author has found that while long standing jaundice undoubtedly increases this tendency, lesions of the pancreas, as for instance chronic pancreatitis, contribute much more to the increase of this most troublesome and dangerous complication. He continues to obtain satisfactory results from the use before and after operation of calcium chloride, and prefers it to gelatine.

The lumbar incision and retroperitonial approach to the common duct is condemned. A stab wound in the loin may be useful in certain cases.

The operative technique, in the perfection of which Mr. Robson has contributed such a large share is considered very fully, and his description of methods are clear and concise. Many case reports are given, illustrating the different conditions under discussion, and add much to the interest of the book. An appendix contains a brief summary of the 539 cases upon which the author has operated. The whole subject is discussed broadly, and the views of German, French and American surgeons are given due consideration.

PROGRESSIVE MEDICINE, VOL. I., MARCH, 1904. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 337 pages, 7 illustrations. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

One notes the change in form from the familiar red cloth binding to paper covers. It reduces the price and yet is sufficiently stout to withstand all ordinary wear and tear and makes the volume easier to carry and handle. In addition it permits the advantage of binding in conformity with one's taste and uniformly with other books. The subjects treated in this volume are Surgery of the Head, Neck and Thorax, by Charles H. Frazier, M.D.; Infectious Diseases including acute Rheumatism, Croupous Pneumonia and Influenza, by Robert B. Beble, M.D.; the Diseases of Children, by Floyd M. Crandall, M.D.; Laryngology and Rhinology, by Charles C. Grayson, M.D.; Otology, by Robert L. Randolph, M.D. An index completes the volume. Comparing small things with great, if other centres receive as much attention as Montreal, then the field has been well gleaned; Keenan's case of Cyst of the lower jaw, Archibald's Sarcoma with resection of the jaw, and Elder's case of Paget's disease all receive adequate mention. The volume is composed of five important

monographs, which those who have any interest in the subjects cannot afford to neglect. The book in its new form is pleasant to the eye and to the hand, and is done with rare editorial skill.

INFECTIOUS DISEASES, their Etiology Diagnosis and Treatment. By G. H. ROGER, Professor Extraordinary in the Faculty of Medicine, Paris. Translated by M. S. Gabriel, M.D. Lea Brothers & Co., 1903.

The practitioner who turns to this book for a categorical arrangement of symptoms and signs of infectious diseases will be disappointed. And yet a perusal of its pages cannot fail to interest both physician and surgeon alike. The work is more comprehensive than its title would imply for it "comprehends almost the entire scope of internal medicine and touches many of the principles underlying modern surgery as well.

The author, familiar alike with the laboratory and clinical methods of investigation, has treated the subject of infectious diseases from the broadest standpoint possible; dividing the work into twenty-four chapters, covering in the English translation upwards of eight hundred pages.

The first five chapters deal with (a) general considerations; (b) general characters of pathogenic bacteria; (c) etiology; (d) pathogenesis of infections; (e) microbic associations.

The next sixteen chapters include a careful and interesting study of (1) the defenses and reactions of the organism; (2) the results and influences of infection; (3) immunity and predisposition; (4) congenital infections and heredity, and (5) the diagnosis and prognosis of infectious diseases.

The remainder comprising about one-fourth of the book, is devoted to the consideration of the therapeutics of infectious diseases including hygiene and prophylaxis. The scope of the work and the standpoints from which infectious diseases are viewed, are thus indicated.

Dr. Roger pleads for simplicity, and has given to the medical profession a work of high merit and one which, while hopefully advocating new methods of treatment and new views of disease—contains the word of caution and maintains a respectful attitude toward much that has been long since taught. Let a few examples be taken.

"In establishing the rules of prognosis we have depended upon quite simple clinical procedures. As a matter of fact, laboratory procedures are in this respect of little importance. It was for a time believed that bacteriology would supplant clinical observation. The study of diphtheria led to the erroneous conclusion that examination of cultures

enabled one to determine the gravity of the angina. . . . Although such correspondence may at times be observed, it is far from being the rule and cannot replace examination of the sick, or even modify the prognosis based upon clinical observation. . . We, therefore, conclude that prognosis even more than diagnosis should be based upon simple procedures, upon an attentive examination of the patient, and minute and complete analysis of the disturbances which be present." This work is most interesting when dealing with the subject of serum therapy. A history of the treatment by serum method, with a summary of results is found. In the closing chapter devoted to this subject, such remarks as these may be found: "The serum may combat bacterial intoxication, it may oppose the development of the microbes, it may neutralize their products of secretion, but it can accomplish nothing against concomitant autointoxications. . . ." "Serums succeed better in laboratories than in clinical experience, and for this reason, old therapeutic methods should not be abandoned. . . ." The indications of serum therapy should be determined, and it should be associated with other methods. Such is the path the clinician should follow."

The translation appears to have been well done, and Dr. Gabriel has rendered distinct service to English students to whom the French text is not known. *W. F. H.*

INFANT FEEDING IN ITS RELATION TO HEALTH AND DISEASE. By LOUIS FISCHER, M.D. Third Edition, Revised; Containing 54 Illustrations, with 24 Charts and Tables, Mostly Original. 357 pages. Price, $2.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

There are few subjects upon which more thought has been expended than the artificial feeding of children, and yet the results are notoriously unsatisfactory. Some children appear to thrive upon any food, and others fail, no matter how much ingenuity has been expended on them. This book of Dr. Fischer's contains all that is known about infants' foods, well arranged and collected into convenient compass, from which the physician may choose according to the needs of the case. The author speaks from a large experience, and many of his results are such as to encourage hopefulness, whilst other cases cited are full of warning.

SUBJECTIVE SENSATIONS OF SIGHT AND SOUND, ABIOTROPHY AND OTHER LECTURES. By SIR WILLIAM R. GOWERS, M.D., F.R.S. P. Blakiston's, 1904. Chandler & Massey, Toronto.

It is not easy to speak in temperate praise of this book. It is the work of the whole mind of a great observer and teacher, embodying

large knowledge and mature reflection. To obtain a full understanding of these lectures one would require to be a linguist, a musician, a physiologist deeply learned in all that pertains to the special senses and in the profound pathology of the nervous system; yet every sentence is full of meaning even to the average intelligence. The lecture upon the Use of Drugs is a fine plea for the value of experience, a means of knowledge, which is too lightly regarded by the younger generation. The book may be put in the pocket, and it will be a refreshment to all who themselves hope in time to attain to wisdom.

ESSENTIALS OF DISEASES OF THE EAR. By E. B. GLEASON, M.D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia; third edition, revised, 214 pages, with 114 illustrations. Philadelphia and London; W. B. Saunders & Co. J. A. Carveth & Co., Toronto. Cloth, $1.00.

This little help, one of Saunders' Question-Compend Series, has reached its third edition and will be found of service as an aid to the student and to the physician, enabling him, as it does, to acquire the rudimentary facts of the science with as little preliminary reading as possible. The essentials of Otology have been stated concisely, without sacrificing accuracy to brevity. The illustrations—many from original drawings—have been selected so that they form a very commendable feature of the work.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. By GUSTAVUS P. HEAD; Vol. II., General Surgery, by John B. Murphy, M.D. The Year Book Publishers, Chicago.

This series appearing monthly, was mentioned in the March number of this JOURNAL, and on many previous occasions, and always with appreciation. The present volume deals with Surgery. There are but three references to Canadian literature, and none to work done in Montreal. To that extent, at least, the retrospect is incomplete.

THE TEACHING OF THE DUTCH LANGUAGE IN SOUTH AFRICA; a Paper read at a Conference of Principals of Government Schools in the Orange River Colony. By DR. BRILL, Rector of the Grey College, Bloemfontein, together with a letter addressed to the Rector by Mr. E. B. Sargant, Education Adviser to Lord Milner. Longmans, Green & Co., 39 Paternoster Row, London, New York and Bombay, 1904. Price, 1 shilling.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third series, Vol. XXV., edited by WILLIAM ZENTMAYER.

Medical News.

INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.

The tenth international congress of Ophthalmology will be held in Lucerne on the 19th, 20th and 21st of September, the place and date selected at the last meeting held five years ago in Utrecht. The organizing committee have elected as President, Professor Dufour; Vice-President, Professor Pflüger; Secretary and Treasurer, Professor Mellinger and Professor Snellen, president of the last Congress as honorary President. The President of the Swiss Confederation, M. Deucher, M.D., has accepted the position of honorary president of the Congress.

The notification for the meeting has been issued by a committee of Swiss ophthalmologists composed of Professor Snellen, Utrecht; Dr. Barde, Geneva; Professor M. Dufour, Lausanne; Professor Haab, Zurich; Professor Pflüger, Bern; Dr. E. Landolt, Paris; Professor Mellinger, Bâle.

Any colleagues desiring fuller information can obtain it from Walter H. Jessop, M.B., 73 Harley street, London; George Mackay, M.D., 20 Drumsheugh gardens, Edinburgh; Henry R. Swanzy, M.B., 23 Merrionsquare, Dublin; G. E. De Schweinitz, M.D., 1401 Locust street, Philadelphia; V. Coote, M.D., Quebec, or Alfred Osborne, Alexandria, Egypt, who have been appointed correspondents for the United Kingdom and for the United States.

There will be only one official subject, to determine which the authority of a Congress appears to be necessary, namely: "To settle the question of indemnity as regards the value of an eye, lost or injured." The committee has asked Professor Axenfeld, Freiburg; Dr. Sulzer, Paris, and Dr. Würdemann, Milwaukee, to draw up a report on the subject, which will be printed at the beginning of the official report, and will be first discussed at the Congress.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

The American Medico-Psychological Association will hold its next annual meeting in St. Louis, May 30th to June 3rd, inclusive, under the presidency of Dr. A. E. Macdonald, of New York. The local committee has decided to hold morning sessions only, so that the allurements of the exposition will not detract from the scientific value of the meeting or distract the attention of members. Special railroad rates will be obtained, and hotel accommodation at a reasonable price at the Planters Hotel has geen provided for. The addresses of welcome will be given by A. M. Dockery, Governor of Missouri, by Rolla Wells, Mayor of St. Louis, and on the part of the medical pro-

fession of Missouri by Dr. William G. Moore, president of the State Medical Association. The annual address will be delivered by Dr. C. G. Chaddock, of St. Louis.

CANADIAN MEDICAL ASSOCIATION.

The arrangements for the meeting of the Canadian Medical Association in Vancouver on the 23rd, 24th, 25th and 26th of August are well underway. The railway rate is very satisfactory, being about $62 from Toronto, which carries with it the privilege of returning home by way of St. Louis or the Yellowstone Park, arrangements having been made with both the Great Northern and the Canadian Pacific Railway. The fare from Montreal and the Maritime Provinces has not yet been determined, but it will be equally satisfactory. From present appearances it would seem that about three hundred members will be present.

THE MEDICAL SCHOOLS.

The winter session of McGill Medical School ended on the 25th of March; the spring term will begin on the 5th of April, and continue till the 13th of May. The written examinations will commence on the 20th of May, and the convocation for conferring degrees will be held on the 10th of June. The graduate course will probably be held at a later date than usual, but announcement of it will be duly made. Lectures in Bishops College ended for the winter on the 31st of March.

ASSOCIATION OF FRENCH SPEAKING PHYSICIANS.

The Association of French Speaking Physicians of North America will hold its second congress at Laval University, Montreal, from the 28th to 30th of June. A complete programme will be issued later. The secretary is Dr. J. A. Le Sage, 268 St. Denis street.

MONTREAL GENERAL HOSPITAL

During the month of February there were 248 patients admitted to the wards of the Montreal General Hospital, and 213 were discharged. The deaths numbered 28. The daily average of sick was 186, and the ambulance responded to 135 calls. In the out-door department 3,042 consultations were given.

WESTERN GENERAL HOSPITAL.

Report for February, 1904:—Admitted—surgical, 20; medical, 17; gynæcological, 5; total, 42. Discharged—cured, 24; improved, 5; not improved, 1; died, 1; total, 31. Remaining, March 1st, 32. Out-

door—medical, 170; surgical, 98; gynæcological, 99; eye and ear, 57; nose and throat, 87; skin, 21; genito-urinary, 88; total, 614.

ROYAL VICTORIA HOSPITAL.

The following is the monthly report for February: Patients admitted, 210; patients discharged, 212; patients died, 18. Medical, 74; surgical, 88; ophthalmological, 17; gynæcological, 22; laryngological, 9; total, 210. Out-Door Department: medical, 673; surgical, 314; eye and ear, 240; diseases of women, 109; nose and throat, 328; total, 1,664. Ambulance calls, 70.

NOVA SCOTIA HOSPITAL.

The forty-sixth annual report of the Nova Scotia Hospital for the Insane has been issued. During the year 133 patients were admitted, of which 106 were admissions for the first time. The inmates at the end of the year were 387, the deaths were 40, and the recoveries 53. The ordinary expenditure for the year was $69,802, and the per capita cost $182,17. The Medical Superintendent, Dr. Hattie, notes in his report the large number of deaths from tuberculosis and a mild epidemic of diphtheria; in a very interesting chapter on the Increase of Insanity, he notes that in the last forty years the admissions to the hospital have doubled, while the population of the province has increased by 38 per cent. The ratio of admission to population is now one in 4,173.

NEWS FROM NOVA SCOTIA.

The report of the Victoria General Hospital shows that 1,558 patients received treatment in the wards of that institution during the year, and 145 remained in the hospital at the time the report was prepared. Among the improvements noted, are a considerable extension to the Nurses' Home, the installation of a modern and complete X-ray apparatus, and a new electric elevator. Two surgical wards were refurnished. The ordinary expenditure for the year was $62,-621, or $1.23 per patient per day. This institution has been much improved under the superintendency of Mr. W. W. Kenney. The equipment has been greatly amplified and the efficiency of the institution correspondingly increased. The estimates for the current year provide an appropriation of $63,700 for ordinary expenditure, and $12,000 for expenditure on capital account.

Another report presented to the legislature which is of interest to the medical profession, is that of Dr. Geo. L. Sinclair, the inspector

of humane institutions. He is able to report gratifying improvement in the equipment and conduct of many of the county asylums, where the chronic insane, imbeciles and idiots are cared for. Dr. Sinclair is also inspector of penal institutions, and through his efforts much improvement has been made in the comfort and sanitary state of the jails and prisons throughout the province.

In his reports upon humane institutions and upon penal institutions, which are published separately, Dr. Sinclair makes cogent and forcible pleas for a school for feeble-minded children, and for a proper reformatory for erring youths. He has received strong support from Hon. Mr. Longley, Attorney-General, who addressed the house at considerable length upon the subject, and issued a brochure in the shape of a small blue-book setting forth his views.

The Government of Nova Scotia enjoys the distinction of maintaining the only hospital in America which is supported entirely by public funds. It also gives liberal support to several local hospitals. And now it is to be credited with the erection and support of the only sanitarium for tuberculosis in Canada, which is a government institution pure and simple. A model sanitarium has just been completed at Kentville, and is now being furnished. Its doors will be opened in a short time for the reception of patients. The institution is small, being designed for eighteen patients, but it is understood to be the policy of the government to erect other institutions in different parts of the province, and sufficient land has been purchased at the Kentville site to make large extensions. Time will be allowed, however, sufficient to determine how nearly the present institution approximates to the needs of the class it is intended to serve, so that plans for future buildings may, if necessary, be modified intelligently. The building just completed is comfortable and roomy, and embraces the most modern ideas in sanitarium construction.

An act was passed at the recent session of the Provincial Legislature providing for the abolition of the Provincial Board of Health, and the appointment in its stead of a Provincial health officer whose powers will, if anything, exceed those of the old board. For some time the board has been a very inert body, and the work expected of it has been performed by the secretary, Dr. A. P. Reid. Dr. Reid is a very enthusiastic sanitarian, and it is quite probable that he will be appointed to the new office.

The Halifax Branch of the British Medical Association has been having an unusually successful session. The branch meets fortnightly, and a number of papers of special merit have been presented this winter. Among those who have contributed papers are, Dr. Arthur Birt,

of Berwick, Dr. T. D. Walker, of St. John, N.B., and Dr. W. G. Putnam, of Yarmouth. Dr. H. K. MacDonald, of Lunenburg, is down for a paper at a future meeting. Other papers have been furnished, or are to be furnished, by local physicians.

The profession in Nova Scotia has sustained a distinct loss in the death of Dr. D. H. Muir, of Truro, who has been prominent in the medical circles of the province for many years. He was one of a medical family, his father having been one of the foremost practitioners of Colchester County, and Dr. W. S. Muir, whose sudden death two years ago was so sincerely mourned throughout the Dominion, was a brother. Dr. Muir enjoyed a large practice, but was able to find some time to devote to public interests, and he was three times elected mayor of Truro. He also took an active part in Dominion politics, and once contested Colchester in the Conservative interests, but failed of election. He was ill for many months, and death was not unexpected. Of his sons, one is studying medicine at McGill University.

An action for damages has been entered by Mrs. Lucy J. Stickle, of Toronto, against W. F. Bryant and George B. Smith, physicians. The writ states that the damages asked are for the "wrongful issue of a certificate of lunacy against the plaintiff, whereby she was illegally and falsely arrested and imprisoned." It is alleged that upon the certificate of the two defendants the plaintiff was taken one night from the residence of her husband and conveyed to the Asylum for the Insane. She was subsequently examined by Dr. D. Clark, superintendent of the asylum, who declared the woman to be sane, and she was released.

A meeting was held at Government House, Toronto, on the 14th of March, presided over by the Lieutenant-Governor, to consider plans for the furnishing of the Toronto Free Hospital for indigent patients suffering from consumption. The hospital is now almost completed, and is projected to relieve those in the advanced stages of tuberculosis. Addresses were delivered by Mr. W. J. Gage, chairman of the Executive Committee of the National Sanitarium Association; Dr. J. H. Elliott, physician-in-charge, Muskoka Free Hospital for Consumptives, and Rev. P. C. Parker, travelling secretary National Sanitarium Association.

The twenty-fifth annual report of the Montreal Diet Dispensary has been issued. It shows that 13,236 orders were filled, and the articles dispensed included beef-tea, 3,909 pints; chicken broth, 5,270 pints; wine jelly 2,635 pints; calf's-foot jelly, 1,144 pints; milk, 4,901 pints;

meat jelly and broth, 761 pints; blanc mange, 26 pints; puddings, 1,141. The receipts were $3,862, and $374 was carried forward.

The next annual meeting of the Ontario Medical Association will be held in Toronto on the 14th, 15th and 16th of June, under the presidency of Dr. James F. W. Ross. The general secretary is Dr. Charles P. Lusk, 95 Bloor street, west, Toronto.

The last number of the Bulletin Médical de Quebec bears the name of Dr. Charles Verge as editor, instead of Dr. Arthur Simard. In the words of a French contemporary, "we do not doubt that serious motives have induced Dr. Simard to offer his resignation."

The Government is making preliminary enquiries with a view of erecting a hospital for immigrants in Quebec, where cases of infectious disease may be treated.

A complete general hospital, costing $200,000, equipped with special departments, sun baths, a roof garden and a new style of heating, will be erected in St. Boniface this year.

The last number of the Ophthalmic Review, the leading journal of ophthalmology in England, published by the Churchills, has the name of Dr. J. W. Stirling added to its editorial board.

Dr. M. T. Brennan, gynæcologist of Notre Dame Hospital and professor of Laval University, died from pneumonia following an attack of influenza, in the 42nd year of his age. Dr. Brennan was a native of Montreal and a graduate of Laval, with which he was identified as a professor for 14 years. He was connected with Notre Dame Hospital for 22 years. Within the same month Dr. Brennan had lost two of his children, one a boy of five and an infant a year old.

Dr. Carter, of Moosomin, where he had practised for twenty-two years, died early in March.

Dr. William Semour Christie, of Flesherton, Ont., died on the 12th of February, aged 80 years.

Dr. J. C. Richardson, a graduate of Trinity University, Toronto, died at Burlington in his 39th year of pulmonary tuberculosis.

Dr. J. H. MacLellan, of Summerside, died on the 12th of March in the 54th year of his age. He had been health officer of the town for several years.

Dr. S. R. Harkness, of North Gower, died of appendicitis on the

7th of March in the 37th year of his age. He was a graduate of Queen's College, Kingston.

Dr. Elias Vernon, of Hamilton, died on the 7th of March in the 76th year of his age. He was a graduate of Toronto University and a native of Newmarket.

Dr. W. J. Anderson, of Smith's Falls, died on the 18th of February in the 65th year of his age. He was a graduate of Queen's College, Kingston, in the class of 1861.

Dr. Michael R. Collver, of Stevensville, died on the 9th of March.

Dr. J. B. Carruthers, of North Bay, died suddenly whilst engaged in his duties on the 13th of March.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

ALFRED S. TAYLOR, M.D., and L. PIERCE CLARK, M.D. "The Surgical Treatment of Facial Palsy with the Technique of Facio-hypoglossal Nerve Anastomosis." *New York Medical Record*, February 27, 1904.

The evolution of this operation from facio-spinal accessory anastomosis is reviewed briefly, the physiological, pathological, and anatomical reasons for preferring the hypoglossal are dwelt upon, and the technique of the operation described and illustrated. The implantation of the facial into the hypoglossal is preferred to an end anastomosis for though in the latter, nerve regeneration is more active and complete, a permanent paralysis and atrophy of all the muscles supplied by the divided hypoglossal necessarily follows. The operation is indicated in all cases of facial nerve paralysis resulting from a lesion of the nucleus within the brain or of the nerve trunk on the base of the brain, and in lesions of the nerve following operations for mastoid disease as recovery from these affections is rare. It is justifiable in Bell's palsy when there is complete reaction of degeneration of the facial nerve after several months of faithful treatment, and there is no indication of volitional return of nerve power. The zygomaticus major muscle is taken as the one giving most trustworthy information regarding the amount of recovery as it is innervated from the seventh nucleus alone. The best results are obtained in cases where the paralysis is due to traumatic division of the nerve, and in those cases where atrophy has been prevented as far as possible by systematic use of massage and

electricity from the onset of the paralysis. Less hopeful of complete recovery are cases of neuritis, especially if suppurative in character, as is suppurative mastoiditis. The after treatment is of great importance and consists in massage, electricity and later on co-ordinated muscular movements. Three cases are reported, in two of which a good prognosis could be made, while in one it was doubtful.

MAURICE H. RICHARDSON, M.D. "Remarks upon Cholecystectomy and Cholecystostomy with Special Reference to their Comparative Safety and Efficiency in the Treatment of Biliary Affections. *Boston Medical and Surgical Journal*, February 11, 1904.

The writer has practised cholecystectomy more frequently of late and has found it very satisfactory. The mortality has been small, convalescence rapid, and little tendency to hernia. The cases have been too few and the elapsed time too short, however, to formulate definite opinion regarding the permanent results upon the general well being of the biliary passages, or upon the reformation of gall-stones. In some cases there can be no question of choice between the two operations as when the gall bladder is old, contracted, infected, useless and already partially extirpated, here cholecystectomy alone is to be considered. Choice exists only when the gall-bladder is normal or comparatively so. The question of selection is discussed under the following heads: the comparative dangers of the two methods, the comparative efficacy of preventing the recurrence of gall-stones, the advantages of temporary drainage of the biliary passages, the possible necessity and increased difficulty of a subsequent operation. Clinical experience has shown cholecystostomy to be the safest of all operations on the biliary passages. It is assumed that extirpation of a normal gall-bladder is almost but not quite as safe as cholecystostomy, but if there is any choice on the ground of immediate danger it is in favour of simple drainage. If a cholecystectomy be done we lose the great benefit derived from drainage of the biliary passages or secure it by subjecting the patient to a much greater risk by draining from the hepatic or common duct, and we render a subsequent operation much more dangerous. He believes cholecystectomy does not give as good ultimate results as cholecystostomy which gives to the patient the very best chance for immediate and for remote recovery. There are cases in which drainage is quite as dangerous as extirpation as when the gall-bladder is deeply contracted, hard to find, adherent to surrounding viscera, and infected. In order to drain such a bladder it is first necessary to isolate it from surrounding structures and when it has been isolated down to the cystic duct, extirpation is a simpler and safer procedure than drainage. In

many such cases, however, it is essential to drain the bile passages, and if it cannot be done through the contracted gall-bladder and cystic duct, the hepatic or common duct must be sought for and drainage made through them, a much more dangerous and difficult operation than some appear to regard it. With reference to preventing recurrence of gall-stones he believes they are almost always if not always formed in the gall-bladder, and hence removal of the gall-bladder would be the ideal operation. The possibility—and it is a real one—that all the stones are not removed at the first operation, that gall-stones, according to the writer's experience, seldom reform even in the gall-bladder, the case in which drainage and its great beneficial effect may be obtained by a cholecystostomy all go to lessen the weight of argument in favour of cholecystectomy. With reference to drainage, he holds that when the bladder is normal or comparatively so, cholecystostomy provides the quickest and safest way. When the bladder is so diseased that it must be removed then drainage through the hepatic duct must be used. for cholecystectomy without drainage is an incomplete and dangerous operation. From all of which it would seem that cholecystectomy is an operation of last rather than of first resort, an operation for old, contracted, infected, useless gall-bladders through the remains of which, however, temporary drainage may be easily and safely established.

CHARLES L. SCUDDER, M.D. "Cholecystostomy and Cholecystectomy. A Study of a Certain Series of Operations. *Boston Medical and Surgical Journal*, February 11, 1904.

The following are the writer's conclusions regarding the two procedures. Cholecystostomy should be done in those cases of gall-bladder and biliary duct surgery in which quick drainage is needed for the deeper ducts and in which the surgeon is not absolutely sure that the deeper ducts are entirely free. Cholecystectomy should be done in cases of acute cholecystitis, in cases of cholecystitis resulting in gangrene and empyema of the gall-bladder, in small contracted (infected) gall-bladders which are functionally useless and will not be of service in facilitating drainage, and in all cases in which the surgeon is quite sure the deeper ducts are free from obstruction. During an acute attack of gall-stone colic it is wise to postpone operative interference. Any patient having definite signs of gall-stones or an inflammatory process around the gall-bladder should be operated upon, the earlier the operative interference is instituted the easier the operation and the less risk to the patient of the complications and sequelæ of gall-stones. An interesting series of 16 cases is given.

W. L. B.

Uterine Cancer.

JANVRIN, J. E. "The surgical treatment of early diagnosed cancer of the uterus, more especially by hysterectomy." *American Gynæcology*, May, 1903.

It should be stated at the beginning that malignant disease starting in the endometrium, is a purely local affection for some months, whether the endometrium be that of the body or cervix. When beginning on the vaginal portion of the cervix, its tendency to spread to and down the vaginal wall is checked for a time by nature herself, a bulwark of connective tissue being thrown up around the margin. When the case is seen at this period, *i.e.*, when the disease is limited to the uterus itself or has only extended to the mucous membrane of the upper part of the vagina, "vaginal hysterectomy is a promising and safe operation, but where the disease has extended through the vaginal wall, part of the bladder or rectum will require to be removed along with the uterus." Richelot gives, as a conservative estimate, ten per cent. of permanent cures by vaginal hysterectomy in cases in which the uterus is mobile and the disease is sharply circumscribed.

Winter states that, at the Berlin Clinic, of 300 cases of cancer of the cervix operated on prior to 1892, 30 per cent. were cured, *i.e.*, five years exemption from return of the disease, and in 30 cases of cancer of the body 53 per cent. were cured.

Olshausen, Waldstein, Kaltenbach, Fritsch, Leopold and others also report favourably upon vaginal hysterectomy for cancer, while Jacobs of Brussels, speaks as strongly against the vaginal as compared with the abdominal route. Freund, Amann, Pryor, Kelly, Polk, etc., favour the abdominal removal of the uterus together with all of the neighbouring glands, but E. C. Dudley of Chicago, writes, "this operation seems to me to involve an amount of danger which is out of proportion to the increased freedom from ultimate mortality."

RIES, EMIL. "The condition of the Pelvic Lymphatics in Carcinoma of the Uterus." *American Gynæcology*, July, 1903.

The microscopic examination of the pelvic glands in cases of cervical cancer, has shown that cancer of the uterus does not differ from that disease in any other part of the body in the proportion of cases in which the neighburing lymphatic glands are involved. While the extent to which the glands are affected varies, the type of disease is always the same in the gland as in the primary seat of disease. Another point noted is the fact that the glands do not become infected by direct continuity, but that particles are carried from the primary

cancer by the lymphatics to the gland and there proceed to grow. These secondary masses may undergo various degenerations and may even form cysts, which are liable to burst during their removal.

A carcinomatous gland is not always an enlarged gland, nor is an enlarged gland necessarily affected with cancer, which two facts should be borne in mind during operation as carcinomatous glands may not be felt until the peritoneum over them has been stripped up.

Occasionally epithelial ducts may be seen in the glands. These ducts may be straight or racemose and run along the trabeculæ and not into the gland tissue as in the case of cancer. Again, the epithelial lining is in one layer in these non-malignant ducts. These ducts are supposed to be remnants of the Wolffian body.

A condition resembling cancer of these glands is a large cell hyperplasia such as is seen in tuberculosis and other conditions. A variety of glands called "hemolymph" has been found both by Warthin and the writer. These glands contain leucocytes and red blood corpuscles in their spaces, and, from their direct communication with the blood vessels, form a channel for metastasis to occur.

Conservative Gynæcology.

MANN, MATTHEW D. "Should the uterus be removed when the ovaries and tubes are removed in cases of double pyosalpinx, when operating through the abdomen." *American Gynæcology*, July, 1903.

There is no doubt that the ovaries and tubes should be saved in all cases where such a proceeding is possible, but supposing that these structures are so diseased as to demand their ablation, should we proceed to remove the uterus also? Although for a long time opposed to such a procedure, the writer has at last been induced, by the experience both of others and himself, to answer this question in the affirmative.

While staphylococci and streptococci do not tend to spread by continuity of surface, but enter the blood and lymph vessels and are by them carried to distant parts, the gonococci spread from one surface to another without invading deeper parts. For that reason and because of the results of bacteriological examination, it is now generally accepted that gonorrhœal infection is the primary cause of the vast majority of pus tubes. The gonococci travel from the vagina into the uterus, and thence into the tubes where they attack the mucous membrane, here causing lesions which allow other germs to enter the lumen of the tubes. If the above be granted as true, then the uterus is affected in practically all cases of pus tubes and, therefore, it should be removed with the other diseased structures.

"Perhaps the strongest argument in favour of the removal of the uterus is to be found in cases where the infection is still acute." These are the cases in which drainage is required and no method of obtaining this can compare to the vaginal, especially where the uterus has been removed. It has been said that the removal of the uterus affects the sexual life of a woman. While this is undoubtedly true in the case of the ovaries, it is in no way correct regarding the uterus, this organ being "merely a passage-way and a nest for the growing fœtus." Another argument which has been advanced against hysterectomy in these cases is the added risk. This is really very slight and is entirely counterbalanced by the advantages of first having removed a diseased organ and second, by obtaining better drainage than where the organ is left.

NOBLE, CHAS. M. "Should the uterus be removed when the ovaries and tubes are removed in cases of double pyosalpinx, when operating through the abdomen or vagina." *American Gynæcology.* July, 1903.

Fifty-eight cases of pustular affections of the appendages were treated by hystero-salpingectomy with one death, while in 36 cases the appendages alone were removed and two deaths resulted. In other words hystero-salpingectomy and simple salpingectomy had mortalities of 1.7 and 5.5 per cent. respectively. In all of these cases the pus was limited to either the ovary or tube, but where pus is present elsewhere in addition the results are different. Six of these latter cases were submitted to hystero-salpingectomy with a mortality of 66.6 per cent., while in 22 cases the uterus was left with a resulting mortality of 22.7 per cent. In 58 similar cases, incision and drainage of the pus sacs gave a mortality of only 1.7 per cent.

TREUB, HECTOR. "The conservative surgery of lesions of the appendages." *American Gynæcology,* May, 1903 .

All cases of salphingo-öophoritis do not come under the category of surgical cases. Out of 612 cases of this disease, 433 were "more or less completely cured without operative interference." The treatment consisted of rest in bed and ice over painful area as long as the case was acute, after which warm vaginal douches were given, glycerine vaginal tampons were inserted and warm water compresses were applied to the abdomen. Of the 433 cases, only about 20 returned to the clinic for treatment, but doubtless others went to other clinics as most of these patients had come from a distance.

Electricity is not very efficacious, and the electric puncture "ought

to be rejected as much as massage." Massage may be of benefit in some old cases of pelvic cellulitis, but in cases of salpingo-öophoritis is distinctly dangerous, as one never can be certain of the absence of pus cavities among the adhesions.

The ultimate conclusions arrived at are (1) "Medical treatment suffices in at least one-half of the cases of salpingo-öophoritis. (2) Medical treatment being insufficient or contraindicated, one should *never* at the outset perform a radical operation of any sort. (3) The first operative stage should *always* be posterior colpotomy. (4) When by means of posterior colpotomy it is discovered to be a matter of tubercular affection, hysterectomy should be performed as soon as possible. (5) In cases of hydro-salpinx which do not yield to repeated colpotomy and necessitate other intervention, and in cases where one wished to try and remedy sterility in women, the conservative abdominal operations (resection, salpingotomy, salpingo-ovaro-syndosis) are indicated. (6) Salpingorrhaphy as an accessory operation to a course of laparotomy preformed for no matter what other operation."

Genital Tuberculosis.

VEIT, J. (Translated by C. P. Noble), "Concerning tuberculosis of the female sexual organs and the peritoneum." *American Gynæcology*, Sept., 1903.

While tuberculosis of the female genitals does not occur any more frequently at present than it formerly did, improved methods of examination enable us to detect it much more readily, autopsies on tubercular subjects showing that in from 4 per cent. to 30 per cent., the genitals were affected.

In deciding the question of the possibility of the occurrence of primary genital tuberculosis, we must be certain that no other organ or tissue than the genitalia, where the trouble can originate, is affected. Judged by this strict criterion, Veit considers that those authorities who quote the higher figures (18 per cent. and up) are unreliable. In diagnosing the condition, one may rest satisfied if undoubted tubercles are found, as it is often almost impossible to detect the bacilli in a given case. The tube is the locus most frequently affected, the uterus ranking second, while "no case of primary ovarian tuberculosis is known."

While the bacillus may traverse the genitalia in an ascending or descending manner, only those ascending can give rise to primary genital tuberculosis, as those which descend must come from an already existing focus in the patient's body. While this axiom is

correct, it should be borne in mind that the bacilli may travel down from a primary lesion in the tube, but even here the bacilli have had to first ascend and be deposited in the tube.

The organisms may be introduced into the genital canal during coitus, or by the examining finger or instruments, or, in the descending form, they may enter it from the peritoneal cavity, or such contiguous structures as may be adherent to the tubes. In addition, however, to the above two routes, *i.e.*, tubal and vaginal, the germs may enter the patient's body through vaginal and vulvar wounds and so get into the blood and lymph streams.

For the diagnosis of this condition, it will be necessary to examine scrapings from the cervix or endometrium or else the uterine discharge, and to find either tubercles or bacilli if we wish to be certain. When these cannot be found and the presence of tumours of the genitalia cannot be otherwise explained, examination of the chest and other parts of the patient's body may reveal some tubercular process and so suggest a probable diagnosis.

The only cases suitable for radical treatment are those of primary origin, but spontaneous cures of genital tuberculosis have been recorded. The treatment should be prophylactic as well as therapeutic.

Veit holds that marriage disseminates tubercle and that, therefore, marriage of a tuberculous person should be discountenanced. Sanitarial treatment, in fact the usual treatment of pulmonary tuberculosis, should be urged.

In local treatment, the free use of iodoform, antiseptic douches, etc., should be tried. If these fail and the disease is primary, Veit advocated the removal of uterus, ovaries and tubes by the abdominal methods, as after less radical measures fistulæ are apt to remain. The abdominal route is chosen because by the vaginal operation adherent coils of intestine are apt to be injured.

Necrotic Changes in Uterine Fibroids.

FAIRBAIRN, JOHN S. "A contribution to the study of one of the varieties of necrotic change in fibromyomata of the Uterus." *American Gynæcology*, August, 1903.

The form, "necrobiosis," here considered results in the conversion of the fibroid into a livid or red softened mass, surrounded by the whiter uterine tissue.

Virchow described tumours which had become necrobiotic as "soft myomata," pointing out that the surface had lost its white whorled appearance and had become "red or plainly fleshy."

The term "necrobiosis" or maceration was given to these tumours

by Gebhart, who compares the change to that which takes place in a macerated fœtus which has died in utero and has not been attacked by germs. He says that the growth becomes softened and, as a result of breaking down of the red blood corpuscles and consequent spreading of their pigment, becomes pink or flesh coloured and, later on, brownish or greenish.

The differentiation of fibroids into the hard and soft varieties should cease, as the latter are merely the hard tumours which have undergone degenerative changes. The rapidity of growth and their tendency to increase after the monopause is a clinical indication of degeneration and is a strong argument against the expectant treatment of such tumours.

These tumours are usually interstitial and do not reach a large size. Out of 19 specimens recorded by the writer, 17 were interstitial (two being also partly sub-mucous), and two were sub-peritoneal. The largest measured 7 x 6 x 6 inches, and in none was there any evidence of twisting of the pedicles.

The mass usually has a stale smell which may change to a distinctly fishy odour, which is probably due to the presence of some of the amine resulting from the breaking down of the proteids of the tumour. The process begins in the centre of the tumour and advances towards its periphery and bacteriological examination yields a negative result.

Histologically, the tissue of the tumour is seen to have undergone degenerative changes, some of the muscle bands having become granular or even hyaline and the nuclei either being absent or else responding very poorly to the staining reagents. In some places, the nuclei may be seen lying in the middle of vacuolated spaces, especially where the muscle bundles are cut transversely.

These tumours do not occur with great frequency. Out of 88 fibromyomata which were removed in five years in St. Thomas's Hospital, nearly 8 per cent. were found to have undergone this change. The age at which they occur most often is the same as for ordinary fibroids, viz., between 30 and 40. In regard to the relation between pregnancy and necrobiosis, it is worthy of note that in fifteen out of the author's nineteen cases the patients had been pregnant either at the time of or before operation. The etiology of this condition is obscure, none of the theories which have so far been advanced as to the condition having proved satisfactory.

The clinical manifestations are pain and rapidity of growth, but are not sufficiently well marked to be pathognominic. For example, Vautrin's patient had been affected with fibroids for some years and yet the onset of pain only dated from a few months previous to

operation. Out of the 19 cases, pain was severe in 11. Freund warns us to be on the watch for symptoms of auto-intoxication, as a sallow complexion, gastric disturbances, feeble circulation, nervousness and hypochondriasis.

Cystic Fibroyoma.

WEBSTER, CLARENCE J. "Successful removal of a cystic fibromyoma of the uterus, weighing 87 lbs." *American Gynæcology*, August, 1903.

The patient was 41 years of age and complained of enlargement of the abdomen, a feeling of discomfort, inability to walk with ease, and shortness of breath. Ten years before admission a small lump appeared in the left iliac region, and three years later this was made out to be a uterine fibroid as large as a fœtal head. At this time it is claimed that vaginal ligation of the uterine arteries was effected, but the tumour continued to increase in size. The tumour was tender until four or five years ago, but since then has been insensitive. Her menstrual history was negative except that the menses have been profuse of late. She was never pregnant. After admission, the patient was given tonics and diuretics and was carefully dieted. During operation, which lasted 2½ hours, Schleich's local anæsthesia was used for the first hour and chloroform for the remainder of the time, it only taking six ounces to keep her sufficiently quiet. The only times that the patient complained of pain were when adhesions were divided, when the tissues were pierced by the needle and when the ligatures were tied. There were numerous adhesions which were divided and a trocar drew off a quantity of fluid from some cysts which were present in the tumour. The entire uterus and its appendages were removed, as was also a portion of the abdominal wall on each side of the incision. The tumour was a multilocular fibro-cyst of the uterus; the tubes were greatly elongated and the ovaries considerably enlarged. The patient made an uninterrupted recovery.

Inflammation of the Parotid Gland of Genital Origin.

DALCHÉ, PAUL. "Parotidite d'origine génitale a la Ménopause." *La Gynécologie*, August, 1903.

In a recent issue of *la Semaine Gynecologique*, M. Condamin related a case of left sided parotiditis following a case of curettement for a mole, which was followed by local infection. The temperature reached 39.8°C., and the area of congestion and swelling rose as high as the lobes of the ears. On the fifth day, the trouble began to subside and continued to steadily resolve. M. Condamin concludes, first,

that parotitis following an ovariotomy is due to staphylococcus infection proceeding from the mouth in the majority of cases, but the organism may spread by means of the blood-vessels, and, second, that it may terminate either by suppuration or resolution. The prognosis is grave.

A nervous connection has been proved to exist between the genital organs and those of the neck. Operations upon abdominal organs, especially those of the reproductive system, produce an effect through the sympathetic nerve, upon the cervical ganglia which control the secretion of the salivary glands. The diminution of this secretion allows the germs existing in the mouth to travel along the ducts and so to affect the glands.

Case Report:—The patient was a stout woman, 44 years of age. Hot flushes and irregularity of menstruation were followed by a period of three months' amenorrhœa, which in its turn was followed by marked neurasthenia. About a year later, she experienced attacks of pain over the parotid gland, these attacks usually recurring every month, rarely every six or eight weeks. One gland would first become sensitive, then very painful. A few hours later, the gland of the opposite side would go through the same process, the swelling rapidly manifesting itself on both sides, together with redness and the skin shiny and tense. Little or no fever would be present, nor would there by any dryness of the mouth. The patient only complained of pain, which she described as severe and producing a sensation of rapid distension. The condition would disappear at the end of a day or two as rapidly as it appeared. Apart from obesity, neurasthenia and the menopause, the only pathological condition to be observed was a chronic metritis for which she had never been treated; her dentition was not defective and her mouth appeared to be healthy. The inflammation was evidently of an innocent nature, as there never was any tendency to suppuration or other complication, but its frequent repetition showed some persistent cause.

Gout, as a possible etiological factor, was excluded, as the most minute examination of the patient failed to reveal any evidence of the disease. Congestion of the liver, kidneys, intestines, bronchi, etc., as a result of vasomotor changes during the menopause has long been recognized, and it seems that now we have to add hyperæmia of the parotid glands to the list.

Sterilty in the Female.

Doléris, J. A. "Traitement des atrésies orificielles du col uterin." *La Gynécologie*, December, 1903.

Many forms and causes of sterility in the female have been described.

Sims laid great stress upon stenosis of the internal os as a cause and invented metrotomy as a cure, but this has now been abandoned as being ineffectual.

One should take into account the importance of the flexion of the body upon the neck, and at the same time the occlusion of the cervical canal, the abnormal flexion and the induration of the angle of flexion taking part in the atresia. Sims neither ignored nor misunderstood the importance of the flexion, but he paid chief attention to the stenosis.

One often finds a considerable contraction at the external os, this sometimes barely admitting a probe, and again the cervix is conical and elongated with a small opening at the tip. If, in addition, there exist a prolapse of the posterior vaginal wall and an abnormally deep posterior fornix as seen in elderly women, the chances of semen entering the cervical canal are greatly diminished. With these conditions, a cervical catarrh often co-exists.

Sometimes it is only the anterior lip which is hypertrophied forming the taper-like cervix. Stenosis of the internal os is liable to be present, also, from coaptation of the two lips. Lastly, the cervix has a normal formation, but the os is partially closed by an ectropion of the endometrium. In these three forms one sees an aggravated condition of ectropion and catarrh; not but that the atresia may interfere with menstruation or may be a matter of pathological importance, but even if the flow is started and escapes easily, the entrance of the spermatozoa is very difficult if not impossible.

In the above, instead of the intra-cervical mucosa rolling outwards bi-laterally or circularly, the opposite is the case. The vaginal mucosa covers over the ectropion and, by a slow process, forms a cicatricial coating of pavement epithelium which penetrates for several millimetres into the cervical canal. This process of entropion causes a greater degree of atresia than did the previous ectropion.

In treating these conditions, the incisions of Sims have been replaced by progressive dilatation and intra-uterine stems. The slow, repeated dilatation makes the uterus more flexible and brings the muscle into a healthier condition, but it produces no action upon the os externum, in the treatment of which we have either bi-lateral division or some plastic operation. The writer prefers either the removal of a wedge of tissue from each side of the cervix or else Simon's amputation.

F. A. L. Lockhart.

Society Proceedings.

SOCIETE MEDICALE DE MONTREAL.

Meeting of February 23rd, 1904.

DR. VALIN, PRESIDENT, IN THE CHAIR.

Dr. CORMIER exhibited to the meeting the model of a corset intended for use in cases of scoliosis, for which he claimed the advantages of lightness and solidity.

Dr. MERCIER expressed his preference for the old models of leather and steel. Dr. Monod compared it with a celluloid apparatus designed by Ducroquet, and thought Dr. Cormier's preferable. Dr. St-Jacques said that in Germany the celluloid apparatus was much thought of, but it should in reality be used as an adjunct to proper gymnastic exercises.

Dr. DUBÉ reported a case of right-sided pyonephrosis occurring in a woman 34 years of age, who had had six confinements, with infection following two miscarriages. The patient had been much improved by the use of a preparation well known in France containing several essential oils and resins, but he expressed his preference for surgical intervention.

Dr. DÉCARY reported a case of one of his patients suffering from double pyonephrosis which had been much improved by the use of turpentine and he was strongly of opinion that medical treatment should not be too lightly regarded.

Dr. MONOD was not a fanatical believer in operation in every case; he insisted upon the importance of accurate diagnosis and passed in review the various measures that a physician had at his disposal for arriving at a correct diagnosis, namely, the injection of methylene blue, the separation of the urine and catheterization of the ureters.

Dr. O. F. MERCIER attached great importance to sensibility in the lumbar region. He had found good results from the use of salol in such cases.

Dr. C. N. ROY read a case report of a patient who presented a primary tubercular tumour in the right nasal fossa. The tumour had been removed by the electric snare, and six months after the operation there was no recurrence. The diagnosis was confirmed by microscopic section and by injection of the substance into rabbits.

Dr. FOUCHER was of the opinion that tuberculosis of the nasal fossa was common enough, and would be found much more frequently if careful examination were made. He had at that moment three cases under his care, and all were in a fair way to being cured.

The Painters' Union requested the Society to name a committee to

confer with its executive in regard to the adoption of a rule compelling persons who intend decorating their houses to remove the old paper which might be upon the walls, before the new was applied. The President and Secretary were named as a committee for that purpose.

Meeting of March 8th, 1904.

DR. VALIN, PRESIDENT IN THE CHAIR.

Dr. FOUCHER reported a case of blindness caused by drinking a litre of methylated spirit. Blindness was instantaneous and irremediable After a few remarks on amblyopia in general, on its causes and the optical lesions created, Dr. Foucher remarked that it was a danger deserving attention. Methylated spirit mixed in different proportions with ethyl-alcohol was formerly used for commercial purposes, thus rendering it less toxic and consequently less dangerous. To-day, methylated spirit was marketed pure, and a still more dangerous thing was its utilization for the falsification of ethyl-alcohol. Owing to its toxic action and numerous accidents brought about by its use within the last few years, it was important to label this alcohol that the public might be guarded against the dangers from its use, and that in conformity with Dr. Buller's advice, labels should be printed: "This liquid when absorbed internally may cause blindness."

Dr. LESAGE asked if it would not be expedient to appoint a committee to look into the dangers through absorption of methylated spirit and the best means of protecting the public.

Dr. FOUCHER was named President of the Committee with power to choose a sufficient number of members and report.

Dr. MONOD read a report of painful flatfoot in a woman about 25 years old; this was followed by a sprain and was greatly relieved by wearing in the shoe a steel sole.

Dr. MARTIGNY read a paper on Uterine Retroversion and its treatment.

Dr. HARWOOD was not so enthusiastic as Dr. Martigny about the fixation of the uterus by the round ligaments on account of the possible rupture between the abdominal and uterine walls. He favoured indirect fixation, but instead of the suspension by the round ligaments, he preferred Kelly's operation, fixing the peritoneum of the anterior portion of the womb, to the parietal peritoneum.

Dr. VALIN announced that Dr. L. Coyteux Prevost, of Ottawa, had accepted the invitation to lecture before the Society on March 22nd. The subject of the lecture would be made known at a later date.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Eleventh Meeting, March 4th, 1904.

H. S. BIRKETT, M.D., PRESIDENT, IN THE CHAIR.

DR. LAPTHORN SMITH read a paper on the Association of Appendicitis with Floating Kidney. The paper is printed at page 245 of this number of the JOURNAL.

DR. HUTCHISON, in discussion said: Dr. Smith's removal of the entire kidney for pyelitis, giving as a reason the long suppurating convalescence, which very often takes place when the diseased dilated kidney is left, seems a rather broad view to take of the case. My own practice has been to pack the kidney and trust to the dilated condition subsiding, as frequently a fair amount of healthy kidney remains. Later on, if the suppuration continues over a long period, it is proper, I think to remove it; however, I think, in his case the practice of removal was justified. I do not think we can support the view that general peritonitis from appendicitis is always fatal, and the comparison of general sepsis set up by a pus tube rupturing as against general peritonitis by rupture of an appendix, can be explained by the fact that the excretions from the lower part of the intestines are of well known virulence, whilst from a pus tube the pus is almost entirely sterile. That the appendix is very frequently adherent to the right tube is another fact; I have not found it so intimately adherent as in Dr. Smith's cases, but there is well marked connection between the two. It is quite true that a ureteritis may be mistaken for appendicitis, as I had a case recently which was thought to be appendicitis, but it proved to be one of ureteritis rather than any disease of the appendix itself.

DR. ST. JACQUES:—I quite concur with Dr. Smith in his remarks upon the difficulty in diagnosis between salpingitis and ureteritis. We have all seen such cases and even when the abdomen is opened one often finds it difficult to say where the abscess had originated. In one case, ill for two weeks, one physician diagnosed salpingitis, another appendicitis and I myself could not decide the origin of the abscess; the pulse was 120, temperature 103½. In this case I found the appendix gangrenous with abscess of the ovary. The patient recovered in four weeks. Another matter of interest is the relative sterility of the pus in chronic salpingitis.

DR. LAUTERMAN:—I would take exception to the remark that pus coming from the lower portion of the abdomen is sterile. I read, not long ago, an article by Cushing, of Baltimore, in which he reports what was then accepted as the first case of general peritonitis due to gonorrhœal infection in 1899; so that even admitting the low order

of infection that is attributed to gonococci in that situation, it is hardly fair to define it as serile pus.

DR. ST. JACQUES:—It is in the chronic salpingitis that the pus is sterile: in the acute form it is very virulent.

DR. SMITH, in reply said:—I have a good deal of faith in the other kidney and I examine it carefully before removing the damaged organ. I think that where a kidney has not been in use for a long time, but is constantly setting up serious conditions, its removal is justified. With regard to the sterility of the pus in the lower region in a case of pyosalpinx, the time comes when the excreta of the gonococci kill the germ. I have myself seen cases of rupture of a pyosalpinx into the abdomen with death whilst other cases recovered; not only gonococci but sterptococci may infect the pelvis.

DR. J. ALEX HUCHISON presented a case report of Double Tuberculous, Pyo-nephrosis with Calculus, and Dr. John McCrae showed the specimens, and made some observations upon them. The case is reported at page 265 of this number of the JOURNAL.

DR. ST. JACQUES showed two specimens, which bore upon the previous case. One was a tuberculous kidney. There had been a family history of well marked tuberculosis, though the bacteriologist failed to find the tubercle bacilli. The case was that of a young woman aged 28, who had had three children, the last one 8 weeks previously, the pregnancy having been normal and the child still alive. Four weeks after her confinement she came to her physician and complained of soreness in her left side. She entered the hospital with a temperature of 101, a pulse of 90, very pale and emaciated and on examination the ureter was found swollen and tender. The day previous to operation the temperature was 104 or a little over, and as she was weakening gradually he advised operation. At the operation he found the kidney so diseased throughout that he removed it entirely.

The other specimen was rather a curiosity and was obtained in the dissecting room of Laval University. The patient died of uræmia in the Longue Point Asylum. Only one kidney was found, and it was dilated and nearly cystic, with a stone obstructing the ureter. There was no scar in the lumbar region nor on the abdomen to show that there had been either a laparotomy or operation in the lumbar region which would explain the absence of the other kidney. The kidney was hugely dilated and contained gelatinous fluid limpid and slightly yellow such as one finds in certain cases of ovarian cysts.

DR. I. C. SHARP referring to Dr. Hutchison's case said that the man came under his care about two years ago and during that time he had a number of attacks of pain always referred to the right side. He pas-

sed a good deal of pus and blood in his urine, and last spring he passed large quantities of blood and a little pus; no interference was allowed until the condition became as Dr. Hutchison had stated.

Dr. Lauterman thought the best method of estimating the respective power of the kidneys was the catheterisation of the uteters separately; this enabled the surgeon to decide whether to remove a diseased kidney or not.

Dr. Hutchison in reply said he had no personal experience with catheterisation in the male, and he thought only those who did a large genito-urinary practice could be competent to do it with satisfaction; certainly in Montreal the field was too limited. He did not exclude it as a means of knowledge, but it was not available to him.

Dr. F. G. Finley read a case report of Malignant Gonorrhœal Endocarditis, and Dr. McCrae described the conditions found at the autopsy. The case is recorded at page 260 of this number of the Journal.

Dr. Dubé said, at a lecture given in Paris some years ago they were told that they must stop thinking that gonorrhœa was an ordinary thing, and that some day they would see the seriousness of it. He had not, until that night, come upon such a case, and then he was convinced of the truth of the lecturer's remark.

Dr. Smith thought these cases might be more frequent than was generally supposed, though it was rare for one to have the condition confirmed by such an elaborate post mortem examination. Some time ago he reported to the Society two cases of gonorrhœal rheumatism. From one he removed pus tubes, and was obliged to wait some time before operating, as there was a pronounced heart murmur.

Dr. Abbott remarked that there was an interesting specimen of Dr. Wyatt Johnston's in the Pathological Museum of McGill University, which he had classed as gonorrhœal endocarditis, but after it he had placed a question mark, because he was unable to find gonococci in the cellular tissue. This specimen showed an enormous heaping up on the heart valve so that there was a large mass in the right ventricle as well as a very large formation of inflammatory tissue.

Dr. Lauterman declared that he had treated a great many cases of that description, and was disposed to agree that the condition was more frequent than given credit for. On looking over his notes he was surprised to find that Dr. Finley's case had possibly more of the complications than any he had ever heard of, pericarditis, infarction, erythema, petechiæ, any of which has been attributed to a systemic infection. It was barely possible that the presence of gonorrhœa might not have been observed in the tract, as search for secretion in

the meatus might not be a fair test. He had seen gonorrhœa in cases he thought were free from infection, after the prostate had been massaged and the tract explored with the urethroscope. The lesson this case impressed upon them was to warn patients of the seriousness of the condition, and not allow them after one or two interviews to treat themselves as they think fit.

DR. FINLEY in reply said with regard to the frequency of the disease, they had certainly had two cases in Montreal, not a large proportion considering the very common disease which gives it origin. Thayer of Baltimore had two cases, and in both he was able to demonstrate the gonococci during life. Dr. Finley's assistant endeavoured by several methods to find the gonococci but failed; where they had practically no discharge, it was not an easy matter to find gonococci.

Twelfth Meeting, 18th March, 1904.

DR. F. A. L. LOCKHART, IN THE CHAIR.

DR. W. G. M. BYERS showed eight pathological specimens of eyes, prepared after a new method:—

(1) Large melanotic Sarcoma of the choroid growing from the lower posterior segment of the globe and showing extensive detachment of the retina on its anterior surface.

(2) Glioma of the retina with perforation of the sclerotic posteriorly and large gliomatous overgrowth about the optic nerve.

(3) The anterior and posterior halves of the eye affected with glioma of the retina. In the posterior half the growth is seen occupying the centre of the vitreous, and in the anterior half dimly through the lens. The dilated pupil and shallow anterior chamber are characteristic of the secondary glaucoma present at the time of operation.

(4) Chronic irido-cyclitis with massive formation of bone in the eye and uveal exudate.

(5) Wound of the cornea, complete detachment of the retina, massive subretinal exudate and retinal cyst.

(6) Atrophia bulbi showing the characteristic "squaring" of the globe as the result of the contraction of the plastic exudate and the pressure on the recti muscles.

(7) Large staphyloma of the cornea following ophthalmia neonatorum.

(8) Atrophia bulbi secondary to wound of the cornea, iris and lens with extensive detachment of the retina and choroid.

DR. BYERS, in explanation of the method said: I bring these specimens before the Society not so much for the interest which

attaches to the conditions as to the method employed in preparing the specimens. The method is one perfected by Greff, of Berlin, and consists in hardening the eye in the usual way, using formalin or Kaiserling's solution, which latter maintains the colour of the blood and that is often desirable in special cases, as sarcoma of the retina. The eye is then sectioned and the specimen mounted on the inner side of the glass by a substance prepared especially, which has a melting point very much higher than summer temperature, so that the specimen is fixed permanently. Gelatin is also used for this work, but the specimens deteriorate, owing to the gelatin being unable to withstand the summer heat. The specimens are allowed to remain until fixed and then a five per cent. solution of formalin, Kaiserling's or alcohol is poured in. For the lid another gum substance is used, heated to a high point. The card holder is attached to the top before it is placed on the jar. All the apparatus can be obtained ready for use, and the specimens can be photographed in situ.

Dr. Hutchison presented a living case of Congenital Dislocation of the Hip, and said in explanation: This child came to the Montreal General Hospital the beginning of November last. A skiagram was taken which showed very beautifully the points brought out by Dr. Lorenz in his recent visit. My own experience extends only to the observation of the two cases which Dr. Lorenz treated here, and I reduced this dislocation precisely as he did. It was done without any of the difficulties usually encountered and took but 15 minutes to reduce. It was noticed that the dislocation would be reproduced, if the leg was brought down below an angle of 90°, but as long as it was kept at the right angle it remained in situ. The first plaster dressing was put on with the limb slightly above the 90°. The child complained for a few days, but after that was quite comfortable, and was well enough to go home, but it was deemed inadvisable to allow it to return with this rather cumbersome dressing, so in December, under anæsthesia and with the assistance of Drs. Hill and Nelson, care being taken to prevent any movement of the head, the knee was now brought down to its present position and placed in plaster. The child was now sent home, and with difficulty taught to use crutches, as he was not five years of age. He has been perfectly well since going home, and now plays about without his crutches. I now propose removing the plaster and taking another skiagram; if we find the position satisfactory we shall send him home. There is now some compensatory curvature of the spine, which has produced level shoulders and the child gets about fairly well without support. One point which Dr. Lorenz advocated, was the placing of strips of flannel through from the

upper to the lower opening of the dressing which can be moved up and down, removing any dried epithelium or moisture and preventing excoriation. This has been found most useful. The skiagram shows the displaced femur with an abnormally small or undeveloped head.

DR. ELDER: The success or failure in replacing these congenital dislocations of the hip, even by Lorenz method, depends upon whether there is an acetabulum or not; in many cases we get a skiagram showing practically none at all, and in addition there may be no head to the femur. Dr. Hutchison's case was a very favourable one, there being a very good acetabulum; when the reduction was done it went back with a click almost as easily as an ordinary dislocation.

DR. HUTCHISON, in reply to questions by Dr. McKenzie and Dr. Hamilton, said: With reference to the lateral curvature, and whether the assuming of this position will tend to retain it, I am not conversant enough with the after results of these cases to testify. I think, however, that when the leg is brought down to normal length, and if the reduction is a permanent one and mobility of the hip joint secured, there is no reason why the pelvis should not go back and the spine likewise assume an original position; should this fail, massage or other exercises may be resorted to. With regard to the appearance of the head in the skiagram, I think it assumes this position largely because it is not well developed, though the acetabulum is very well marked. The unilateral deformity I think is the more common form.

DR. R. TAIT MCKENZIE read a paper on the Relation of Thoracic Type to Lung Capacity, and illustrated it by the living subject, showing the use of various instruments for measuring lung capacity. The paper appears at page 237 of this number.

In the large discussion, which followed the reading of this paper, Dr. Hutchison briefly reviewed the work done by Dr. McKenzie these many years past, for physical training at McGill, and testified to his perseverance and success amidst the difficulties of imperfect gymnasium equipment. Dr. Elder and Dr. Lockhart spoke in a similar strain of appreciation. Dr. Morphy was interested in chest capacity in relation to the production of the singing voice, and referred to the different methods of breathing recommended by the various teachers. Dr. McKenzie was unable to give any accurate information, as he was not aware of any experimental work that had been done upon the subject. Dr. Hamilton made enquiry as to the type of chest, which is likely to contain phthisical lungs, and expressed the belief that it was the puerile type. He was interested in the demonstration, that chest capacity is increased by the drop of the diaphragm, rather than

by the contraction of extra thoracic muscles, and the upward displacement of the abdominal viscera.

Dr. McKenzie said in reply, that the question of the puerile type of chest was an exceedingly interesting one; it was for a long time considered that the consumptive chest was the flat chest, but he could not see why a round chest should be less liable to tuberculosis of the lungs than a flat one. The upward movement of the abdominal viscera in creating a high record for chest capacity was interesting, but it was merely a muscular feat, and was not of very much significance, except that it showed great co-ordination of muscles, which are not usually co-ordinated and much skill in the employment of them.

McGill Undergraduates Medical Society.

JOHN HUNTER—1728-1793.

By

Gordon M. Hume.

John Hunter was born near Glasgow on the 13th of February, 1728, the youngest of ten children. Throughout his boyhood he was a great observer of nature, but was deficient in self-control, idle and ignorant. He hated school and school-books, nor did he see the good of learning even when at Oxford in the two months he spent there long after his boyhood was over. Years later when he was one of the first anatomists of his time, on being criticised for not understanding the dead languages he said: "I could teach them that on the dead body which they never knew in any language dead or living."

When Hunter was about 20 years of age, he went to London to study anatomy under his brother, William Hunter. He began as assistant in the dissecting room, and was given an arm to dissect. This he did so well that he was soon given more difficult dissections, and in 1749 owing to his wonderful powers as a dissector, he was made demonstrator of anatomy. For ten years he worked at human anatomy, during which time he made himself master of all that was then known, and also made considerable additions.

In 1751, through the influence of his brother he entered St. Bartholomew's Hospital as surgeon's pupil. Here he was allowed to watch grave operations by such great surgeons as Pott and Cheselden. In 1754 Hunter left St. Bartholomew's and went to St. George's Hospital with the object of getting an appointment on the staff. Two years later he was made house surgeon, but he only held this office for about five months.

Shortly after leaving St. George's, being threatened with consumption he contrived to combine change of climate with new opportunities

of experience. He got himself appointed staff-surgeon in the army, and saw service in Portugal. On his return to England in 1763, he wrote a "Treatise on Blood Inflammation and Gun-shot Wounds," which was published the year after his death.

Hunter now began practice, but, as practice came very slowly, he spent most of his time in the dissecting room or among the living animals which he had collected from all parts of the world.

In 1767, he was elected Fellow of the Royal Society, and in the following year he was appointed surgeon to St. George's Hospital.

In 1771, Hunter wrote a "Treatise on the Natural History of the Human Teeth," the profits of which he spent on the expenses of a wedding.

In 1773, he began to give the lectures on the Principles of Surgery, which soon became famous.

In 1776 Hunter was appointed Surgeon-Extraordinary to the King, and the same year he began his "Croonian" lectures on muscular action.

In 1789 he was appointed Surgeon-General of the army and Inspector-General of the hospitals with a large income, almost all of which he spent on his great museum—now in possession of the Royal College of Surgeon's. Among Hunter's pupils were Sir Astley Cooper, Abernethy, Clive and Jenner. Named after Hunter we have Hunter's canal of the thigh and the Hunterian operation for the cure of aneurism. These, together with the Hunterian Oration delivered before the Royal College of Surgons on the 14th of February every year, will ever perpetuate the name of Hunter. Hunter died in 1793, and was buried by a few of his friends at St. Martin's-in-the-Fields. In 1859, however, his body was removed and buried with great honour in the north aisle of Westminster Abbey. John Hunter was five feet two inches in height and rather corpulent. In the early part of his life he was a companionable man who drank his bottle, told his story and laughed with the others. An excellent portrait was painted by Reynolds whose friend he was.

Dr. A. G. Belleau, coroner for the city and district of Quebec, died on the 9th of March from anthrax. Dr. Belleau was the nephew of the late Sir Narcisse Belleau, and son of Isidore Belleau and Marcelina Gingras. He was born at Pointe aux Trembles on May 10, 1840, and studied at the Quebec Seminary, Laval University and at McGill, from which he graduated in 1862.

Dr. W. G. Jolicoeur has been appointed coroner of the city and district of Quebec, in succession to the late Dr. Belleau. Dr. Jolicoeur has been acting coroner for the past two years.