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THE MARITIME MEDICAL NEWS

VOL. XXII., *APRIL, 1910*, NO. 4.

WORLD OF MEDICINE.

Rheumatism in Children. Writing under this caption in the *Practitioner* for November, 1909, Carr states that he regards rheumatism as second only to tuberculosis in seriousness among the children of England. In the Victoria Hospital, Chelsea, 50 per cent of the children were suffering from rheumatism or its consequences, chorea or heart disease. Rheumatism is not far behind tubercle in the variety of manifestations, the heart, blood, nervous system, joints pleura, throat and skin suffering in some degree. Most of these disorders are likely to recover but the heart damage is usually irreparable. Rheumatism in children would more correctly be described as primarily a heart disease with synovitis as a possible, usually slight, complication. In early life the heart is the most vulnerable part of the body to the rheumatic poison. Physicians often do not appreciate the seriousness of rheumatism in children because of the indefinite symptoms. If the patients are allowed up too soon the increased strain upon the mitral valves not yet recovered will lead to a subacute inflammation. The endocardium always suffers also. Valvular disease in the child is so serious because it interferes so materially with the nutrition of the growing tissue. Relapsing, subacute attacks of endo- and pericarditis and of myocarditis are very apt to occur in children. To distinguish these attacks from a transient malaise or slight failure of compensation the author relies chiefly upon the presence of subcutaneous fibroid nodules which are usually associated with recurring attacks of rheumatism; any pyrexia especially in the evening; joint-pains; a sudden development of or increase in anæmia; and and an excessive or persistently rapid pulse. The wisest treatment is prevention, and children in rheumatic families should be kept in bed upon the slightest malaise and if symptoms are not of some obviously non-rheumatic affection aspirin or salicylate of of soda should be given. Absolute rest in bed for an average of six weeks is the most essential point in treatment. A light diet, laxatives and salicylate of soda, which though comparatively ineffectual is desirable until something better is discovered, are recommended. Strychnin and caffein, not digitalis, are recognised as the best stimulants and cod-liver oil as the best tonic.

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Modern Views of Heredity. In a paper entitled "The Modern Views of Heredity, with the Study of a Frequently Inherited Psychosis," appearing in the *Medical Record* for February 26th, Charles L. Dana says that the teachings of advanced investigators show that in improving and educating poor stock, including defectives and retarded minds, education is

of little value as not effecting racial progress. Mendel's law applied to human nature will show that a mixture of races having distinctly different characters produces a hybrid stock which never altogether breeds pure. Mixed races which have opposite character units will not produce a new, pure type unless we segregate the impure and hybrid three-quarters. A helpful indication from Mendel's law is that by the third generation the breed is pure in certain strains. With a family psychosis a pure record of three generations in direct line will remove all liability to the psychosis. The law of ancestral inheritance shows that there is always an ancestral pull or tendency to bring the individual to the average. This is the law of regression. The qualities of heredity are about equal in hereditary force to those of the other ancestry. The most important point in good ancestry is the quality of the direct ascendant. Acquired diseases are not transmitted. There are certain qualities in every family which are dominant and other that are regressive.

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Brain Tumour.

In a lengthy and somewhat detailed paper contributed by W. G. Spiller to the *Journal of the American Medical Association*, February 19th, attention is called to certain symptoms of brain tumour and the difficulties of diagnosis in these cases. The most important indication, of course, of brain tumour is the gradual development of signs pointing to a sharply limited lesion of the brain, and this may occur when general symptoms of tumour such as headache, nausea and vomiting, and papilloedema are absent. It may, of course, occur in other conditions than tumour, but in none is it so common. The first point to which he calls attention is the occurrence of a gradually developing hemiplegia, the importance of which is often overlooked. It is, as illustrated by a case he mentions, a good idea when such hemiplegia occurs, to examine for local symptoms of malignant disease which may be forming metastases in the brain. In this connection he mentions the importance of an early operation in case of brain tumour and the delaying of decompression is especially serious when papilloedema is rapidly developing, as it may in case of tumour of the pons or cerebellum. He is not in favor of too early operation, however, and would try antisyphilitic treatment for a while if there were a suspicion of luetic infection. The interpretation of symptoms is not always easy, but the early appearance of focal symptoms is much more valuable than their late appearance. Then there is a possibility that they may be merely the sign of intracranial pressure from other causes. Contradictions between focal lesions and symptoms have been observed by every experienced neurologist. When an area of the brain is destroyed, many tracts in connection with this area are also injured and the symptoms are therefore often complicated. Spiller refers here to the recent valuable lecture of Horsley on the functions of the so-alled motor area which would show that they are not so definite in man and that the Betz cells are not absolutely necessary for motor fnction, as shown by a case he reports. Spiller refers here also to a similar one reported by Friedrich about the same time, in which the gyrus precentralis was excised and yet motor power returned. Only some German surgeons advocate cerebral puncture, and Spiller does not favor it, nor does he think that lumbar

puncture for tumour cells in the cerebrospinal fluid is likely to be of much value, and it may be dangerous. The association of superficial and deep fibromas is occasionally of value in diagnosis, but it is too rare to be of general use. He also thinks that the X-ray is less valuable than is sometimes credited, though when the bone is thin it may be of service. Gliomas are seldom sharply defined. He has never seen one in which he could be free from doubt as to this point. He calls special attention to the rarity of macroscopic gummas in his observation. Cerebral syphilis is common, but the lesions are generally in the arteries, which is fortunate as regards treatment. Another point noticed is the frequency of the harmless type of cerebral tumours in the cerebello-pontile angle, where other tumours rarely occur. This location is a very dangerous one for operation, which fact modifies seriously the prognosis of tumours thus located. Carcinoma rarely occurs as compared with sarcoma, and tubercle is not very common, according to his observation. He has seldom encountered multiple tumours. The nephritis of pregnancy may cause the symptoms of cerebral tumour, though this is rare. Hydrocephalus is another condition that might cause confusion in the diagnosis. Sudden fatal termination is common in brain tumour, especially when situated in the posterior cranial fossa, but is not confined entirely to cerebellar tumours. The causes may not be apparent even at autopsy. Spiller favours operation in Jacksonian epilepsy, as the discovery of a tumour may be of the greatest importance. Among the lesions that may cause symptoms of brain tumour he mentions polioencephalitis, which may cause great difficulty, as in a case here reported. The diagnosis of cerebral thrombosis may also give considerable difficulty and cases are reported. The article is illustrated.

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Spinal Cord Tumors.

Pearce Bailey, in the *Journal of the American Medical Association* for March 12th, believes that we can take a more hopeful view of the operative treatment of tumours of the spinal cord, and that the time has come to let up on our former conservatism. Instead of questioning whether a tumour is present in every case of paraplegia without known cause, we should ask are we sure such a tumour is not present? He reports three cases of recent operation and also the after-history of three cases in which the patients were operated on and reports of which were published several years ago. As regards diagnosis he remarks that multiple sclerosis may give symptoms similar to those of tumour of the cord, as also may Pott's disease, aneurism, and syringomyelia. Text-books give so little attention to the diagnosis of metastases probably because they are so unmistakable from the history and the local tenderness they produce. The diagnosis, however, may be difficult, if the lesion is not in the bone or if atypical in not causing tenderness. Metastases of carcinoma, especially of the breast and prostate, are the most frequent and almost always in the vertebræ. The metastases of carcinoma are usually in the form of direct extension from neighbouring parts and may involve or skip the bone. Hypernephromas have a predilection for the vertebræ in their extensions. Fibromas cannot be regarded as metastatic tumours, but by their methods of spreading and dissemination are important in diagnosis. Dercum has called attention to the fact that rapid-

ly growing metastases of goiter may occur in the cord. Examination of the cerebrospinal fluid is not of great practical value in diagnosis. It is generally normal, except in case of acute disseminated sarcomatosis of the central nervous system. The Wassermann test may determine the specific character of the tumour. One of the chief difficulties in the clinical diagnosis of spinal cord tumours is the extreme irregularity of their course. The onset may be sudden but the course not necessarily rapid. and again they may be so rapid as to suggest an acute infectious disease, or they may exist unrecognized for years. History of trauma merits attention as they often arise after injury and may be aggravated by it. The general rules for localization are the same as for spinal disease generally, but symptoms given by the vertebræ outvalue all others for focal diagnosis. In view of the long intraspinal course of the nerve roots, especially in the dorsal area, it is important to determine whether focal symptoms come from the root or from the segment from which it arises. Experience proves the truth of Brun's law that such symptoms generally proceed from the segment, i. e., that spinal cord tumours compress the segments of the cord rather than the roots that run over them. Hyperæsthesia may, however, result from pressure on the root itself. Too much reliance should not be placed on refered pains as localizing signs. They are are apt to be too general and indefinite. In the lumbosacral region both cord and root symptoms may be caused but tumours limited to the cauda give mainly sacral symptoms. The Brown-Sequard complex does not occur with tumours in this region, but does in the lumbar region. According to Oppenheim, a tumour exerts its chief pressure at its upper pole, compressing at the upper limit only, as in a case he reports. As regards the transverse section of the cord occupied, to determine whether the tumour is pressing on the cord or growing in it or is laterally, anteriorly, or otherwise implanted, it is not always possible to say. Rapidity of growth may help to determine, and intramedullary tumours may give rise to dissociation of sensation, but this is not very serviceable in differential diagnosis. As regards indications for operation, Bailey considers them much more positive when the tumour appears to be in the cord itself or membranes, rather than in the bones. The only contraindications then are too great weakness of the patient or evidences of irremediable destruction. While the chances of success are poor, the diagnosis of intramedullary tumour cannot be made during life with sufficient certainty to contraindicate the possibilities of good in the operation. Laminectomy for spinal cord tumour is hazardous on account of the poor resistance of the patients. An portant point is to operate early enough. It is well to have the probabilities of situation in mind, as given in the table of Schlesinger. Intradural tumours greatly exceed in frequency extradural ones and the larger proportion are ventral or central in situation. The chances therefore of its being hidden by the cord in operation are very slight. The dura should be opened if it shows no external tumour and no obstacle is found to a found to a hook or probe passed down to the ventral surface of the sac. The details of the technique are given. The author thinks more attention should be given to the escape of cerebrospinal fluid and questions whether some sudden operative deaths may not be due

to inattention to this point. He advises operation on a table tilted with the head downward or in the Trendelenburg position, to avoid this complication. After-leakage should never occur as it is easily avoided by careful suturing.

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Hæmorrhoids.

"A simple and Efficient Operation for Hæmorrhoids," is described by N. Porritt in the *Lancet* for February 5th. The sphincter having been stretched, one of the hæmorrhoidal masses was seized with vulsellum forceps, pulled well out of the anus and encircled with a loop of loose purse-string suture of Pagenstecher's thread. Above, the suture entered the healthy mucosa beyond the hæmorrhoids; below, it took up that just within the anus while at each side it was inserted far enough apart to allow the blades of the crushing instrument to grasp the base or pedicle of the pile seized. For crushing he used an appendicitis clamp, but a pair of hæmostatic forceps with blades long enough to overlap the base of the pile would answer. When the clamp is released a broad band of thin tissue connects the pile with the rectum. This pedicle is now folded on itself by giving a half-turn to the pile, the clamp is reapplied, and the crushing is repeated. When the clamp has been removed something like a pedicle has been made, but another half-turn and another crushing leave only a fine pedicle of crushed tissue. The pile is then clipped away through this pedicle, which is tied with a fine ligature beyond the clamp. The stump of crushed tissue with the ligature upon it is then buried by drawing tight and tying the purse-string suture already inserted. Other portions of the mass were isolated and removed in the same way. The patient did well and got up in two or three weeks after operation. It is now five months after operation and there has been no after-contraction. In order to insert each separate purse-string and get a good grip laterally with it a bridge of tissue must necessarily be left between each group of pile dealt with. The little bridge is a safeguard against destroying too much of the involved structures and while not seriously militating against the efficiency of the operation it certainly makes the occurrence of after-contraction improbable.

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Bone Grafting.

"Intrahuman Bone Grafting and Reimplantation of Bone," forms the subject of a paper by Sir William MacEwen, appearing in the *Annals of Surgery* for December, 1909. From a series of successful cases of bone grafting MacEwen selects three for report. All of these were grafts of bone fragments without periosteum and all gave excellent results. In the first case, fragments made from wedges of tibia removed from other patients, were at various sittings introduced to supply absence of the entire shaft of a humerus lost some years previously through osteomyelitis. The grafted fragments, to but few of which was only periosteum attached, grew in place, supplying a shaft of bone, which, with the extremities, eventually became eleven inches in length. In the second case, fourteen fragments of bone from an extensive comminution of the cranium, over which area the periosteum was destroyed, were laid in the defect which they eventually solidly filled. In the third case, a section of rib was removed *subperiosteally*, broken into strips, and inserted in the soft parts to supply the horizontal ramus of a jaw, on

one side, removed years previously. Most of the graft lived and augmented in volume until firm union was secured between the ascending ramus and the opposite mandible.

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Surgery in Hyperthyroidism.

An article on "Ligature of the Thyroid Vessels in Certain Cases of Thyroidism," from the pen of Charles H. Mayo, appears in the *Annals of Surgery* for December, 1909. Reports from the clinics of Kocher, Halstead and the Mayos show improvement in cases of goiter treated surgically, and they are uniform in the stated changes occurring in the thyroid, especially as to the apparent cell activity which seems to be essential to excessive secretion. There has been a great reduction in the mortality of operations for hyperthyroidism. In cases hardly severe enough for thyroidectomy, ligation of the vessels will often effect a cure in a few weeks. Ligation is also indicated in severe exopthalmic goiter and in the chronic very sick cases with secondary affections of the heart, liver, spleen, kidneys. The operation is of particular value in cases with marked pulsation and thrill in the superior thyroid arteries. Ligation is also a valuable step to reduce excessive secretion before thyroidectomy.

Five hundred and eighty patients suffering from hyperthyroidism or exopthalmic goiter have been operated on at St. Mary's Hospital. Of these, 225 were ligations of the superior thyroid arteries and veins. A number of these ligations have been too recent to base observations on except as to the immediate risk of operation, which is about two per cent. in deaths occurring within a few days. Ten of these patients were operated on too late, dying in from eight to ten months later of the disease. In these deaths is included a case of pernicious anæmia. The Mayos now have full records of 138 cases which were ligated sufficiently long ago to make the report of value.

There were twelve cases of ligation of the remaining superior thyroid artery and vein following thyroidectomy of the larger lobe and isthmus, the primary operation being followed by relapse after one or several years with growth of the remaining lobe. Twenty-eight cases of thyroidectomy followed the ligation of both superior thyroid vessels. Although all of them were very severe cases at the time of ligation, there was no mortality from the second operation.

In cases of ligation without thyroidectomy the results were as follows: Slight improvement, 9: great improvement, 44: very marked improvement, 11: absolutely well, 4: cases of questionable exophthalmic goiter, no improvement, 9.

For anæsthesia Mayo prefers ether on the open mask but, in advanced cases, uses 1-10 per cent. cocaine solution. Morphine and atropine are given previously and in restless, nervous patients, scopolamine-morphine 1—200-1—150 grain. A 2½-inch transverse incision is made across the central part of the thyroid cartilage, including the platysma. The sternomastoid is retracted. Beneath the omohyoid is the upper pole of the gland and the superior thyroid vessels. A linen ligature is passed with an aneurism needle. The veins are included to secure venous obstruction. There is, in this region, no danger of including a nerve. Wound closed by subcuticular suture without drainage. It is important to make the ligation at the pole of the gland. The after-care depends on the severity of the symptoms.

Tuberculosis of the Kidney. In a paper contributed to the *Medical Record* for March 12th, Henry H. Morton says that tuberculosis of the kidneys is a disease of young life, from twenty to thirty years of age. It is generally a primary infection of one kidney, and may be cured if recognized early by the removal of the diseased kidney, while if this be left in place the other kidney becomes affected and no treament is of any avail. The kidney is infected from a focus of tuberculosis elsewhere, the bacilli being carried by the blood in the form of emboli to the kidney or taken in by the stomach or lungs and carried to the kidney by the blood. This hæmatogenous infection is the most frequent. A few cases begin in the epididymis or prostate, and the kidneys are affected secondarily. Pathologically a deposit of tuberculous material occurs in the parenchyma of the kidney, becomes cheesy, breaks down, and the pus is discharged into the pelvis of the kidney. Other foci form and coalesce and the kidney may become one large sac of pus, or contract to a small fibrous mass. Interstitial nephritis always ensues. The symptoms are at first slight. Later they consist of fever, loss of weight, little pain until the ureter is blocked and occasional hæmaturia from ulceration. The tubercle bacilli are hard to find. Any case of cystitis in a young person which does not clear up on washing the bladder should be regarded with suspicion. The injection of tuberculin and the inoculation of animals will aid in the diagnosis. Catheterization of the ureters and cystoscopy are most valuable. The prognosis, if the disease be treated expectantly, is bad. Only surgical interference, after learning the condition of the other kidney, will save the patient. The author gives histories of eleven cases.

Extrauterine Pregnancy L. G. Bowers, in the *Journal of the American Medical Association* for February 12th, speaks of the responsibility of the general practitioner in in cases of extrauterine pregnancy. A positive diagnosis before a rupture has been rare but there are many instances in which a strong presumptive diagnosis should have been made and for lack of which the patient suffers. Most cases, however, do not come under the physician's notice until rupture, the symptoms being not much different from those of normal pregnancy. There is usually a cessation of menstruation for one or more periods, and in this case, with rupture threatening, it is usually re-established, irregular as to time, and of a tarry sticky character which according to some observers is pathognomonic. The pain is usually cramp like, occurring at intervals for several days, and following it there is a dark sanguineous discharge, probably due to a partial rupture of the gestation sac. Microscopic examination will reveal traces of decidua in most cases. While the history of the case is important, a careful and thorough examination is advisable and great care should be employed to avoid rupturing the sac. The rupture in the doctor's office is a frightful accident. Following rupture the symptoms will make the diagnosis comparatively easy. The conditions which one has to exclude are salpingitis, appendicitis and uterine abortion. Salpingitis should not leave one long in doubt, and in appendicitic local symptoms are usually confined to the iliac fossa. Leucocytosis is present and the pain, first at the umbilicus, becomes later general and is finally localized at McBurney's point with tenderness and rigidity. Uterine abortion may give some difficulty, but the attack is usually less sudden and

the pain less severe and an examination will reveal a difference in the conditions. Especially if there is sepsis there will be a high temperature. The causes of ectopic pregnancy are uncertain, but salpingitis is probably as frequent as any. An undeveloped tube is regarded as a cause in some cases. Ovarian pregnancy is rare according to general opinion and it is the general belief that a primary abdominal pregnancy has yet to be shown. The ovum may become implanted on a slim strip of tubal tissue and such cases may be mistaken for primary abdominal ones. There is little chance for prophylaxis. Tubal abortion is nowadays considered a more frequent termination of the condition than was formerly the case, and if the small embryo becomes extruded into the abdominal cavity, absorption probably takes place in many cases. The larger embryo's termination may be its mummification and sometimes a lithopedion. Treatment is universally considered as being surgical and when a strong presumptive diagnosis or a positive one is made before rupture, immediate operation is advisable. As regards the question of immediate or late operation after rupture, the majority favor immediate action, but Bowers classes himself unhesitatingly with the minority. He firmly believes that active bleeding is rarely found at time of operation and that in most cases in which there is evidence of hæmorrhage, it has ceased before even the calling of the consultant. By referring operation till after shock or its immediate effects have disappeared the operation can be done more safely. He sums up his conclusions as follows: "1. Early diagnosis is the greatest factor in the saving of life. 2. In cases of sudden pelvic distress during the child-bearing period, the physician should always keep in mind the possibility of ectopic gestation. 3. In case of suspicion of an abnormal pregnancy, counsel should be immediately sought to clear the diagnosis if possible. 4. Operation should be performed immediately, in cases in which rupture has not occurred and in cases in which the hæmorrhage has not produced much shock. 5. In cases in which there is severe shock, I believe it to be good practice to wait until the patient has revived from it. 6. I do not, as a rule, advise waiting more than forty-eight hours. 7. I believe vaginal puncture to be bad practice in these cases unless infection requires continuous drainage. 8. Physiologic salt solution is of value in cases of shock. (1) to maintain intra-abdominal pressure so as to equalize the circulation; (2) for its well-known physiologic effect." A tabulated statement of thirteen cases is appended.

PANCREATITIS: THE ACUTE, THE SUB-ACUTE, AND THE CHRONIC RECURRING FORMS OF THE DISEASE.

By EDWARD ARCHIBALD, M. D.,
Montreal, Canada.

(An address delivered before the St. John, N. B., Medical Society, January 19, 1910.)

MR. PRESIDENT AND GENTLEMEN,—

IF you will allow me, I would like at the outset to give expression to my deep appreciation of the honour which you have conferred in asking me to address you this evening. Like the apostle Paul, you are citizens of no mean city; and I might add that your city, like Rome, is situated on seven hills, if not more. The analogy can hardly, I fear, be pushed further. Yet St. John, though not yet quite so large as the Eternal City, is surely destined with the increase in Canada's prosperity and with its geographical situation to become in time one of the great towns in the Dominion. The honour of speaking here is, therefore, all the greater.

The subject which I have chosen for discussion this evening is one which of late years has been of great interest to me, and one, moreover, which to-day is attracting the closest attention throughout the medical world. No longer than ten or fifteen years ago the common conception of pancreatitis—a conception based upon the excellent pioneer work of Fitz, of Boston, in 1889—was one of an extremely acute and often fulminating abdominal lesion, leading within a few hours or a few days almost inevitably to death. I still remember how, being asked in my final examination to enumerate the causes of sudden death, the chance mention among other things of acute hæmorrhagic pancreatitis extorted a very slight congratulatory nod from the examiner. This conception we have of late years, by dint of greater accuracy in observation and by the discovery of new methods of laboratory examination, been able so to broaden, that at the present day we are suspicious of every common catarrhal jaundice and every common gastritis as masking possibly an underlying mild pancreatitis; and I might perhaps say at this juncture that the chief object of this paper is to emphasize this very fact, that pancreatitis very frequently assumes a mild form, or at the most a subacute form, and a recurring character, which, if one is not on the lookout, may entirely escape diagnosis.

In what follows I propose to discuss briefly the etiology of the disease, the clinical phenomena of the various types, the differential diagnosis, including a consideration of the newer laboratory tests, and finally the present day treatment.

The material upon which what I shall have to say is based consists of twenty-seven cases of pancreatic lesion occurring in the Surgical Clinic of the Royal Victoria Hospital durin the last three or four years. Twelve of these have come under my own care, of which six were proven by operation or autopsy, four were made reasonably certain by the finding of clear evidence in the urine, and the other two remain as probable clinical diagnoses. I have to thank Doctor Bell and Doctor Garrow for the per-

mission to use the histories of the other cases which have been in their services. In addition there are twenty-six cases in which the possibility of pancreatitis was considered, and in which the urine was especially examined for Cammidge crystals and for lipase. Of these, six, although not proven, were almost certainly pancreatitis, and one was a traumatic cyst of the pancreas. It will not be possible to relate the clinical histories of all these cases in detail; I shall have to content myself with the citation of three or four of them to illustrate special types, and with a consideration of symptoms from a very general standpoint.

Etiology.—In spite of numerous researches upon the causation of pancreatitis, we are obliged to confess that this part of the subject still remains in many cases obscure. One thing only do we know with certainty, which is that a gall stone impacted in the ampulla of Vater may, on the one hand, block the bile and force its regurgitation into the pancreatic duct, or, on the other, block not only the bile but also the exit of the pancreatic duct. In the first event it is apt to produce an acute pancreatitis, inasmuch as Flexner has shown that the injection of bile into the pancreatic duct will experimentally cause the acute form of the disease with hæmorrhages; in the other event there is apt to follow a chronic or subacute inflammation from the damming back of the pancreatic juice in the pan-pancreas. These facts we owe chiefly to Opie and Flexner. But there are on the other hand many cases in which gall stones are proved to be absent, and the bile is apparently normal. Thus in our series at the Royal Victoria Hospital, seventeen in number, in which pancreatitis was definitely proven either by operation or by post-mortem, and in which the condition of the bile passages was noted, there was in ten an entire absence of anything to indicate a lesion of the bile passages. Of the remaining seven, stones were found in six and a cancer of the ampulla in one. In the six cases in which stones were present, the situation of the stone was as follows: In the common duct alone, one; in the gall bladder alone, three; in both duct and gall bladder, two

These figures, although representing but a small series of cases, comparatively speaking, are quite at variance with those given by surgeons of large experience, who ordinarily represent the proportion of biliary lesions in cases of pancreatitis as from sixty to eighty per cent. In any case, it has apparently been a habit in the literature of pancreatitis to assume, where infected or calculous conditions of the bile passages are absent, that an infection has originated from the duodenum and has spread upwards through the ampulla into the common duct and the pancreatic duct. It must be remembered that, so far, this is still largely an assumption. It is a working hypothesis which may be said to have some foundation in clinical experience, particularly in that many of the cases are preceded by gastric and duodenal derangements; but the fact still lacks exact proof.

Symptoms. — If we regard the symptomatology of pancreatitis from the broadest standpoint, including all the forms of the disease from the mildest to the most severe, we may, I think, classify the symptoms into four groups. First, those due to interference with the pancreas itself. These include, naturally, pain and tenderness—presumably from inflammatory pressure upon the sympathe-

tic nerves in the neighborhood. They also include what I may call the chemical signs. I refer to those which are due to the interference with body chemistry, and in particular to the appearance of substances in the urine which are recognized by the Cammidge test (the so-called pancreatic reaction of Cammidge), the lipase test, and the character of the faeces.

In the second place there are those which are due to interference with the excretion of the bile through the common duct, particularly the symptom of jaundice.

Thirdly, there are those which are due to interference with the peritoneum, the expression of what is practically an irritative or chemical peritonitis.

In the fourth place there are those due to interference with the nervous system, chiefly the motor nerves of the bowel, resulting in obstruction and in shock.

This tabulation is to be taken as a very general one. All the varieties of interference mentioned do not by any means occur in every case.

I should like now to take up more in detail the three classes mentioned in the title of the paper, and to begin with acute hæmorrhagic pancreatitis. Of this class I distinguish two varieties—the fulminating and the ordinarily acute condition. Fulminating pancreatitis causes death almost immediately or within a few hours, either from shock or from an extraordinarily acute toxæmia. I imagine that the cause of sudden, or almost sudden, death, must be the extreme pressure of hæmorrhage and inflammatory exudate on the solar plexus, comparable with the prize-fighter's blow in the epigastrium. Acute toxæmia is now believed to be due to trypsin intoxication, if we are to depend upon the experimental work of Gulecka, Polya, and others.

In this acute class we distinguish perhaps half a dozen chief signs. There is first the shock-like onset simulating that seen in the worst cases of perforating gastric ulcer. The pain is often extraordinary severe and sudden. Collapse is marked, with its small pulse, shallow respiration, and subnormal temperature. This condition of shock may persist for a number of hours, and go on either to death or recovery. Secondly, there is the peculiar lack of febrile signs, at least for a couple of days. The pulse remains slow and the temperature is more often below than above the line. If the patient lives beyond the first two or three days, intestinal obstruction is apt to be marked. Several of our cases have been brought in with a diagnosis of obstruction. This is due certainly to a reflex bowel paralysis. The pain is chiefly epigastric, although in a very short time it may spread over the whole abdomen, and the patient be unable to say in what part of the abdomen his pain really is. Yet even in these cases palpation will reveal the fact that the epigastrium is the seat of greatest tenderness. After the first few hours it is frequently observed that there is also tenderness in the lower half of the abdomen, and further that, while the epigastrium is quite rigid there is marked muscular resistance also in the iliac regions. I feel sure that this low-seated tenderness and rigidity are due to the development of an irritative serous peritonitis, which in its turn is the result of the spread of pancreatic ferments along the subperitoneal lymphatics. It is extremely common at operation to find the abdomen full of blood-tinged serous fluid, and to see the peri-

toneum congested and reddened. This practically never goes on into frank suppuration; the serous fluid is always re-absorbed. So far from leading one away from a diagnosis of pancreatitis, I regard this lower area of tenderness as useful in diagnosis if gastric ulcer is excluded. Finally after the first two or three days, there will often develop jaundice. The swelling of the head of the pancreas presses upon the common duct and causes a true mechanical obstruction to the exit of bile. We know from post-mortem observations, particularly those of Opie, that the common duct perforates the head of the pancreas in at least one-third of the cases, and is in these, doubtless, particularly subject to compression from pancreatic swelling.

If now we operate on such a case, we shall find in all probability areas of fat necrosis in the omentum and in the fatty tissue around the pancreas underneath the peritoneum. In a recent case of Doctor Garrow's there were found as nearly as eight hours after onset. It is now generally understood that this necrosis of fat is due to the action of the fat splitting ferment of the pancreas, which, being prevented from taking its normal route into the duodenum, is forced into the lymphatic circulation of the neighbourhood, there exercising its fat splitting action on the adipose tissue with the formation of fatty acids and glycerine. The glycerine being soluble is re-absorbed into the general circulation, and the fatty acids which are left may be seen in typical crystal form under the microscope. It is probable, from researches of Opie, that in most cases the primary lesion is necrosis of pancreatic tissue, due to regurgitation of bile or of duodenal contents into the duct of Wirsung; and that necrosis, because of tryptic autodigestion, is followed often by hæmorrhage. The inflammation is only secondary at the margins of the necrotic areas.

At this point I might read to you the case reports of two of our typical cases of this variety,—one of my own and one of Doctor Bell's.

A. L. H. (Surgical Case No. 10878, Book 72), aged 46, was admitted November 7th, 1905. For the past five years the patient had had attacks of pain about once a year, located in the upper abdomen, but not radiating to the shoulder. The pain was very severe, and was accompanied by vomiting and slight jaundice. There was no marked constipation. The stools were not noted. The attacks lasted from two to three days. The patient was an alcoholic.

The present attack began November 2nd (five days before admission), up to which time the patient had been perfectly well. Pain was severe and reached its maximum rapidly (one and a half grains of morphine being necessary in one hour). It was located chiefly in the upper half of the abdomen and in the right iliac region. On November 3rd vomiting occurred, and on November 4th hiccough was noted. Constipation was not marked. There were five voluntary stools in which the attending physician noted free fat. Jaundice developed on the third day.

Upon examination on admission, it was found that there was general fulness of the abdomen, and general abdominal, tenderness, apparently most marked in the right hypochondrium and in the epigastrium; but the patient was very toxic and apathetic; and it was difficult to get any reliable answers from him.

Under the diagnosis of gall stones, a cholecystostomy was immediately performed. Bile sand in small amounts was found in the gall-bladder and in the cystic duct, but the bile, the gall-bladder and the ducts seemed quite normal. There was a mass in the region of the pancreas and the omentum was studded with fat necrosis. The patient died with the symptoms of severe toxæmia thirty hours after operation.

It was considered that the gall passages were free from any material infection and that the pancreatitis was due to some infection primarily pancreatic. Post-mortem confirmed the observation that the bile passages were free and that there were no gall-stones in the intestinal tract. I show you here the specimen of the swollen and hæmorrhagic pancreas rrecovered at post-mortem from this patient.

The following case illustrates another type in which pain is not a prominent feature, being overshodowed by the acuteness of the toxæmia with consequent apathy.

W. J. H. (Surgical Case No. 15655), aged 48, was admitted March 29th, 1909, at 11 p. m. (service of Doctor Bell). His complaints were abdominal pain, vomiting and prostration.

For some years the patient had had "indigestion" but the symptoms had never amounted to anything more than some slight distress and a sense of fulness in the epigastrium after food, with very seldom a little vomiting. Pain had never been acute or colicky. Vomiting had never been persistent, and he had never vomited blood. The patient had never passed blood by stool and the bowels had not been constipated. There had been no loss of weight or strength. With these exceptions, the patient had enjoyed good health until one week ago, and had been eating well and doing his usual work. Then he began to complain of lassitude, loss of appetite, distress and fulness in the epigastrium, not only after food but more cr less continuously. He had no acute pain, but felt weak. The bowels were constipated. On Friday, March 26th, 1909, he complained of more definite pain in the epigastrium and also in the right infraclavicular region, but it was not severe nor colicky. On Saturday he had a sharp attack of diarrhœa and vomited several times. There was no acute pain, but there was general abdominal discomfort, more especially in the epigastrium. On Sunday he felt much better and wanted to get up to do his work, but was persuaded to keep quiet. At 3 a. m. on Monday, March 29th, he became suddenly very weak and felt as though he were dying. There was no severe pain but the abdomen became rapidly distended. At 10 a. m. his temperature was 101°. There was no vomiting. The patient seemed very toxic and apathetic. At 3 p. m. the temperature was 102° and in the evening 103°. From 12 a. m. on the patient was in a half comatose condition, neither complaining of pain nor noticing his surroundings. The bowels had not moved since the previous day, Sunday, and urine had not been voided since noon of the day of admission.

On admission at 11 p. m. the patient, who looked older than his years, lay in a semi-comatose condition, but could be roused and made to do what he was told. He seemed very toxic, and did not complain of pain. His temperature was 103°, pulse 144.

On examination the abdomen was found to be markedly and symmetrically distended in all quadrants, al-

though the stomach region seemed to stand out a little more prominently. The movement with respiration was very limited. On palpation there was a sensation of tenseness in the abdominal wall but no rigidity, and no mass could be felt. The abdomen was tympanitic in all quadrants and the liver dulness seemed oblitèrated. There was no evidence of free fluid. The liver, spleen, and kidneys were not palpable. Respiration was shallow; pulse rapid, of poor volume and tension.

An operation was performed at 11.30 p. m. The patient was seemingly in a moribund condition. An incision was made in the midline above the umbilicus. Free blood-stained serous fluid escaped. There was no pus. The pancreas was found to be firm and of a moderate size. There were numerous areas of fat necrosis in the large bowel, although the omentum was curiously free from this. No visceral perforation was anywhere discoverable. There was no obstruction. The abdomen was quickly closed, and an intravenous saline with sodium bicarbonate given. The patient did not rally and died at 5.30 a. m., March 30th. 1909. The urine, subsequently examined, gave a positive reaction for lipase. Unfortunately no post-mortem was allowed.

I interpret this as a mild attack of pancreatitis going on to the hyperacute form; possibly hæmorrhage occurred in a necrotic area on the morning of his last day, at 3 a. m., when he suddenly "felt like dying."

While these two patients died, I may mention that we have hospital records of two other cases that recovered, one of Doctor Bell's and one of Doctor Garrow's. These, while really acute, were not so fulminating as those just described.

We come now to the subacute and the chronic forms. These must be considered together as the one so often runs into or with the other. In the subacute attack the symptoms are still severe, though not so much so as in the acute form, and the patient usually rallies and gets through with his life. The later result, of course, may still be a fatal one through the development of abscess or necrosis of the pancreas, but that is rather rare. The symptoms already mentioned as characteristic of the acute type may all be present, but are of less intensity. There may be no real shock or collapse. Obstruction may be so soon recovered from as to pass unobserved. Jaundice may not develop at all, and at operation fat necrosis may be conspicuous by its absence. In the cases on which I have operated it has been absent. On the other hand, with regard to pain and tenderness, the very fact that these symptoms are less intense gives them an added value, for the reason that they are the more clear-cut. The pain is referred chiefly to the epigastrium. It may not be so severe as to be reflected over the whole abdomen; and tenderness on palpation corresponds often so exactly to the anatomical position of the pancreas that this observation of itself, at least to my mind, gives a very strong clue to the diagnosis.

I will pass around at this point several diagrams in which I have been able to mark out by palpation the area of tenderness in cases of my own, and you will see that it corresponds very accurately with the position of the pancreas. These are cases which have later been accurately diagnosed either by operation or by the finding of certain evidence in the urine. Often this tenderness extends well to the left of the middle line, and

this fact I take to be of the greatest signficance. Usually in such cases tenderness over the gall bladder is absent or very slight, and this combination, the absence of tenderness in the gall bladder region and its presence to the left of the mid-line is of great diagnostic importance.

There is another very suggestive point about the attack of pain in the chronic cases, and it is this. In going over the various case reports it is a matter of the greatest frequency to find that the pain in the smaller attacks has lasted only a short time. One also finds that it frequently comes on about one or two hours after eating. It has been argued (and the argument has some basis in certain animal experiments) that in such cases the attack of pain is due to the excitation of the flow of pancreatic juice in its full digestive quantity at the time when the acid food, having passed the pylorus, arrives in the duodenum, and there, following well known physiological laws, sets up reflexly the pancreatic flow. The increased discharge of juice from the pancreas at this moment meeting an obstruction, which we conceive to be the result of chronic inflammation in the organ, excites naturally a colicky pain. In dogs this colicky attack has been artifically excited by an imitation of this physiological event.

It is easily conceived that such a condition of affairs as that just described must be only with difficulty influenced by operation. We cannot attack the pancreas directly in the cases of chronic induration. We can only hope to aid in the subsidence and partial disappearance of the chronic enlargement by natural means and, possibly, by the diversion of an irritating bile.

I may add that in a certain number of these subacute cases I have been able to find the presence of what is called a Head zone: that is a zone of skin hyperesthesia, situated approximately at the level of the pancreas, and extending as a band from the middle line towards the right, or more frequently the left, axilliary line. I attach some importance to this observation if the hyperesthesia is found to the left of the middle line (on the right it might indicate a gall-bladder lesion); but it is often absent.

Two or three case reports may serve to illustrate this type better than any catalogue of symptoms. But I must point out here that those very histories which at one stage of the illness are typical for the subacute form are at another stage equally typical for the chronic recurring form of the disease. In other words, pancreatitis is characteristically a recurring disease with attacks of varying intensity, resembling in this respect appendicitis very closely. In reading over our case reports I have been struck with the almost constant repetition of the observation that the patient had had several or numerous previous attacks of the same nature; and it is a point worthy of note that these recurring attacks of a subacute or mild type may end finally in a hyperacute attack which carries off the patient. Perhaps the most instructive case report that I have is illustrative of this tendency to recurrence.

M. C., female (Surgical No. 13426, aged 57), was admitted Sept. 25, 1907, complaining of abdominal pain and vomiting. On September 12th the patient was suddenly seized with severe pain, felt across the upper region of the abdomen and in the back. It was very severe and prostrated the patient completely for about three hours. Then she was fairly well for the rest of that night and the two following days; but on the fifteenth the pain

returned, and continued from that time with greater or less severity. But while she was never entirely free from pain, it was greatly augmented at times; the paroxysms were extreme, and were often accompanied by vomiting and chills. These paroxysms lasted from three to six hours. She was quite comfortable for two days prior to admission, but on the twenty-fourth the pain recurred as before. It was felt chiefly in the epigastrium and right loin, though to some extent generalized, but never shot down into the legs. The bowels had always been regular, and she had not noticed anything unusual about her stools. There were no bladder symptoms, and no jaundice. The urine had at times been highly coloured. There had been no prior similar attacks. The patient had had "jaundice" thirty years ago, but had been in excellent health since then.

On examination, the abdomen was found to be full and rounded. There was but slight movement on respiration, but no area was especially limited. On palpation there was generalized tenderness and muscular resistance, but the tenderness was most marked in an area the size of the palm of one's hand, in the epigastrium below the costal margin and above the umbilicus. Here there was much resistance, and palpation for mass was unsatisfactory. There were no abnormal areas of impaired tympany.

On admission the urine was normal. On September 25th bile appeared in it. On September 26th jaundice was noted, of a light grade, but it disappeared in two days.

On September 30th, under ether anæsthesia, an exploratory operation was performed, under the provisional diagnosis of gall stones. An incision five inches long was made along the outer edge of the right rectus. The gall bladder was found adherent to the gastro-colic omentum by firm adhesions, which were separated. No stones were found in the gall bladder or in the ducts. The head of the pancreas was enlarged, hard and nodular. It was considered at the time that there existed no indication for further interference, and the abdomen was simply closed.

On November 2nd the patient, who had made a good recovery, was discharged. After operation she had no further pain nor jaundice for about seven months.

June 1st, 1908. Several other attacks within three weeks, of the same nature as previously, were observed outside by Doctor Cushing. The urine at this time contained lipase.

July 6th, 1908, she was admitted to the medical side during a subacute attack, and at this time she had slight icterus. There was marked tenderness, chiefly in the epigastrium, but also in the lower abdomen to a less extent. Within a few days she improved a great deal. Lipase disappeared from the urine; but just before leaving the hospital she had a very severe attack which gradually disappeared. She was discharged on August 3rd, 1908, having had no pain for three weeks. The urine never contained sugar.

The patient was readmitted on January 27th, 1909. After her discharge from the medical side in August, 1908, she began to have indigestion; that is, almost immediately after eating she would be troubled with pain in the epigastrium, sometimes of a sharp shooting character but more often a dull pain with a sense of weight in the stomach, lasting for a few minutes, but often recurring in an hour and lasting for a couple of hours. There was some tenderness in the epigastrium but not acute, and if anything more marked

a little to right of median line. The pain did not seem to have any relation to quantity or quality of food. Almost every meal she would belch up great quantities of gas. Three weeks before admission, about ten o'clock in the morning, she was seized with pain in the epigastrium radiating to the left side of the abdomen and going through to the small of the back. The pain was so severe that she sank to the floor, and it was several minutes before she could move. It lasted about two hours and left her feeling weak, but the next morning she felt quite as well as usual. From that time on she lived on liquids, yet was troubled with flatulence. On January 21st she had a similar attack which came on about 10.30 a. m. and lasted a couple of hours, radiating in the same direction. The patient had no more pain until January 24th, when she had a sudden attack, beginning at noon and lasting until 5.30 p. m. The pain returned at 10 p. m. and lasted until 3 a. m. January 25th was free from pain. January 26th the pain began about 8 a. m. and remained all day, but was not very severe. January 27th the pain became severe, requiring the free administration of morphine, ⅜ of a grain. The patient was brought to the hospital about noon.

Upon examination, the abdomen was found to be rather full but not distended to any degree, and it moved with respiration. There was no rigidity, but some muscular resistance in the upper quadrants. There was some tenderness all over the abdomen, but the area of greatest tenderness was about midway between the umbilicus and the ensiform cartilage, and extended one inch to the right and two and a half inches from above downwards. There was a suggestion of a mass here, but nothing definite was made out. Lipase was found in the urine.

For the first three days after admission she was troubled at times with pain in the epigastrium which never became severe, and she had definite tenderness, as mapped out in Diagram No. 1. During the rest of her stay in the hospital her general health was good and she remained quite free from pain. After being in the hospital a few days the tenderness in the epigastrium gradually became less and the lipase disappeared from the urine. Cammidge's crystals were also found. She was discharged on February 24th, 1909, and has remained well up to the present (January 19th, 1910), save for a few short attacks.*

Another instructive case of the subacute type going on to the chronic recurring form is the following:

N. M. (Surgical Case No. 13411), aged 26, was admitted September 23, 1907, complaining of abdominal pain and vomiting. On Saturday, September 14th, 1907, the patient while at work was seized with cramp-like pains in the abdomen, chiefly in the hypogastric region, which became so severe in the afternoon that he stopped work. He felt better that night and slept well, but on Sunday the pain returned as before and persisted all day, keeping him awake at night and continuing on Monday. On Monday night it was very much diminished and almost gone on Tuesday. He went to work on Wednesday and felt perfectly well until Saturday afternoon, September 21st, when the pain returned in an even more severe form, and he vomited at least six times that night. On Sunday the pain persisted, also the vomiting. He had a frequent desire to go to stool, but none of his

* February 21st, 1910. This patient has just re-entered the hospital with acute attack, in all respects sembling previous ones.

efforts were effectual, and the attempt made him nauseated. On Sept. 23rd, abdominal pain was felt chiefly on the left side of the lower part of the abdomen and in the hypogastrium. It was never felt in the loins and was never shooting in character. There had never been any prior similar attacks.

Doctor W. Dorion, who sent the patient in, emphasized the extraordinarily severe character of the pain of onset. He was called twice in the night. September 21st, for this at an interval of an hour; and said that only slight relief was got with a half grain of morphia hypodermically.

At this time we could make nothing of the case. He ran fever for a week, his pain disappeared, and we sent him out with a diagnosis of atypical appendicitis. It should be said, however, that the pancreatic region was not thoroughly examined. I now believe that this was an unrecognized attack of pancreatitis.

November 28th, 1908, the patient was readmitted to the hospital. He had had a slight attack at Christmas, 1907, confining him to bed for a week and incapacitating him for work for two weeks. In June, 1908, he had another attack. Between these attacks he felt quite well until four months ago, from which time he was never entirely well, and had four definite attacks of abdominal pain with vomiting, the last one being the worst. During the last four months the patient did not eat a hearty meal, and had to give up eating such things as cabbage and vegetables generally, and all kinds of meat. If he ate heartily of meat or vegetables he would have pain and vomiting the following day. During the last year he kept his bowels moving with Beecham's pills and enemata, but stated that the bowels were becoming more constipated. He had lost weight, especially of late. In the earlier attacks the pain was always in the lower quadrants of the abdomen, the vomiting usually preceding the pain. He never brought up blood, but vomited sometimes in the morning undigested food of the previous day. The last attack began on November 24th, at 11 p. m., with a sharp, shooting pain in the epigastrium. Two hours later he developed a dull pain across the lower part of the abdomen. He vomited the next morning. With the onset of the attack the patient had chills, and from the onset the pain remained very severe. Though given morphia, he did not sleep at all for four days and nights. He was unable to keep still and the position from from which he got most relief was lying on the face or curled up. He had a sharp pain in the epigastrium and a dull pain across the lower part of the abdomen.

Dr. Harrison. who attended him through several of these attacks, stated that half a grain of morphia hypodermically had practically no effect on the pain:

Upon admission, November 28th, 1908, his condition was as follows:

The patient was rather pale, with a listless expression, and pupils widely dilated. He appeared to be suffering a great deal of pain, rolling about and lying most of the time either doubled up or on his stomach. His temperature was 97 3-5°, pulse 84, and respiration 24.

The abdomen on examination was found to be rather scaphoid, moved freely with respiration and was symmetrical. On palpation it was soft with no areas of resistance and no tending also to the left. There was some tenderness on rectal examination but nothing abnormal was felt.

The patient vomited occasionally a few mouthfuls of bile-stained fluid. The stomach was not dilated. The

bowels did not move, and there was difficulty in starting micturition, which the patient attributed to the fact that he could not use his abdominal muscles on account of the pain.

He was catheterized on admission. The urine was clear; dark amber, acid, 1.026, with no albumen, sugar, bile, pus, red blood cells or casts. Doctor Bruère, who examined the urine, reported lipase present.

On the following day the patient's general condition was about the same. The pain was still very severe and was present also over the lower part of the abdomen. He did not sleep at all during the previous night and vomited frequently.

On November 30th, the pain was not so severe and he was able to sleep better.

In this case I felt that the diagnosis of pancreatitis imposed itself, and that his attack of the previous year, then unrecognized, had been part of the same illness. I felt also that the likelihood of there being any condition in the gall passages which could be remedied by operation was extremely slight, and the question immediately arose whether it was justifiable to operate. I felt at the time that operation had but little chance of relieving the condition, inasmuch as it is difficult to carry out anything surgical to relieve an inflamed pancreas, if one feels sure that the cause of the inflammation is not a gall stone or an infection in the bile passage. Nevertheless the impossibility of asserting that a lesion of the bile passages was not present seemed to me to justify interference on the offchance of being able to remove any such biliary lesion, and in that way indirectly to cure the pancreatitis. I still believe that this indication is sufficient to warrant exploratory operation in all cases of pancreatitis. By that I do not mean that operative interference can do any good to a pancreatic inflammation when a removable lesion of the gall passages is not found. That is another question, which may be more fittingly discussed under the heading of treatment.

On November 30th, under gas-ether anæsthesia, an incision was made four inches long at the outer border of the right rectus, the lower end of the incision being on a level with the umbilicus. On opening the peritoneum there were no signs of inflammation visible. The liver appeared healthy. The gall bladder was partly filled with bile and appeared quite normal. The bladder and ducts were thoroughly palpated for stones but none were found. The stomach and duodenum were palpated but appeared to be normal. The pancreas was felt and could be distinctly traced across the abdomen; it was clearly larger and firmer than normal. The kidneys, spleen and appendix were palpated but appeared to be normal, as did also the cæcum, the transverse and descending colon. There were some palpable glands along the mesentery. There were no adhesions visible anywhere. The abdomen was closed without anything further being done.

The patient made an uninterrupted recovery and was discharged on December 18th, 1908.

January 11th, 1909, that is about four weeks later, he was re-admitted with a recurrence of all his previous complaints. It is unnecessary to go over them again in detail. There was the same marked tenderness in the pancreatic region, the same severity of pain, although this was not so prolonged as on previous occasions. The attack passed off within a week and he was discharged.

In February he had two or three other slight attacks lasting two or three days, and finally another severe attack with the characteristic symp-

toms and tenderness as before. This passed off without further treatment and he resumed work. He has been lost sight of since.

These two cases in my experience are noteworthy for the fact that they illustrate in the clearest possible way that pancreatitis may not infrequently be primary in the pancreas itself and be independent of any demonstrable lesion in the bile passages, and that it may be frequently recurring, so much so as to disable a man from work. They also illustrate the difficulty of knowing what to do to help such patients.

THE CHRONIC FORM.—It is a conception which has in it perhaps something of newness, that there is such a thing as a chronic recurring pancreatitis which causes symptoms so mild as to be borne by the patient for a period of many years as something not quite unnatural and one belonging to the ordinary ills of life. A most instructive case in this respect is the following, the history of which I owe to Doctor Bell's kindness.

F. D., a maiden lady of fifty-four years of age, was admitted December 14th, 1909. For twenty-five years the patient had suffered from attacks of pain in the epigastrium and between the shoulders. The pain was ordinarily quite severe for a few minutes to half an hour, and usually stopped abruptly. It was not associated with the ingestion of food, and there was never any vomiting. For many years it occurred about every two or three months, but she was quite well in the intervals. Ten years ago she began to have bilious attacks, characterized by pain in the right hypochondrium, by flatulence, vomiting of bile, and anorexia, lasting a couple of days and accompanied by slight jaundice. The pain in these attacks usually lasted several hours and often required morphia. Lately these came on almost every two days but there had been no jaundice since the spring. She had lost sixty pounds in two years. Examination upon her admission revealed an epigastric mass, which was extremely tender, near the center of the epigastrium and a little to the right, which was later proved to be an enlarged pancreas. There was also some tenderness, although slighter, over the gall bladder. At operation there were were found many adhesions around the gall bladder, and in particular one adhesion to the transverse colon so dense as to suggest an old healed fistula between the gall bladder and the colon. The mass proved to be a rather hard, nodular pancreas. The gall bladder was opened at the point of adhesion to the colon and a small facetted stone removed. The bile ducts were free. This patient died on January 13th of this year, a few days ago, apparently of inanition. The wound had remained clean.

Here, as I interpret it, there had been present a mild grade of chronic pancreatitis for about twenty-five years, to which was added about ten years ago the complication of gall stones and cholecystitis. What is especially noteworthy is that the pain which, as we believe, was characteristic of the pancreatitis lasted only for a few minutes to half an hour, and that there was never any really acute attack.

DIAGNOSIS.—It has been believed until very lately that the diagnosis of pancreatitis on clinical grounds was a very difficult thing. This, I think, is still true for the hyperacute cases, at least, in the first 12 to 24 hours. But in respect of those of less severity I believe that there are very many cases which are capable of accurate diagnosis before operation, and it has been possible in my later experience to make a correct pre-operative diagnosis in most of the patients

Among the clinical signs I have come to think that the location of the tenderness to palpation is the most valuable. In my own mind the diagnostic sentence may be put briefly, and what as follows:

Given a case of acute abdominal pain referred chiefly to the upper half of the abdomen, if upon examination one finds the greatest tenderness located in the epigastrium about midway between the umbilicus and the ensiform cartilage, extending perhaps one inch or one inch and a half to the right, but in particular a similar distance to the left also, while absent over the gall bladder region; if, further, in the history there are absent the symptoms of gastric or duodenal ulcer, and if there is no evidence of an acute intestinal obstruction, in the way for instance of a strangulated hernia, then one may reasonably say: "This is in all probability a case of pancreatitis." It may be noted in addition that very often there is present some tenderness—it may even be quite considerable—in the lower half of the abdomen, a sign which I take to be due to the presence of an irritative serous peritonitis brought about by the spread of the pancreatic ferments along the subserous lymphatics. In the subacute and the milder recurring cases the paroxysmal character of the attacks, the shortness of their duration (one-half to three of four hours), and the great severity of the pain are also symptoms which possess some confirmatory value. Upon these data alone it has been possible in many instances to make a diagnosis. But how is such a clinical diagnosis to be made certain?

This brings us to a consideration of the confirmatory diagnostic signs; and one may say briefly that to prove the presence of pancreatitis in such an instance, it is necessary to demonstrate either the presence of the signs of pancreatic disturbance in the urine or fæces, or the enlargement of the pancreas at operation. Both these conditions have been fulfilled in the majority of our cases. The urinary signs of pancreatitis include the so-called Cammidge reaction and the finding of the fat splitting ferment of the pancreas in the urine. Both of these tests I regard as of considerable importance, and when agreeing with clinical signs, as almost diagnostic.

I may remind you at this point very briefly of the physiological principles underlying the lipase test. Lipase is the term used to designate the fat splitting ferment of the pancreas. In pancreatitis it may be forced into the circulation instead of arriving in the duodenum. Thence it may be excreted by the kidney and appear in the urine. Experimentally, Hewlett, as far back as 1904, demonstrated its constant presence in the urine in cases of acute experimental pancreatitis in dogs. To demonstrate it in the urine, one simply adds to a sample a definite amount of fatty substance which the ferment can split. For this butyric ether is used. The cleavage of this substance will yield free butyric acid. As control we use a sample which has been boiled in water to destroy the ferment. If in titration there proves to be a greater amount of acid in the test urine than in the control, we say that the fat splitting ferment, that is lipase, is present, and consequently that the case is one of pancreatitis.

For the Cammidge test we have as yet no such sure physiological foundation to offer. It would be out of place to enter here into the details of the chemistry involved in this reaction. Suffice it to say that Cammidge finds, by hydrolysing the urine with hydrochloric acid and treating it subsequently with lead carbonate, lead acetate, sodium sulphate, and finally treating the filtrate with phenylhy-

drazine and acetic acid, that he gets in cases of pancreatitis a deposit of crystals, the exact chemical nature of which he can not demonstrate but which are of characteristic form and properties.

During the past year, under the guidance and with the help of Doctor Bruère and lately also with Doctor McKenty, I have carried out observations with regard to these two tests in about fifty cases, the results of which I will here give you briefly. Of twenty cases in which pancreatitis was proved, the Cammidge test was positive in twelve; the lipase test was positive in five. In twelve of these cases the Cammidge and lipase tests were carried out in a parallel way. Of these twelve the Cammidge test was positive in eleven and negative in one while the lipase test was positive in three and negative in nine. We thus see that the Cammidge test is by much the more frequently positive of the two, occurring in three-fifths of the cases, while the lipase text was positive in only one-fourth.

In a second series of twenty-four cases in which the pancreatitis was either doubtful or proved to be not present, including a large number of inflammatory and hepatic lesions in the upper half of the abdomen, the Cammidge test was positive in two which were, by the way, probably pancreatic in nature; the lipase was not positive in any. In three cases of diabetes the Cammidge test was positive in one and negative in two. The lipase test was tried only once but was negative. There are a great many other details in connection with these tests which would need for discussion a paper to themselves. To be brief, I may simply say the conclusion seemed to be that the Cammidge test, where positive, was of distinct confirmatory value but that its absence by no means excluded pancreatitis. The same could be affirmed of the lipase test, perhaps in an even greater degree.

Treatment. — As you probably know, the tendency of late years has been all towards surgical intervention. In the acute cases operation has apparently not infrequently saved life. In the first place it removes a large amount of blood-stained fluid from the peritoneum. Secondly it may remove stones from the common duct or drain an infected gall bladder. In the third place, following the recommendation of von Mikulicz in 1903, it may actually incise the capsule of the pancreas and even the blood-infiltrated and inflamed tissue of the organ itself, upon the general principle of liberating incisions for acute inflammatory conditions.

On the other hand, although the indications for these acute cases are clear enough, they become much less clear, it seems to me, when we come to deal with the subacute and the chronic recurring types. Nobody will dispute the advisability of operating in such cases for the removal of gall stones or the draining of infections in the bile passages, inasmuch as the one fairly sure point in our knowledge of the causation of pancreatitis is represented by just such lesions. But here comes the difficult point. Suppose one has undertaken an exploratory operation which, as I said before, seems to me always justifiable, and suppose one finds nothing of an abnormal nature in the bile passages, and the pancreas to the palpating hand feels enlarged and firm, what is one then to do? As you are probably aware, such experienced men as Mayo Robson, W. J. Mayo, Ochsner and others, recommend as a routine procedure the diversion of the bile from the common duct.

* I should explain that in estimating the ultimate acidity of the test and the control urine, a rather wide margain of difference was allowed, viz.: One c. c. of 1-20 normal KOH. Any difference less than this was counted out, as being due possibly to bacterial action. A less rigid standard would have yielded a much larger percentage of positive results.

They wish, in other words, to prevent or at least to diminish the passage of the bile past the open door of the pancreatic duct, believing that by such action they prevent what they think to have been the cause of the pancreatitis, namely, the passage of the bile, or the infection resident in the bile, into the pancreatic duct. They recommend therefore, doing a cholcystostomy, or in the chronic cases cholecystenterostomy, under the assumption that by this means they drain the bile away from its normal passage through the common duct. To quote W.J. Mayo (Surgery, Gynæcology and Obstetrics, December, 1908): "In those cases of chronic pancreatitis in which no stones are present, cholecystostomy can not be relied upon, because the continuation of the pancreatic disease lies outside and beyond the biliary tract: and in these cases more prolonged, if not permanent diversion of the bile from its pancreatic association is necessary, and cholecystenterostomy is indicated."

I confess that such a procedure seems to me, in those cases where a biliary lesion cannot be demonstrated, somewhat illogical. Of what use is it to do an operation upon the bile passages when you cannot show that the infection proceeds from the bile passages? Of what use to operate upon normal bile passages? It was this reasoning which in the two cases above reported led me to close the abdomen without carrying out any such operation as those mentioned. I may, perhaps, go on to say that the later history of these patients has made me regret in a somewhat indefinite way that I did not do something of the nature proposed; that is a regret, however, founded not upon logic but upon the purely empirical observations of others that such operations had proved "curative." Mayo Robson states that a cholecystenterostomy has been effectual in curing numbers of his patients in which the above described conditions were present. Nevertheless I can not help but remember that, just as with appendicitis, many cases of pancreatitis are only apparently cured, in that they have no recurrence of the attack for years. In other words, what seems to be a real cure may often be only an apparent cure or a coincidence.

However all this may be, it seemed to me to be necessary to undertake first a series of experiments to prove that a cholecystenterostomy does really drain away the bile from its normal passage through the common duct. It is indubitable that where the common duct is obstructed, such an operation must short-circuit the bile; but where there is no obstruction in the common duct, will the bile take the new route instead of the old one? We know now pretty well from experimental evidence that a gastroenterostomy will drain the stomach when the pylorus is obstructed, not when it is patent. By analogy it seemed to me to be a question whether a cholecystenterostomy would drain the bile when the common duct was open. In this idea I have operated upon three dogs. I have done a cholecystenterostomy, using a loop of the jejunum, which was then isolated and the two open ends brought into the abdominal opening, the course of the jejunum being subsequently restored. In two of these the junction with the gall bladder was effected by suture, in the other by a Murphy button. I need not here go into the details of the protocols. The main fact remains that in the two suture cases practically no bile came through the new opening, while post mortem showed that the bile was passing by the common duct. In the Murphy button case bile did come through the new opening, presumably because it was held more firmly open than by suture, for two or three days. The union

then gave way, but subsequently, in spite of the fact that there was a large, free opening in the gall bladder, the bile continued to pass by the natural route.

I feel that this small series is insufficient to establish the proposition that a cholesystenterostomy in the presence of an open common duct does not drain the bile. Yet it would seem, at least, that this recommendation of Robson's to do a cholecystenterostomy may in some cases prove quite ineffecutal in accomplishing the object proposed. If so, it would clearly be unwise to subject the patient to the added danger.

On the other hand, a cholecystostomy in the experience of everybody does drain at least a large proportion of the bile to the exterior. I feel inclined, therefore, in subsequent cases to carry out such an operation under the circumstances described; nevertheless, the procedure must be considered as yet purely empirical, and advisable only because to do nothing seems to be too much a counsel of despair.

One somewhat remarkable case, reported by Martina, is on record. In a patient who suffered for years from recurring subacute attacks, Martina found the capsule of the pancreas tense, and made a long, liberating incision in it through which the pancreatic substance immediately became herniated. The relief was immediate and had persisted for a year at the time of reporting. I have examined two of my cases at operation for this condition and incised the capsule in one; but there was no evidence of tension, nor was the after course influenced. I think it must be a rare thing.

Where, as in these cases of chronic pancreatitis surgical therapeusis must go with no very assured step, it behooves us to ask what, if anything, can be done by dieting or by drugs. There can be no doubt that a free, mixed diet may bring on or increase the severity of the attacks, and I think the reason lies in the physiological fact that a good meal, particularly of carbohydrates, stimulates a free flow of pancreatic juice. It is common to find in the case histories that the patients had voluntarily cut out of their diet everything but liquids. For the subacute attack, therefore, a liquid diet is indicated. But man can not live by bread alone, nor by liquids alone. The patient inevitably resumes a freer diet; but he learns to avoid vegetables and much meat. The physician, I feel, can not instruct him better. Often it would seem as if Nature and Time had brought about a restoration of the pancreas to the normal, and the patient remains free of trouble for weeks, months, and even for many years. Yet, frequently, the patient will have a recurrence of the pain in the middle of his dieting. Dieting, as a therapeutic measure, can not be relied upon very much in the long run.

As to drugs, the only drug that has a possible indication, so far as I know, is urotropin, because it has been shown to have a marked germicidal effect on the bile in which it is excreted. If pancreatitis is due to the entrance of supposedly infected bile into the pancreatic duct, let us render the supposedly infected bile sterile. So I have given urotropin in large doses to two of these patients, after exploratory operation. What was the result? They calmly developed further attacks while taking the drug.

No! We must confess that treatment is apt to be unsatisfactory in chronic recurring pancreatitis in the absence of gall stones. For myself, as I said, I have come to the conclusion to do a cholecystostomy in later cases, empirical as I believe it yet to be, and to drain the bile to the exterior for several months.

Joseph Lister

OUR PORTRAIT GALLERY.

LORD LISTER, F.R.S., O.M.

JOSEPH LISTER was born on the 5th of April, 1827, at Upton, in Essex. His father, J. Jackson Lister, was a London merchant, a member of the Society of Friends, who devoted his spare time to scientific pursuits. He was greatly interested in microscopy, and turned his attention to the improvement of the microscope, and it is to him we owe the production of the achromatic lens. He and his friend Dr. Hodgkin, were the first to describe the formation of "rouleaux" by the red blood corpuscles as seen under the microscope.

Thus the boy who was to become so famous was brought up in a scientific atmosphere and doubtless owed much to the early influence and example of his father. He was educated at a private school at Tottenham and then entered University College, graduating B. A., London, in 1847., and M. B., London, in 1852. During his medical course he appears to have been particularly interested in Chemistry and Physiology. He early began original investigation. His first published papers, "Observations on the Contractile Tissue of the Iris," and "Observations on the Muscular Tissue of the Skin,"appeared in the *Quarterly Journal of Microscopical Science*, in 1853.

Having served as house physician under Dr. Walsh, and house surgeon under Mr. Erichsen, in University College Hospital, he went to Edinburgh, attracted by the brilliant work of Syme, who was then at the height of his fame, and who was the most original teacher and most successful surgeon of his time.

In 1854 he acted as house surgeon for Mr. Syme, for two terms, and in the following year he became an "extramural" lecturer in Surgery. In 1856 he was appointed assistant surgeon to the Royal Infirmary, a post which he held until 1860. It was during these years that he carried out the wonderful researches on the blood and its circulation, and the action of the nervous system which proved him one of the ablest investigators of these phenomena. In particular his work on the Early Stages of Inflammation marked him as a true discoverer and his observations "have formed the basis of all subsequent discoveries." This epoch-making paper was read before the Royal Society on June 18th. 1857, when he was thirty years of age.

In 1860 he was appointed Regius Professor of Systematic Surgery in the University of Glasgow and at the same time became a surgeon to the old Royal Infirmary there. He spent nine years in Glasgow. It was during this period that he delivered the famous Croonian Lecture on the Coagulation of the Blood (Royal Society, June 11. 1863), which upset most of the notions then held about this phenomenon and formed the ground work for most of the modern teaching on the subject.

It was during his residence in Glasgow that he wrote the articles on Amputation and Anæsthetics, for Holmes' System of Surgery, and it was then also he introduced a new method of excision of the wrist joint. The article on Anæsthetics is especially valuable: it embodies a vast amount of original research, and should be studied by all who administer chloroform.

But the crowning glory of his work in the "sixties" is the introduction of Antiseptic Surgery. This colossal achievement was so revolutionary in its character, and so transcendent in its beneficent results that it has almost eclipsed the extremely valuable and important physiological and pathological work of his earlier years, work which in the nature of its problems and in its technique prepared him for the abstruse questions and experiments connected with antiseptics and the healing of wounds. The prompting to these earlier studies came from a pure love of science, but in the work on antiseptic surgery another phase of Lister's character showed itself, a characteristic which has not failed to arrest the attention of all who have become in any degree intimate with him, namely, a most humane spirit, a tender sympathy with the suffering and the poor. It was the distress of mind caused him by the prolonged suffering and the terrible mortality among his poor patients in the old Glasgow hospital that impelled him to seek for some new method of treating wounds. It is difficult for us to realize in our day the risks of surgery at this period. It is enough to say that the average mortality after major operations ran from 30 to 50 per cent. The limits of this biographical sketch forbid us to go into the complete history of Lister's methods, and his application of Pasteur's theory of fermentation to the phenomena of suppuration and pyæmia, and the advance in practice, *pari passu* with the steadily increasing knowledge of the new science of bacteriology.

We may note that the first case successfully treated on the new plan was that of a boy of eleven, with a compound fracture of the leg, on Aug. 12th, 1865, and if proof were needed that Lister did not rush into print it is found in the fact that his first paper on the subject came out in the *Lancet* in 1867.

In 1869, Lister succeeded Syme as Regius Professor of Clinical Surgery in the University of Edinburgh, with wards in the Royal Infirmary. Here he laboured for eight strenuous years, perfecting his methods and continuing his researches in bacteriology and on the healing of wounds. It was he who first isolated and described the organism which causes souring of milk and gave it the name of Bacterium Lactis. He devised much of the apparatus used in bacteriological work and it was he who introduced the method of dry sterilization still used in our laboratories.

One of the most extraordinary facts in the history of medicine was the opposition to Lister's doctrines and methods. But before he left Edinburgh he had the satisfaction of knowing that his wards were the Mecca of the surgical world and that his system had been adopted in all the leading surgical clinics.

In 1877 he left Edinburgh to become Professor of Clinical Surgery in King's College Hospital, London, and he retired from active surgical work in 1893. For a number of years afterwards he was busily occupied in scientific work, and in 1895 he was elected President of the Royal Society, succeeding Lord Kelvin, and took a leading part in its work. But for the last few years his health has not been robust, and he has gradually given up all his much-loved work. Indeed he has lately been compelled to keep to the house, and largely to his bed "only getting up a short time and going to the window to see the sun set."

But the sun never sets on the work he began, and as long as surg-

ery endures his name will be an inspiration. It is not too much to say that in the long history of medicine no man has been so widely honored or so truly loved.

Fourteen years ago Tillmanns wrote "We Germans recognize without a "suspicion of jealousy that the sun of "modern surgery first rose in the per- "son of Sir Joseph Lister, and in "England. The word surgery in its "origin signifies a handicraft; but "that which was thus manual at "first has become an art and a science "which has, thanks above all to Lis- "ter, raised itself with impetuous and "surprising speed in the last twenty "years to a previously unknown "height of developement. Modern sur- "gery no longer stops short at the ex- "terior, but has gone even deeper, and "includes within the sphere of its "activity every organ of the human "body without exception. And for "this mankind is indebted in the first "place to Sir Joseph Lister. As far "as there is an earthly immortality it "must be his, for as long as ever sur- "gery is scientifically discussed his "name cannot fail to be mentioned."

Lister married a daughter of Mr. Syme, but they had no family. Lady Lister was a great help to her husband in his scientific work, and his constant companion, and it is doubtful if he ever quite recovered from the shock of her death, which took place in 1893, while they were spending a summer holiday together in Italy.

As might be expected Lord Lister has been the recipient of many honours at home and abroad, including honorary degrees from many seats of learning. In 1883 he was made a baronet and in 1897 he was raised to the peerage, the first member of our profession to attain such rank. He is a member of the Privy Council and was one of the original members of the Order of Merit.

We shall conclude our sketch of this great and good, and much-loved man with the fine lines of W. E. Henley, who, while a patient of Lister's in the old Royal Infirmary in Edinburgh, contributed to the Cornhill Magazine a series of sketches, entitled "In Hospital," and thus describes

"THE CHIEF."

His brow spreads large and placid, and his eye
Is deep and bright, with steady looks that still.
Soft lines of tranquil thought his face fulfil—
His face at once benign and proud and shy.
If envy scout, if ignorance deny,
His faultless patience, his unyielding will,
Beautiful gentleness, and splendid skill,
Innumerable gratitudes reply.
His wise, rare smile is sweet with certainties,
And seems in all his patients to compel
Such love and faith as failure cannot quell.
We hold him for another Herakles,
Battling with custom, prejudice, disease,
As once the son of Zeus with Death and Hell.

SOCIETY MEETINGS.

HALIFAX AND NOVA SCOTIA BRANCH BRITISH MEDICAL ASSOCIATION

A REGULAR meeting of the Halifax and Nova Scotia Branch of the British Medical Association was held in the City Hall on Wednesday evening, March 2nd. There were present fifteen members and five guests. Dr. Corston occupied the chair. Minutes of previous meeting were read and approved. Dr. J. A. Sponangle of Middleton, was expected, but was unavoidably detained, and Dr. Philip Weatherbe came to the rescue and read a very iteresting paper. on hæmaturia. He dealt with the subject very exhaustively, describing the various methods of diagnosis and their relative value. Then the causes of blood in the urine were enumerated. He finally concluded his paper by citing a number of cases which had come under his notice in private and hospital practice. The paper was discussed by Drs. Birt, Hawkins, Woodbury, Trenamen, Ross and Rankine.

MARCH 16TH.—Regular meeting at City Hall. In the absence of the President and Vice-President, Dr. D. A. Campbell was asked to take the chair. There were present twelve members and two guests.

The minutes having been read and approved, Dr. H. K. MacDonald cited a case of sudden death which was considered to be caused by œdema of the glottis. The case was discussed by several members.

Dr. J. A. Sponagle was then called upon to read his paper entitled—"Some Common Conditions of the Mouth, Nose and Throat, with their effects, immediate and remote—A few every-day problems in relation thereto." The paper was much appreciated by the members present and was followed by considerable discussion. It will be published in full in the MARITIME MEDICAL NEWS.

Dr. D. A. Campbell after expressing the thanks of the Society to Dr. Sponagle for his interesting paper, called for discussion.

Dr. R. E. Mathers said he wished to endorse all that Dr. Sponagle had said. He had been enucleating tonsils for two years and was pleased with the method. He cited a case of phlyctenular conjunctivitis which was cured by removal of adenoids.

Dr. A. E. Doull complimented Dr. Sponagle on his paper. In the surgical tratment of tonsils and adenoids he was more radical than some of his friends. Did not think surgeons should wait until adenoid facies were noted before operating. Reference to cases in which tonsils looked healthy but when opened foci of pus were found.

Dr. H. K. MacDonald cited a case of streptococcal sore throat which was followed in two months by an attack of acute rheumatism, to illustrate the sequalae of mouth infections. He also referred to the importance of oral asepsis in cases requiring anæsthetics and in gastro-intestinal surgery.

Drs. Woodbury and Cunningham stated some of their experiences in school inspection.

Drs. Hawkins, Ross, Watson, Patterson and Dougal took part in the discussion. Dr. Sponagle in his concluding remarks described in detail Dr. Waugh's operation for enuclea-

tion of the tonsil. He regarded it as ideal and likely to be the operation of the future.

On MARCH 30TH a regular meeting of the Branch was held at the City Hall. Dr. Corston occupied the chair. Ten members and one guest were present. Minutes of previous meeting were read and approved.

Drs. M. A. MacAulay, Jas Ross and J. J. Doyle were nominated a committee to make arrangements for Annual Banquet.

Dr. John Rankine read a paper on "Eclampsia." His own experience of fourteen cases with no maternal deaths and five fœtal deaths was quite remarkable. The paper will appear in the columns of the MARITIME MEDICAL NEWS.

In the discussion which followed, Dr. Buckley cited three cases as his total experience.

Dr. Watson had no experience but referred to great importance of prophylactic treatment. He asked if morphine might not injure the child.

Dr. Hattie said that urea should be estimated in examining the urine.

Dr. C. S. Morton had experience in six cases. He was an advocate of forcible delivery whenever possible. He had used veratrum viride in some of his cases. He now preferred scopolamine and morphine to morphine alone. Thought nitroglycerine useful in some cases.

Dr. Roach gave his experience in three cases.

Dr. Patterson had seen one case.

Dr. Rankine replied briefly, answering some questions. His experience with scopolamine and morphine had led him to abandon its use. Some of his colleagues had also reported undesirable effects. He was not sure whether morphine was dangerous to the fœtus or not but he would take his chances in order to give the mother the benefit. He thought forcible delivery when os had not dilated greatly increased the danger to the mother.

On Wednesday evening MARCH 23RD Mr. W. Birch Coley, M.R.C.S., London, delivered a lecture at the Halifax School for the Blind on "The Care of the Feebleminded and Epileptic." The meeting was held under the auspices of the Halifax and Nova Scotia Branch of the British Medical Association and the Society for the Protection of the Feeble Minded. Dr. C. F. Fraser, the President of the latter society, occupied the chair, and when introducing the speaker outlined what had already been done or advocated in Nova Scotia. The lecturer was listened to with attention by a small but representative audience, and his paper will appear in a later number of the NEWS

Dr. Corston moved a vote of thanks which was seconded by Dr. W. H. Hattie; others taking part in the discussion were Dr. A. H. MacKay, Dr. Sinclair, Mr. A. S. Barnstead and Principal Brunt. After the meeting Dr. Fraser entertained Dr. Coley and a number of his friends at supper.

ST. JOHN MEDICAL SOCIETY.

ST JOHN Medical Society resumed its meetings after the Christmas holidays. The genial faces and goodly number attending the metings. indicates that the festive season not only satisfied the physical man, but also prepared him to take an active part in the discus-

sions of the papers read by the different members.

JANUARY 5—The members of the Society extended to Dr. Case their sympathy in his recent bereavement, by the death of his wife.

Dr. Corbet exhibited a skiagram of a fractured tibia, showing the importance of taking skiagrams from different sides. This showed an oblique fracture which was next to impossible to diagnose without the aid of a skigram.

Dr. Wm. Warwick paper—Clinical Aspect of Blood-Counts.

First he dwelt on the importance of the blood-count in anæmia, both primary and secondary, going minutely into conditions we get in pernicious anæmia, myelogenous leukæmia tema, typhoid, scarlet fever and influenza.

In sepsis, suppuration and septicæmia there is an increase of leucocytes with decrease of red cells and hæmoglobin, but if pus can escape there will be an increase.

Dr. Roberts in discussing the paper thought that we in St. John do not make enough use of the blood count. Dr. Addy thought that we should not rely on blood count only, but examine our patients thoroughly.

JANUARY 19.—Dr. Ed. Archibald of Montreal, read paper on "Pancreatitis, the Acute, Sub-acute and Recurring Mild Forms of the Disease."

It is impossible to give a synopsis of this interesting paper. Dr. Archibald gave the etiology, symptoms and treatment of this disease: he reported twenty-three cases which came under his care and the care of his colleagues in the Royal Victoria Hospital, Montreal

After the paper was read, the majority present thought that at some time or another, they must have had pancreatitis, and if not then some of their patients had, and they had treated them for some form of indigestion.

In discussing this paper, Dr. MacLaren said that we have had a few cases in St. John.

Dr. G. A. B. Addy referred to a case where recently he was one of the attending physicians.

A vote of thanks was tendered Dr. Archibald for his interesting paper and kindnes in addressing us.

After adjourning the meeting, the members stayed for refreshments. This meeting was held in the Union Club.

JANUARY 26.—The Society tendered an address to Dr. Boyle Travers.

"To Dr. Boyle Travers:—

We the members of the St. John Medical Society are desirous of conveying to you our good wishes on your completion of sixty-two years of medical practice. Your attention to professional duties during your long and active life, and your interest in all that pertains to the welfare of our city has won the respect of the profession and citizens in general. We ask your acceptance of this gift, not so much for its intrinsic value, as for the feeling of good fellowship which we entertain towards you, and we hope that the remainder of your life will be peaceful and happy.

Signed on behalf of the St. John Medical Society,

J. S. BARTLEY, *President.*
GEO. G. CORBET, *Secretary*

January 26, 1910.

This address was accompanied by presentation of a chime clock.

FEBRUARY 4.—Cyst of Omentum was exhibited by Dr. MacLaren: these cysts are very rare.

Dr. Murray MacLaren paper — "Cystoscopy and catherization of the ureters." First traced history from beginning in 19th century to the present.

Dr. MacLaren described the technique and also reported three cases.

Dr. L. A. McAlpine Case-Reports —Unusual sources of hæmorrhage after or during labour.

Case 1— Source of hæmorrhage from torn vestibule.

Case 2—Abortion 4th month, no fœtus could be found.

Case 3 — Premature rupture of membranes in successive labours.

Case 4—Placenta Previa

Case 5—Birth without rupture of membranes

Case 6—Tough dense hymen convexity downwards with third or fourth month fœtus behind it; this is a case where impregnation took place without rupture of hymen.

FEBRUARY 6.—J. E. Wilson, M.P.P. discussed the appointment of a Public Health Officer, and the following motion was carried:

"That if any city in New Brunswick of a population of 10,000 or over request the government to appoint a health officer at a salary of not over $1500.00 per year, the government will appoint such an officer and will agree to pay one-third the salary of such an officer, the city or municipality paying the other two-thirds.

The Health-Officer shall be a registered physician and shall possess a diploma in Public Health from some recognized university."

Dr. A. F. Emery read paper on and exhibited specimens—Uncinarius Americano. First took up the history and symptoms and reported a case of a man who left Florida four years ago and who had hook-worms. He gave his patient thirty grains of thymol in two doses followed by purge. This is the first case to be reported so far north. Dr. Emery was complimented on his pioneer work. He exhibited the hook-worms under the microscope.

MARCH 2.—Dr. G. A. B. Addy read paper on "Typhoid." The recent epidemic was very severe. While he was on duty in G.P. Hospital he had 45 cases under his care nine died—three from perforation, one infancy, one exhaustion, four toxæmia. All patients with perforation had high temperature, over 104, all were operated on within two and a half hours from onset of symptoms and all died.

MARCH 16—Dr. Bartley reported to the Society that the committee appointed to wait on the government did so and advocated the appointing of a Public Health Officer.

Dr. White exhibited ovarian cyst. Dr. MacLaren exhibited: 1 Fibroid uterus and cyst; 2 Fibroid intramural; 3 Fibroid subserous and pedunculated; 4 Fibroid, very large; 5 a number of urethral calculi.

Dr. G. R. J. Crawford paper—"Pupillary Symptoms." This was a very exhaustive and interesting paper which we hope to see in print.

MARCH 30. — Meeting at Union Club.

Dr. McVey read a letter from University of Edinburgh, congratulating Dr. Fairweather on the successful completion of forty-three years of practice.

Dr. H. S. Birkett, Montreal paper —"Early History of British Otology"

This was an historical subject with which the writer was thoroughly conversant. He traced the history of British Otology from the misty past to the modern period. Referring to Francis Bacon, Thos. Willis, Cleveland, Elliott, Buchanan, Wheatson Wyle, Yeastly, Torpubee.

A vote of thanks was tenderd to Dr. Birkett who made a suitable reply after which a supper was served.

CANADIAN MEDICAL ASSOCIATION.

FOR the 43rd annual meeting of the Canadian Medical Association in Toronto on the 1st, 2nd, 3rd and 4th of June, transportation arangements are in force on the Standard Certificate Plan with the exception of British Columbia where the regular summer tourist rate will prevail. All intending delegates should consult with their ticket agents when purchasing first class transportation to Toronto as to rates, dates of sale of tickets, and the limits and routes. For these purposes the Association and the Canadian Dental Association are coupled; and fare will be single for going and returning if three hundred are present at the two conventions holding Standard Convention Certificates, between Halifax and other Eastern points and Haggan and Coleman, B. C. The first general session will be held on the afternoon of the first day when the President-elect, Dr. Adam H. Wright, Toronto, will be installed in office and the opening ceremonies will take place. Following this there will be the report of the Milk Commission by the Chairman thereof, Dr. Chas. J. Hastings, Toronto, and addresses by Dr. Evans of Chicago, Dr. North, of New York, and others. On the evening of the first day, Dr. Herringham, London, England, will deliver the address in Medicine which will be followed by the discussion on Dominion Registration. The sections which have exceptional programmes will meet in the forenoons. On the afternoon of the second day, Thursday, there wil be an excursion to Niagara Falls and a dinner at the Clifton House. The address in surgery will be delivered Friday afternoon by Dr. Murphy of Chicago, followed by a symposium on exopthalmic goitre; and at 5.30 p.m. the annual meeting of the Canadian Medical Protective Association will take place. Friday evening the address in obstetrics by Dr. Henry Coe of New York, followed by a symposium on the psycho-neuroses. A general session will be held Saturday forenoon and about eleven o'clock an excursion will be taken to Guelph to visit the Ontario Government institutions in the Royal City.

FOR IDLE MOMENTS.

SURE CURE.—*Green*: "My wife sent two dollars in answer to an advertisement of a sure method of getting rid of superfluous fat." *Brown*: "And did she get the desired information?" *Green*: "Well, she got a reply telling her to sell it at the soap factory."—*Am. Jour. Surg. and Gyn.*

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"Are you sure this milk is free from germs?" inquired the cautious young housekeeper. "Yes, lady," replied the milkman unguardedly; "we boil every drop of water we use.—*Leeds H. G.*

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It is reported, says a North Dakota paper that one of the fastidious newly married ladies of this town kneads bread with her gloves on. This incident, he continues, may be somewhat peculiar, but there are others. The editor of this paper needs bread with his vest on; he needs bread with his shoes and pants on, and unless some of the delinquent subscribers of his old Rag of Freedom pony up before long, he will need bread without a darn thing on, and North Dakota is no garden of Eden in the Winter time.—*National Druggist.*

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The following advertisement was posted up at North Shields:—"Whereas several idle and disorderly persons have lately made a practice of riding on an ass belonging to Mr.————; now, lest any accident should happen, he takes this method of informing the public that he is determined to shoot the said ass, and cautions any person who may be riding on it at the same time to take care of himself, lest by some mistake he should shoot the wrong one!"

"Where have you been, my pet, all this long while?" said his mother to little Willie. "Playing postman, mother; with real letters. I've been giving them out at every door all down the street." "Real letters?" And where on earth did you get the real letters?" "They were those old ones in your wardrobe drawer, mother, tied with pink ribbon." And little Willie is unable to this day to understand the quick change in his mother's demeanour and the subsequent pain it caused him.

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STEALING A MARCH ON THE CHEMIST.—An Irishman, who had begun to practise photography, went into a shop to purchase a small bottle in which to mix some of his solutions. Seeing one he wanted, he asked the chemist how much it would be. "Well," said the chemist, "it will be twopence as it is, but if you want anything in it, I won't charge you for the bottle." "Faith, sor," said Pat, "then put a cork in it."

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TO BE EXACT.

"Jane," asked Mrs. Hiram Offen, "are the eggs boiling?" "Most assuredly not, madam," replied the new servant, lately from Boston, "but I may safely say the water in which the eggs are immersed is."—Phildelphia Press.

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PROOF OF ITS PURITY.

Lady (to new milkman): "Now, Jones, I hope I can rely on the purity of your milk. I had to give up Mr. Smith because his milk became two-thirds water." Mr. Jones: "You can rely on this, mum. It's bin paralysed by the public anarchist."—Punch.

NOTES ON SPECIALTIES.

SYMPTOMATIC AND COMPLICATING ANÆMIA.

is that form or condition of blood poverty which results from various constitutional infections and diatheses. Prominent among such causes are, Syphilis, Rheumatism, Paludal Poisoning, Tuberculosis, Carcinoma, etc. In many instances, such an anæmia is due to some obscure, latent metabolic perversion, or a slow but persistent intestinal auto-intoxication of gastro-intestinal origin. While it is an axiomatic principle that successful therapy depends upon the removal of the causative factor, it is more than often wise and eminently judicious to adopt direct hæmatinic treatment while the underlying cause is being sought for and combated. Pepto-Mangan (Gude) being bland, non-irritant and readily tolerable, can almost always be given, with distinct advantage to appetite, digestion, nutrition and general well-being, while causative therapy is under way. Neither constipation nor digestive disturbance results from its steady use, and a general hæmatic gain is practically a certainty, if its use is persisted in.

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SACCHARINE DIABETES.

Doctor Vance May of Cornettsville, Ind., in treating a case of saccharine diabetes of long standing in which he found a good deal of albumen present, as a result of an old gonorrheal inflammation, says the use of a few

bottles of sanmetto so cleared up the urine that he could find no strings of mucus, nor the least trace of albumen by heat or nitric acid test. It also afforded a world of relief to his patient who had been suffering for years with his bladder.

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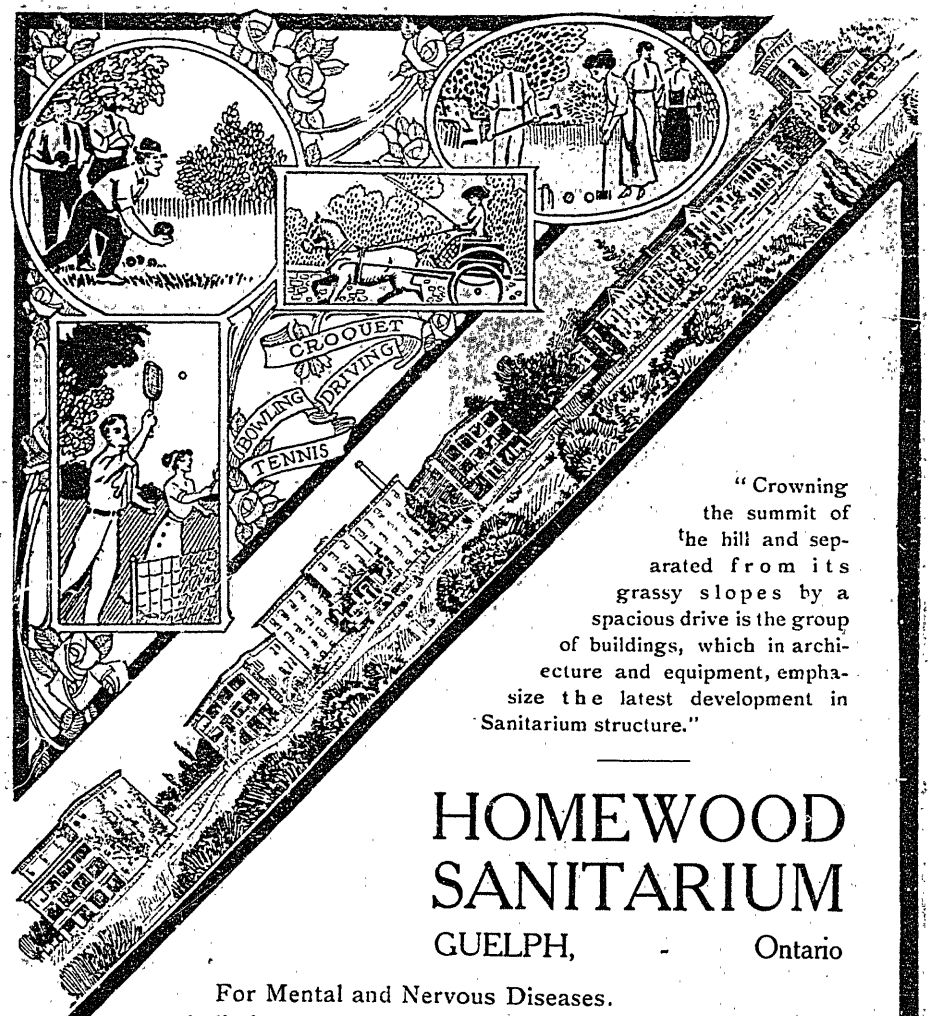
NOT INCOMPATIBLE.

In an original article written for "Medical Reprints," Dr. George Selkirk Jones writes:—"Another, and most important, subject for study will be that of incompatibility with respect to Antikamnia. At present I have not encountered this difficulty, for in the treatment of rheumatism, for example, with alkalies and potassium iodide, the occasional use of antikamnia tablets appears to act as a most useful auxiliary, and a quiescent condition of the nerve, brought about by the action of the latter, appears to predispose towards a more perfect metabolism. In this respect I believe that antikamnia tablets are destined to play a new and important role in medical therapeutics, for if a nerve storm can be controlled during the course of a painful malady for which the appropriate remedies are being exhibited, the chances are that the simple alleviation of pain for the time being may greatly facilitate the removal of the original cause of the malady. I have a case on hand at present in which this new feature is presented, viz., hemicrania in a woman, the result of periodic attacks of hepatic congestion, nothing appearing to influence the portal circulation so satisfactorily as cascara sagrada.

This latter was taken at regular intervals during the day, whilst a single dose of two antikamnia tablets taken at bedtime produced in the mind of my patient a doubt as to which remedy was entitled to the credit. On my part I can attribute the good results already obtained to both, each having its allotted task to perform, the one hepatic, the other central, or neurotic. And so with reference to rheumatism, I am looking forward to a like happy experience. Why should the administration of iodide of potassium or salicine interfere with the action of antikamnia? At present I see no reason, but, on the contrary, shall continue to prescribe the latter as a "night cap," whilst relying upon the therapeutics of anti-rheumatic remedies."

The "New England Medical Monthly," for 29 years edited and published by Dr. William C. Wile, of Danbury, Conn., has been purchased by the Annals Publishing Co. of Boston, and will be combined with the "Annals of Medical Practice." The "New England Medical Monthly" incorporating the "Annals of Medical Practice," thus becomes the most representative medical monthly publication with the largest circulation in New England. Dr. Francis D. Donoghue, formerly editor of the "Annals of Medical Practice," will continue in charge of the consolidated journals.



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CREOSOTE TREATMENT OF PULMONARY TUBERCULOSIS.

Beverley Robinson, of New York, says that he has never found any treatment of pulmonary tuberculosis, either curative or preventive, that is superior to the use of creosote internally and by inhalation, properly used and insisted upon. Sanatoria are useful for the well off, but the poor must be treated at home, and for them the creosote treatment is the most practical one. This treatment is very simple and inexpensive and will cure many patients that would otherwise die.—Medical Record, Nov. 12th, 1909.

ITEMS OF GENERAL INTEREST

The rice paper upon which the Chinese do such charming drawing is a thin sheet of the pith of a tree.

Mistletoe comes from Herefordshire, Worchestershire and other Midland counties, as well as from Brittany and elsewhere abroad.

* * *

No growth of cities, no growth of wealth, can make up for a loss in either the number or the character of the farming population.

* * *

The harvest mouse is the smallest of British mammals. A full-grown one only weighs half an ounce.

Goldfish were first discovered in China, whence they were brought to Europe in the seventeenth century.

* * *

Chili was the first South American State to build railways, of which it now has nearly three thousand miles.

The Swiss Cabinet consists of seven members, each of whom draws £480 per annum.

* * *

If the sun were hollow, 300,000 globes the same size as the earth could be stored inside.

* * *

Bank of England notes are numbered backwards from 10,000, hence the figures 000,01.

* * *

St. Moritz, Switzerland, has the biggest toboggan slide in the world. It is three-quarters of a mile long, and has been descended in a whiz of only 71 sec.

* * *

While no report has been made by the commitee of Copenhagen University which is going over Dr. Cook's data, it is intimated that the data so far submitted are insufficient to support Dr. Cook's claim that he reached the pole.

The Russian government is planning a number of additional railroads. There is room for them in a large country, but the government expects to find the capital abroad, principally in England. Loaning money to Russia must be attended with considerable risk.

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A combination of highly nutritious concentrated Malt Extract, prepared by a special process, with the best Norwegian Cod Liver Oil. Palatable, easily digested, always reliable.

Microscopically examined this preparation has perfect homogenous appearance. The fat globules being incorporated with the **'BARLEX'** in such an intimate manner as to render the oil immediately available for assimilation.

The enzymes of **'BARLEX'** hold the oil in suspension, and in this way prevent eructations and materially contribute to the dietetic value of the preparation.

'BARLEX' with **COD LIVER OIL** yields excellent results in all Tubercular affections, Marasmus, Rickets, and wasting diseases of children.

"A Perfect Fatty and Carbohydrate Food."

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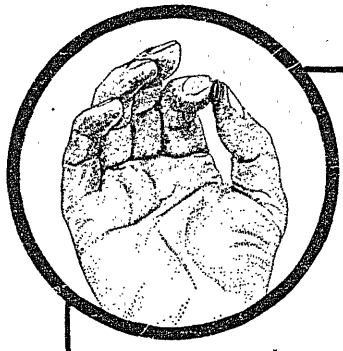

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These pills consist of a soft interior mass, enveloped in a thin coating of chocolate. They may be flattened between the thumb and finger as one might flatten a piece of putty.

Our **Soft-Mass Pills** dissolve readily in the digestive tract. They keep well and do not lose strength under proper conditions of storage. They are attractive in appearance. They are strictly true to label.

In the soft-mass process no heat is applied, hence such volatile substances as camphor, the valerianates, the essential oils, etc., are preserved in full measure.

THE LIST TO DATE.

No. 969—Quinine Sulphate, 2 grs. (chocolate-coated).
No. 970—Cascara Compound No. 3 (Dr. Hinkle) (chocolate-coated).
No. 971—Ferrous Carbonate (Blaud), 5 grs. U. S. P. (chocolate-coated).
No. 975—Cholelith (chocolate-coated, round)
No. 976—Ferrous Carbonate (Blaud), 3 grs. (chocolate-coated).
No. 977—Ferrous Carbonate (Blaud), Modified (chocolate-coated).
No. 978—Ferrous Carbonate (Blaud), Modified, ℞ 2 (chocolate-coated).
No. 979—Ferrous Carbonate Laxative (chocolate-coated).
No. 980—Ferrous Carbonate Laxative, ℞ 2 (chocolate-coated).
No. 981—Ferrous Carbonate (Blaud) Compound, ℞ "C" (chocolate-coated).
No. 984—Aloin, Strychnine and Belladonna, ℞ "A" (chocolate-coated).
No. 985—Aloin, Strychnine and Belladonna Compound, N. F. (chocolate-coated).
No. 986 Cathartic Compound Granules, ¾ gr. (chocolate-coated).
No. 987—Emmenagogue, Improved (chocolate-coated).
No. 988—Evacuant (chocolate-coated).
No. 990—Camphor, Opium and Lead Acetate (chocolate-coated).
No. 991—Camphor, Opium and Tannin (chocolate-coated).
No. 992—Opium and Camphor, N. F. (chocolate-coated).
No. 993—Quinine, Iron and Zinc Valerianates (chocolate-coated).
No. 1001—Alophen (chocolate-coated).

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